

USF Board of Trustees
(March 7, 2013)

Issue: Proposed Ph.D. in Integrative Biology

Proposed action: New Degree Program Approval

Background information: This application for a new Ph.D is driven by a recent reorganization of the Department of Biology. The reorganization began in 2006 and was completed in 2009. The reorganization of the Department of Biology, in part, reflected the enormity of the biological sciences, and in part, different research perspectives and directions taken by the faculty in each of the respective areas of biology. Part of the reorganization was to replace the original Ph.D. in Biology with two new doctoral degrees that better serve the needs of the State and our current graduate students by enabling greater focus of the research performed to earn the Ph.D. The well-established and highly productive faculty attracts students to the Tampa Campus from all over the United States as well as from foreign countries. The resources to support the two Ph.D. programs have already been established in the Department of Biology and are sufficient to support the two new degree programs. The reorganization created two new departments; the Department of Cell Biology, Microbiology, and Molecular Biology (CMMB) and the Department of Integrative Biology (IB). This proposal addresses the creation of a new Ph.D., in Integrative Biology offered by the Department of Integrative Biology (CIP Code 26.1399). The name of the Department, Integrative Biology, reflects the belief that the study of biological processes and systems can best be accomplished by the incorporation of numerous integrated approaches

Strategic Goal(s) Item Supports:

The proposed program directly supports the following:

Goal 1 and Goal 2

Workgroup Review: ACE March 7, 2013

Supporting Documentation: See Complete Proposal below

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Board of Governors, State University System of Florida

Request to Offer a New Degree Program

University of South Florida
University Submitting Proposal

Arts and Sciences
Name of College(s) or School(s)

Integrative Biology
Academic Specialty or Field

26.1399
Proposed CIP Code

Fall 2013
Proposed Implementation Term

Integrative Biology
Name of Department(s)/ Division(s)

Doctor of Philosophy
Complete Name of Degree

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees President Date

Signature of Chair, Board of Trustees Date Vice President for Academic Affairs Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	35	26.25	\$26,895	705,990			705,990
Year 2	40	30					
Year 3	44	33					
Year 4	48	36					
Year 5	50	37.5	\$19,764	741,145			741,145

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included

INTRODUCTION

Preface: This application for a new Ph.D is driven by two synergistic forces; a recent reorganization of the (former) Department of Biology and recognition that the field of biology has grown enormously since the Department of Biology was formed in the 1970's. The reorganization created two new departments; the Department of Cell Biology, Microbiology, and Molecular Biology (CMMB) and the Department of Integrative Biology (IB). Each department is housed in a separate building and each has operated independently for the past seven years.

The central mission of the Department of Integrative Biology focuses on the integration of morphological and physiological adaptations that facilitate the biological, ecological and evolutionary competency of organisms. All levels of organization are subjected to research, from molecules to ecosystems, and all forms of life are included from microbes to plants to animals. IB's faculty members are engaged in research activities that involve, broadly, conservation biology, global change biology, freshwater biology and pollution, marine biology, biomechanics, disease biology, biogeochemistry, and evolutionary biology. Their research integrates our understanding of living things across all levels of organization.

The central mission of the Department of Cell Biology, Molecular Biology and Microbiology focuses on the investigation of human diseases at the molecular and cellular level. This is broadly organized into three focus areas: Genome Integrity and Mechanisms of Aging; Bacterial Pathogenesis and Resistance; and Structural and Computational Biology. Specifically, faculty members in CMMB are engaged in research using model organisms that focus on neurodegenerative disorders, ageing related diseases, the immunological and genetic basis of diabetes, cancer development and progression, biosensing based detection of infectious agents in food and the environment, the pathogenesis of bacterial infection, antibiotic resistance and drug development and the immunology of host-pathogen interaction. Their research seeks to develop a better understanding of human disease causation and development, with the goal of uncovering new treatment options and drug targets.

This proposal addresses the creation of a new Ph.D., in Integrative Biology offered by the Department of Integrative Biology (CIP Code 26.1399). The Ph.D. in Biology has been granted since the 1970's. When the two new Ph.D. degrees are in place the old Ph.D in Biology will be sunset.

I. Program Description and Relationship to System-Level Goals

- A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

Level: The proposed degree is the Ph.D. and is a graduate level degree.

Emphases, including concentrations, tracks, or specializations: The Ph.D. program in Integrative Biology is built to facilitate research in three Areas of Concentration including Ecology and Evolution, Morphology and Physiology, and Environmental and Ecological Microbiology. These three areas of concentration also reflect the integrative nature of the research being conducted by members of the Department. Many of the students working within the Ecology and Evolution Area have interests in conservation biology and develop skills in molecular ecology to understand genetic relationships of the organisms they study. Most students in the Ecology and Evolution area also become well-versed in Geographic Information System applications to study past and present distributions of the focal species. Students working within the Morphology and Physiology Area are performing research in functional and comparative morphology. Students working within the Environmental and Ecological Microbiology Area are becoming experts in identifying pollutants that contaminate the fresh water systems of Florida and beyond and are developing rapid methods of identifying the sources of those pollutants or may be studying microbes that play a major role in the global carbon cycle. A significant number of our students conduct research in areas that are considered “applied biology,” that is, their research is aimed at solving problems that benefit the State of Florida and beyond.

Total number of credit hours: This degree requires 90 semester hours beyond the Bachelor’s Degree

Overall purpose including examples of employment or education opportunities that may be available to program graduates: This degree is part of the broader area of academics known as STEM (Science, Technology, Engineering and Math). The goal of the faculty is to cultivate scientists to advance our knowledge and understanding of the natural world. Our recent Ph.D. students have had great success finding professional positions directly after graduation or after gaining additional experience through post doctoral training. A few examples of the types of positions taken by recent graduates include; Research Scientist for the U.S. Geological Service in California, Post Doctoral Researcher at Pennsylvania State University, Post Doctoral Researcher at Harvard, faculty member at Allegheny College, faculty member at the University of Tampa, Fisheries Biologist for the State of Washington, and a Senior Ecologist for national

biological consulting firm.

- B. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support. (See the SUS Strategic Plan at <http://www.flbog.org/about/strategicplan/>)**

The proposed program directly supports the following:

Goal 1A.1-3. Access to and production of degrees (A3: production of professional degrees and A4: emerging technology doctoral degrees). The previous Department of Biology became too diffuse because of the enormity of the field. The creation of this new degree will prepare students for their professional life in the 21st Century. The new Ph.D reflects a major emphasis of contemporary biology, that is, complex questions require multifaceted (integrated) approaches to properly address them. Research within the Department of Integrative Biology extends from molecular biology to ecosystems analysis. Our students are trained to meet the challenges of the upcoming decades.

Goal 1.A.4. Emerging Technology Doctorates. Faculty within the Department of Integrative Biology are involved in numerous areas of science recognized to be on the cutting edge. Recent hires include individuals who conduct research in the "Ecology of Infectious Diseases," participate in the new USF "School of Global Sustainability," are leaders in two new fields of ecology called "Ecoimmunology," and "Ecotoxicology." They use molecular techniques as well as modern ecological tools to assess an organism's response to ecosystem functions. The newest faculty member studies ecological genetics and genomics. Graduate students and Post-Doctoral Scholars from across the world are attracted to work with these new faculty members as well as faculty who conduct research in the more applied areas of biology, such as "Conservation Biology."

Goal 1.A.5. Access/Diversity. In general minorities are underrepresented in all of the sciences. The Department of Integrative Biology currently has Hispanic, and Native American students enrolled in graduate degree programs. Females, which traditionally have been underrepresented in the sciences, are, in fact, in the majority in our graduate program.

Goal 1.B. Meeting Statewide Professional and Workforce Needs (1.B.3.b. Natural Science and Technology Programs). Graduates with the Ph.D. in Integrative Biology will have the training and skills needed to advance the natural sciences in Florida by contributing to educational programs at the college or university level and by taking employment in biological consulting firms or by participating in local, regional or State government agencies.

Goal 1.B.4. Economic Development: high-wage/high-demand jobs. Individuals with a Ph.D. in Integrative Biology can expect to earn greater than \$65,000 per year as a starting salary and those who go into industry or consulting can double

that amount with a few years of experience. According to the latest data available from the Bureau of Labor Statistics, median annual wage of microbiologists was \$71,720 in May 2011. The middle 50 percent earned between \$48,330 and \$87,040. The lowest 10 percent earned less than \$38,240, and the highest 10 percent earned more than \$111,300. Median annual wage of zoologists and wildlife biologists was \$61,880 in May 2011. The middle 50 percent earned between \$48,060 and \$74,500. The lowest 10 percent earned less than \$35,550, and the highest 10 percent earned more than \$95,850.

Goal 1.C. Building world-class academic programs and research capacity (1.C.1. Research Expenditures. A close inspection of the credentials of the faculty would indicate that during the past five years they have produced more than 225 research papers and attracted about sixteen million dollars in grant funding.

In addition to matching the BOG goals, the Department of Integrative Biology is fully aligned with USF's strategic plan. The proposed Ph.D. program based on the strengths detailed above directly supports two out of four University strategic goals. These are:

- 1. Expanding world-class interdisciplinary research, creative, and scholarly endeavors**
- 2. Promoting globally competitive graduate programs that support interdisciplinary inquiry, intellectual development, knowledge and skill acquisition, and student success through a diverse, fully-engaged, learner-centered campus environment.**

C. If the program is to be included in an Area of Programmatic Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion.

The Areas of Programmatic Strategic Emphasis:

1. Critical Needs:
 - Education
 - Health Professions
 - Security and Emergency Services
2. Economic Development:
 - Globalization
 - Regional Workforce Demand
3. Science, Technology, Engineering, and Math (STEM)

This degree is categorized as a STEM Program that is dedicated to the training the next generation of professional biologists. The breadth of the program extends from studies at the molecular level focused on newly discovered patterns of inheritance (epigenetics) to organismal responses to global warming. Research into the biology of infectious diseases is an active area of study.

This degree also contributes to the critical need in Education because many of our graduates become faculty members at colleges and universities worldwide. We

have placed many graduates in teaching and/or research positions, some at Research 1 universities after several years of postdoctoral training.

- D. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.**

This degree is offered only on the Tampa Campus; it requires extensive laboratory equipment and/or extensive equipment for field research projects that are not available elsewhere in the USF System.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

- A. Need:** Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.

The growing human population in Florida will exert a great strain on our natural resources, especially the supply of drinking water and the treatment of effluents from industrial and agricultural enterprises. Students in the Environmental and Ecological Microbiology concentration are trained to help local and regional state agencies overcome problems related to water quality. According to the latest data from the Bureau of Labor Statistics (<http://www.bls.gov/bls/blswage.htm>) biological scientists held about 108,000 jobs in 2011, including 17,660 microbiologists, 18,380 zoologists and wildlife biologists, and 18,900 conservation biologists. In addition, many biological scientists held biology faculty positions in colleges and universities but are not included in these numbers. About 40 percent of all biological scientists are employed by Federal, State, and local governments. Federal biological scientists worked mainly for the U.S. Departments of Agriculture, Interior, and Defense and for the National Institutes of Health. Most of the others worked in scientific research and testing laboratories, the pharmaceutical and medicine manufacturing industry, or educational institutions. Employment of biological scientists is expected to increase at a much faster rate for all occupations although there will continue to be competition for some basic research positions. Employment of biological scientists is projected to grow 21% over the 2010—2020 decade, much faster than the average for all occupations, as applied research and development continues to drive job growth. Biological scientists enjoyed very rapid employment gains over the past few decades—reflecting, in part, the growth of the biotechnology industry. Employment growth will moderate somewhat. However, much of the basic biological research done in recent years has resulted in new knowledge, including the isolation and identification of genes. Biological scientists will be needed to take this knowledge to the next stage, understanding how certain genes function within an entire organism. Applications of the knowledge gained through research can have far reaching benefits, for

example by helping farmers increase crop yields by pinpointing genes that can help crops, such as wheat, grow in more extreme climate conditions.

A growing demand exists for conservation biologists in the State of Florida; individuals trained to understand the biology of rare and endangered species as well as those trained to manage invasive exotic species. The Bureau of Labor Statistics reports that employment of conservation biologists is expected to grow by 12% during the 2010–2020 decade, about as fast as the average for all occupations. A majority of conservation scientists are employed by Federal, State, and local governments, and a large percentage of new jobs will be found in these areas. In recent years, the prevention and mitigation of wildfires has become the primary concern for government agencies managing forests and rangelands. The development of previously unused lands, in addition to changing weather conditions, has contributed to increasingly devastating and costly fires. Increases in funding and new programs will create new opportunities for ecologists and conservation biologists. Workers will be needed to manage lands in order to minimize the risk of fires and mitigate their impact. Conservation biologists manage the use and development of forests, rangelands, and other natural resources. Conservation biologists often specialize in one of several areas, such as soil conservation, urban ecology, habitat restoration, native rare and threatened species, or forest ecology.

On 17 September 2012, the website <http://www.indeed.com/q-Wildlife-I-Florida-jobs.html> listed a total of 245 Wildlife biology positions and 524 Biological Science jobs in Florida. Not all of these job vacancies required a Ph.D. for the position, but many require graduate degrees and the highest paying jobs require the Ph.D.

- B. Demand:** Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

The faculty members who now comprise the Department of Integrative Biology have a particularly strong track record of attracting highly qualified students from all parts of the globe to work in their research laboratories. The Department has had a long standing policy that no students are accepted into the program without a faculty sponsor who is willing to mentor the student from the day he/she enters the campus. We have had students from 23 countries and 30 states apply for admission into the Department of Integrative Biology in the past five years. In sum, we have received applications from 229 students interested in pursuing graduate degrees; we admitted 83 of them (36%) and 62 (75%) of those admitted enrolled in our program during the past five years.

- C.** If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). In Appendix B, provide data that support the need for an additional program as well as letters of support, or letters of concern, from the provosts of other state

universities with substantially similar programs.

Biology doctoral programs exist at the University of Florida, Florida State University, University of Central Florida, Florida International University, and the University of Miami. None of these programs have the 26.1399 CIP codes however. Nevertheless the other programs in the State have co-existed with the current University of South Florida Ph.D. program for decades. The change will have no negative effects on the undergraduate program which is co-administered and delivered currently by the faculty of the two biology departments (Integrative Biology and Cell biology, Microbiology and Molecular Biology) The focusing of the graduate programs may well create further opportunities for collaboration.

Use Table 1 in Appendix A (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.

With regards to the old Biology PhD, it is anticipated that all students in our department currently enrolled in that degree will immediately transfer to the new PhD in Integrative Biology. If there exists demand from some students in Integrative Biology to remain in the PhD in Biology, then the program will be continued until such time as they have graduated. There will be no problem with course offerings or teach-out as the PhD in Biology (with a the three Areas of Concentration) currently offered by IB is identical in curriculum to the new PhD in Integrative Biology. Additionally, this is primarily a research based degree, so there are minimal course and teaching requirements that need to be considered.

See Table 1B. The enrollment projections are based on past experience with the Ph.D. in the Department of Biology, but the data have been filtered to reflect only those students who are working with, or have worked with, faculty who are now housed in the Department of Integrative Biology (i.e. students who studied with faculty in the Cell Biology, Molecular Biology and Microbiology doctoral program have been omitted from our calculations). No enrollment shifts will occur.

- D. Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date in the area below to indicate that the analysis required by this subsection has been reviewed and approved.

The Department of Integrative Biology is committed to the principle of equal education and employment opportunities without regard to race, color, marital status, sex, religion, national origin disability, age, Vietnam or disabled veteran's status as provided by law, and in accordance with the University's respect for personal dignity. The current student and faculty population is diverse. Every possible effort is made to attract and retain minority students who have the proper credentials and background to succeed in a doctoral program in Integrative Biology.

The following steps have been and will be taken to increase underrepresented groups of STEM graduate students.

Step 1: The Graduate Director of the Department of Integrative Biology has contacts at Florida International University and Howard University who encourage minority students to apply to USF.

Step 2: The Graduate Director works closely with the Graduate School to recruit minority students who are McKnight Fellows into the IB Department.

Step 3: Actively promote the IB Ph.D. program to USF undergraduate minority students who now have become more competitive.

The Ph. D. in Integrative Biology is not a popular program for minority students, although several minority students are currently enrolled in our M.S. program and we have encouraged them to complete the Ph.D. at USF. We currently have one Native American student and one Hispanic student in the Ph.D. program.

The new degree is unique in Florida and we hope it will be more attractive to minorities than has been the Ph.D. in Biology.

Jed Williams, AVP of DEO 1/9/2013

III. Budget

- A. Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.) If the university intends to operate the program through continuing education on a cost-recovery basis or market rate, provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate.**

The impetus for the change in the Ph.D. was the reorganization of the Department of Biology into two new departments (Cell, Microbiology and Molecular Biology and Integrative Biology) so they could each better focus on unique areas of expertise. However they still share and deliver an undergraduate degree and both masters and a Ph.D. degrees all in general biology. When the departments were separated the budget from the original single biology department was reallocated according to the faculty and students newly chosen departments so as to continue support of the degree programs. The total funding in support of the existing Ph.D. program is \$1,423,492 (this is only the portion of the departmental budget that supports the PhD program. The support for the Undergraduate programs and the masters degrees are in addition to this amount). The total budget supporting the general biology Ph.D. program was divided between the two departments so that the budget supporting IB's portion of the current Ph.D. program was/is \$705,990. This amount is now available to support the new program.

Table 2 is a summary of costs associated with the proposed Ph.D. in Integrative Biology which are associated largely with faculty and graduate teaching assistantships (in support of the 2300 biology undergraduate majors) and one staff assistant. Table 3 shows that the new program has a net zero cost since the resources to support the new programs currently exist (divided between the programs when the two new departments were created in 2009). This is indicated in Table 3 where the base budget in support of Integrative Biology's portion of the current general Ph.D. in biology \$705,990 is reallocated back to Integrative Biology but now in support of the new Ph.D. in Integrative Biology. Thus all of the resources needed to operate the new Ph.D. program already exist. Because the number of Ph.D. students in the department is near capacity for the number of faculty, we project only modest increases over the next five years. Current students will have the opportunity to switch to the new degree or stay with the current degree which will be phased out as the current students graduate.

- B. If other programs will be impacted by a reallocation of resources for the proposed program, identify the program and provide a justification for reallocating resources.**

Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).

As the proposed program has been in existence for several decades in the former Department of Biology, we don't anticipate any negative effects of the new Ph.D. program on any other departments or programs. The faculty that now composes the Department of Integrative Biology has a long history of engaging undergraduate students in research and shall continue to do so. The USF library provides complete access to the electronic journals needed to support the new Ph.D. program and an up to date collection of books and other resources.

- C. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).

The Department of Integrative Biology and the Department of Cell Biology, Molecular Biology and Microbiology offer undergraduate and graduate courses that can be taken by students housed in either of the two new departments. The courses are existing courses and the proposed new Ph.D. in Integrative Biology does not require the creation of any new courses beyond those that already exist and are taught on a regular basis.

- D. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

During the past five years the faculty members in the Department of Integrative Biology have attracted more than \$16,000,000 in extramural funding. Outside funding sources and the total dollar value obtained from those sources are listed below.

A.D. Levine, Civil & Environmental Engineering. \$43,792

Cemex \$750,000

Curtis Charitable Trust \$200,000

Department of Military and Veteran Affairs, \$ 157,533

Disney Wildlife Conservation Fund \$119,680

DSM Dyneema B.V., \$3,500.

Georgia Aquarium and Mote Marine Laboratory, \$9,300.

Environmental Protection Commission of Hillsborough County. \$226,962.

EPA STAR program, \$135,276
 Florida Center for Solid and Hazardous Waste Management. \$10,000
 Florida Department of Agriculture, \$38,925
 Florida Department of Environmental Protection \$1,470,758
 Florida Department of Health. \$227,181
 Florida Fish and Wildlife Conservation Commission, \$109,000
 Florida Institute of Oceanography, \$8,000.00.
 Institute for the Study of Latin America and the Caribbean \$5,700.
 Jacksonville Electrical Authority. \$46,240.
 National Evolutionary Synthesis Center \$36,000
 National Science Foundation. \$8,291,276
 National Park Service, \$ 89,996
 National Sea Grant. \$40,000.
 New York Sea Grant \$55,151.
 National Institute for Global Environmental Change \$348,000
 NOAA-CICEET \$68,974
 NOAA, \$674,585
 Pasco County Stormwater. \$70,200
 Pinellas County Environmental Foundation \$26,650
 Sarasota County, FL... \$14,000.
 Scott's Company, \$2,000, \$10,000
 St. Johns River Water Management District. \$80,000
 USDA. \$398,500.
 St. Lucie County, Florida. \$84,655.
 Southwest Florida Water Management District. \$250,277
 Tampa Bay Estuary Program. \$94,561.
 The Conservancy of Southwest Florida. \$196,018
 US Environmental Protection Agency . \$1,043,353
 US Fish and Wildlife Service, \$175,010
 USF GAP Program. \$10,000

USF Division of Sponsored Research, \$15,250

USF New Researcher Grant. \$8,735

USF Honors College, \$5,000

U.S. Dept. of Interior, \$145,000,

US Department of Agriculture \$519,538

University of Florida IFAS Research Innovation Grants \$50,000

University of Miami. \$71,069.

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for “Need and Demand” to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

Benefit to the University: Very High Research Universities, such as USF, exist with a strong complement of science departments and the Department of Integrative Biology is an integral part of our strong science programs. The well-established Ph.D. program in integrative biology will attract 30-42 new, highly qualified and talented students to USF. Our outstanding record of excellence in research attracts post-doctoral researches to our campus as well. Another direct benefit to the University of having a strong Ph.D. program in Integrative Biology is the high quality graduate students who serve as teaching assistants in the laboratories for undergraduate courses. Virtually every graduate student in the Department gets some teaching experience. Because the Department attracts very high quality students, the undergraduates benefit from their knowledge and their dedication to quality instruction.

Benefit to the Community: Faculty and graduate students interact with many agencies in Florida, including South West Florida Water Management District, Brooker Creek Preserve, Walt Disney World, Mote Marine Institute, Lowry Park Zoological Gardens, Florida Forestry Agency, and numerous surrounding counties just to mention a few examples. We provide expert opinion on land management practices, and facilitate cooperative research projects.

Benefit to Florida: Faculty and graduate students interact with the Florida Fish and Wildlife Commission, the Florida Parks Association, Florida Department of Health, Florida Institute of Oceanography, Florida Department of Environmental Protection, Florida Center for Solid and Hazardous Waste Management, just to mention a few examples. We provide expert opinion and planned research projects to help these agencies carry out their missions.

The Ph.D. in Integrative Biology supports the current State University System Strategic Planning Goal 1A.1-3. Access to and production of degrees, Goal 1.A.4. Emerging Technology Doctorates, Goal 1.A.5. Access/Diversity, Goal 1.B. Meeting Statewide Professional and Workforce Needs, Goal 1.B.4. Economic Development: high-wage/high-demand jobs, Goal 1.C. Building World-class Academic Programs and Research Capacity.

V. Access and Articulation – Bachelor’s Degrees Only

- A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program’s approval. (See criteria in Board of Governors Regulation 6C-8.014)

Insert response here.

- B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see the [Common Prerequisite Manual](#) at FACTS.org). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as “limited access.”

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional “track” of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Insert response here.

- C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that community college transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

Insert response here.

- D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the

guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see [Statewide Articulation Manual](#) at FACTS.org). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan.

The goals of USF's strategic plan include: (i) expanding world-class interdisciplinary research, (ii) promoting globally competitive undergraduate, graduate and professional programs, (iii) expanding local and global engagement initiatives to strengthen and sustain global healthy communities and improve the quality of life, and (iv) enhancing all sources of revenue. The proposed program is consistent with all these goals. Faculty research grants and publications have contributed to goals (i) and (iv), our teaching and student research have contributed to goals (i) and (ii) as our students have already published dozens of research papers in first rate scientific journals. Our faculty has contributed to goal (iv) by winning external research grants that also support doctoral Research Assistantships.

The goals of the State University of Florida Board of Governors as stated in the Strategic Plan 2012-2025 focus on (i) Teaching and Learning, (ii) Scholarship, Research and Innovation and (iii) Community and Business Engagement. The Ph.D. in Integrative Biology strongly complies with goals one and two. The faculty is composed of numerous distinguished teachers who are engaged in the teaching of both undergraduate and graduate students. We take teaching very seriously and assign senior faculty members to mentor junior faculty to be sure we are all teaching on the same level. Graduate level courses depend heavily on reading and discussing primary literature to be sure our students are up to date in there research area and also trained as broadly as possible for suture opportunities. The publication record of the faculty is outstanding and the faculty frequently publishes research papers with their undergraduate and graduate students as first authors. The faculty has an outstanding record in attracting extramural funds to support their research projects and an equally outstanding record of publishing the results of their research in tier one journals.

B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.

The Department of Integrative Biology is part of the School of Natural Sciences and Mathematics in the College of Arts and Sciences. Doctoral students in the Department are trained by established scholars and contribute to the mission of the University by conducting original research and publishing their findings. The Ph.D. in Integrative Biology clearly fits into and compliments the STEM fields of learning and discovery and thereby contributes to our existing strengths and future

growth.

- C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology (table) of activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.

A Department of Biology has existed at USF since the 1960's and the Ph.D was first granted in the 1970's. Over the years, the Department grew to nearly forty faculties and supported about 100 graduate students. Two broad areas of emphasis existed within the single department; cell and molecular biology that was strongly oriented toward human biology and organismal biology that oriented toward ecological, evolutionary and conservation biology. As a faculty we felt too diverse to be housed under a single degree program. In 2009, the Department of Biology reorganized to form two departments; the Department of Cell Biology, Molecular Biology and Microbiology and the Department of Integrative Biology. The two programs are housed in separate buildings and have developed into well-established departments. An agreement was reached during the reorganization that each program would establish new Ph.D. degrees with CIP Codes that better reflected the teaching and research missions of the two new entities. To that end, this proposal is made to create a new Ph.D.

Planning Process

Date	Participants	Planning Activity
2006	Biology Faculty	Discuss the formation of two new departments
2007- 2008	Faculty representatives from the two new departments	Work through the details of the separation
2008	Faculty and the Dean of Arts and Sciences	Department agree to create two new Ph.D. degrees
2009	IB Graduate Committee	Discus new Ph.D.
2010	IB Graduate committee	Select CIP Code
2011	IB Faculty	Vote to accept new CIP Code and authorize the Graduate Director to prepare this document

Events Leading to Implementation

Date	Implementation Activity
2011	IB Department approved the new Ph.D. in Integrative Biology
2012	IB Graduate Director preparation of this proposal
2013	Implementation of the Ph.D. in Integrative Biology

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

The former Department of Biology was reviewed periodically as required by Southern Association of Colleges and Schools (SACS). The last review was during the 2005-2006 academic year. Because the Department of Integrative Biology is only a few years old it has not been evaluated by any outside group or accrediting agencies. We expect the next review to be in 2014 or 2015. All aspects of graduate studies are monitored by a Graduate Admission and Policy Committee (GAPC). The GAPC is chaired by the Graduate Director and consists of three additional graduate faculty members appointed by the Chair of the Department of Integrative Biology. The graduate students elect a member to the GAPC. The students participate in all discussions and decisions except for graduate admissions. The Graduate Director and the GAPC work closely with a full-time Graduate Program Assistant. The Associate Dean for Academic Affairs in the College of Arts and Sciences, Dr. Robert Potter, oversees all graduate programs within the College. Programmatic oversight is provided by a committee composed of the Graduate Directors from the academic departments that form the School of Natural Sciences and Mathematics (SNSM). The Provost, as chief academic officer, is the administrator responsible for program quality at the institutional level.

VIII. Curriculum

Students are required to have a B.S. degree in Biology (or equivalent) to apply to and enter into the doctoral program.

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.**

Outcome 1. Students will present a comprehensive dissertation proposal to their Graduate Committee that is judged to be an adequate base for the dissertation.

Outcome 2. Students will present and pass a dissertation proposal seminar presented to the Department of Integrative Biology and evaluated by the Graduate Committee.

Outcome 3. Students will pass a qualifying exam administered by the Graduate Committee. The exam includes knowledge of basic biology and focuses on the students' area of expertise.

Outcome 4. Students will present a dissertation seminar to the Department and defend it to the satisfaction of the Graduate Committee.

Outcome 5. Students will produce a dissertation that contains two or more publishable research papers.

Ph.D. students in the Department of Integrative Biology are evaluated on several distinct learning outcomes. In sum, doctoral students are required to complete the requirements for admission to candidacy by the end of their second year of residence. To complete the requirements the students must 1) write a dissertation

proposal, 2) present a Dissertation Proposal Seminar detailing the methods to be used for the dissertation research to the Department, and 3) successfully pass an oral exam administered by the student's Graduate Committee. Once the research and all course work have been complete the student 4) presents a Defense of Dissertation Seminar to the Department and must defend the dissertation to the satisfaction of the Graduate Committee. At least one research paper, authored by the student, must be accepted for publication by the time of graduation for a student to graduate. The rubrics used to evaluate each student are presented below.

Integrative Biology Qualifying Exam Scoring Rubric

1. Oral exam: Ph.D. Research Proposal (Part 1 of 3 parts)

Explanation:

The student will be evaluated and scored in 3 distinct outcomes: Dissertation Proposal, oral examination and seminar presentation.

Scoring will be based on a scale of 0-4, with 4 being the highest score. Minimum passing score on each of the 3 outcomes, averaged across the four members of the student's Graduate Committee, must be 2 or higher.

General and discipline specific scientific knowledge on the Dissertation Proposal

- 4. shows exceptional mastery of the general scientific knowledge and the discipline specific concepts
- 3. shows a firm understanding of both the general scientific knowledge and the discipline specific concepts
- 2. shows adequate mastery of the general scientific knowledge but discipline specific knowledge has gaps
- 1. shows poor knowledge of both the general scientific knowledge and the discipline specific concepts
- 0. shows minimal understanding of both general scientific knowledge and the discipline specific concepts

Problem solving (ask valid questions, synthesize information, respond to questions)

- 4. responds incisively to questions, synthesizes information quickly and accurately, responds well to questions
- 3. responds well to the prompt, synthesis goes beyond the obvious, provides good responses to questions

2. responds adequately to the prompt, synthesis is adequate, provides adequate, but minimal response to questions

1. answers to questions are not focused, synthesis is incomplete and vague, responses to questions are imprecise

Organization, writing skills

4. shows exceptional ability to organize and communicate clearly and concisely both in writing and verbally

3. shows distinct units of thoughts in paragraphs, coherently arranged, occasional grammar errors, some wordiness

2. writing uneven, paragraphs effective, but brief, occasional imprecise word choice, awkward syntax, wordy

1. major and minor grammar problems, repetitive sentence pattern, frequent imprecise word choice, wanders

0. writing arbitrary, no paragraph structure, no transition, numerous grammatical errors, stylistic problem

Biology Qualifying Exam Scoring Rubric

2. Oral exam: Seminar Performance (Part 2 of 3 parts)

Scoring will be based on a scale of 0-4, with 4 being the highest score. Minimum passing score on each of the 4 outcomes, averaged across the four members of the student Graduate Committee, must be 2 or higher.

Scoring Criteria:

General and discipline specific scientific knowledge

4. shows exceptional mastery of the general scientific knowledge and the discipline specific concepts

3. shows a firm understanding of both the general scientific knowledge and the discipline specific concepts

2. shows adequate mastery of the general scientific knowledge but discipline specific knowledge has gaps

1. shows poor knowledge of both the general scientific knowledge and the discipline specific concepts

0. shows minimal understanding of both general scientific knowledge and the discipline specific concepts

Problem solving (ask valid questions, synthesize information, respond to questions)

4. responds incisively to questions, synthesizes information quickly and accurately, responds well to questions
3. responds well to the prompt, synthesis goes beyond the obvious, provides good responses to questions
2. responds adequately to the prompt, synthesis is adequate, provides adequate, but minimal response to questions
1. answers to questions are not focused, synthesis is incomplete and vague, responses to questions are imprecise
0. misunderstands basic concepts, synthesize of information is lacking, respond to questions with numerous errors

Organization and oral communication skills

4. shows exceptional ability to organize and communicate clearly and concisely
3. shows strong communication skills, well-conceived ideas but presentation could be improved
2. some disconnect between ideas, needs to refine oral communication skills
1. hard to follow train of thought, responses to questions not coherent
0. inadequately prepared, no evidence of ability to think laterally

Biology Qualifying Exam Scoring Rubric exam:

3. Oral Defense of Dissertation Proposal (Part 3 of 3 parts)

Scoring will be based on a scale of 0-4, with 4 being the highest score. Minimum passing score on each of the 4 outcomes, averaged across the four members of the student Graduate Committee, must be 2 or higher.

General and discipline specific scientific knowledge

4. shows exceptional mastery of the general scientific knowledge and the discipline specific concepts
3. shows a firm understanding of both the general scientific knowledge and the discipline specific concepts

2. shows adequate mastery of the general scientific knowledge but discipline specific knowledge has gaps

1. shows poor knowledge of both the general scientific knowledge and the discipline specific concepts

0. shows minimal understanding of both general scientific knowledge and the discipline specific concepts

Problem solving (asks valid questions, synthesize information, respond to questions)

4. responds incisively to questions, synthesizes information quickly and accurately, responds well to questions

3. responds well to the prompt, synthesis goes beyond the obvious, provides good responses to questions

2. responds adequately to the prompt, synthesis is adequate, provides adequate, but minimal response to questions

1. answers to questions are not focused, synthesis is incomplete and vague, responses to questions are imprecise

0. misunderstands basic concepts, synthesis of information is lacking, respond to questions with numerous errors

Organization and oral communication skills

4. shows exceptional ability to organize and communicate clearly and concisely

3. shows strong communication skills, well-conceived ideas but presentation could be improved

2. some disconnect between ideas, needs to refine oral communication skills

1. hard to follow train of thought, responses to questions not coherent

0. inadequately prepared, no evidence of ability to think laterally

B. Describe the admission standards and graduation requirements for the program.

For **admission** into the Ph.D. program it is expected that applicants will have completed courses equivalent to those required for the B.S. in Biology at U.S.F.

3.0 GPA last 60 hours of B.S. degree

GRE scores that place the student in the 70th percentile in verbal, analytical and the quantitative sections of the exam are expected.

Acceptance by a faculty member in the Department of Integrative Biology is mandatory. Students are expected to contact faculty via e-mail to indicate an interest in the research being conducted in their laboratory. The department will make every effort to pair potential graduate students with appropriate faculty.

FOR INTERNATIONAL STUDENTS: The TOEFL is required with a minimum score of 88 (internet version), 570 (paper version).

To **graduate** from the Department of Integrative Biology with a Ph.D. a student must complete the following requirements.

A total of 90 semester hour credits beyond the B.S. Degree are required.

The graduate student, major professor and Graduate Committee will establish the specific course requirement for each graduate student. Every graduate student must satisfy minimum course requirements. The Graduate Committee consists of four individuals; three must be members of the Integrative Biology Department

A minimum of twenty-four (24) dissertation research hours is required, as is a minimum of 10 credit hours of course work.

Submission and approval of a dissertation research proposal by Major Professor, Graduate Committee, and Graduate Director.

Successful completion of the defense of dissertation examination, by the end of the 4th semester. The exam consists of a 3 parts: 1. Dissertation proposal; 2. Seminar and 3. Defense of Dissertation proposal (details are provided above)

Admission to candidacy

Presentation requirement: two presentations, excluding the doctoral defense and presentation. Students should present posters or oral presentations based on their dissertation research at national/regional professional meetings. The Graduate Committee must approve the presentation.

Publication requirement: one paper must be submitted for publication to a referred scientific journal by the date of the Doctoral Seminar Presentation and Defense. The paper may be sole or co-authored, but it must be based on the dissertation research. The Graduate Committee must approve the journal to which the paper is submitted.

Submission of an acceptable dissertation and Final Defense of Dissertation Exam.

- C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

The Ph. D. requires 90 semester hours credit beyond the B.S. Degree. All students are required to take PCB 6456 Biometry I and BSC 6932 Lectures in Contemporary Biology four times (i.e. four semesters). This course consists of scientifically rigorous lectures presented by USF faculty or colleagues from other universities who present a seminar to the Department each week. Doctoral students are required to write critiques of the lectures that are graded and returned to the students. Also, we require an additional six hours of structured course work. The structured courses are listed below for each of the three concentrations. Doctoral student typically will take between 20 -25 semester hours of course work selected from the lists of courses presented below. The remainder of the required 90 hours is obtained through research credits.

Graduate students concentrating in the area of Ecology and Evolution will select from the following list of courses:

Any course approved by the Graduate Committee

BSC 5931 – Conservation Biology (3 semester hours). A Lecture/discussion course dealing with theoretical and applied aspects of the conservation of plants and animals.

BOT 5185 – Marine Botany (4). A lecture/laboratory class designed to examine marine ecosystems with a focus on Florida systems.

PCB 6455 – Statistical Ecology (3). A lecture/laboratory course designed to provide students with a background in data analyses, focusing on encountered data.

PCB 6458 – Biometry II (3). Lecture course that focuses on experimental design and analyses of complex data sets.

BSC 5931 – Comparative approaches in Evolution (3). A lecture/discussion course that focuses on contemporary issues in evolutionary biology.

PCB 6426 – Population ecology (3). A lecture/discussion course that focuses on modern methods to analyze population trends.

ZOO 5463 – Herpetology (4). A lecture/laboratory course that describes the evolutionary history of amphibians and reptiles and focuses on extant species in North America and Florida

ZOO 5456 - Ichthyology (4) A lecture/laboratory course that describes the evolutionary history of the fishes and focuses on extant species in North America and Florida

BSC 6932 – Advances in Population Biology (1). Reading/discussion of contemporary literature in population biology

BSC 6932 – Advances in Ichthyology (1) Reading/discussion of contemporary literature in ichthyology

BSC 6932 – Advances in Herpetology (1) Reading/discussion of contemporary literature in herpetology

BSC 6932 – Advanced in Marine Ecology (1) Reading/discussion of contemporary literature in marine ecology

BSC 6932 – Scientific Writing (2) Course provides instruction on becoming a successful grant writer as well as understanding the grant proposal writing and review process.

BSC 6932 – Restoration Ecology (3). Lecture/discussion course on theoretical and practical aspects of restoring habitats and ecosystems.

BSC 6447 - Community Ecology (3). Lecture/discussion course on theoretical and empirical aspects of community composition.

PCB 6933 – Seminar in Ecology (variable credit). Readings/discussion course on any contemporary issue in ecology.

Graduate students concentrating in the area of Environmental and Ecological Microbiology will select from the following list of courses:

Any course approved by the Graduate Committee

MCB 5206 – Public Health and Pathogenic Microbiology (3) This course emphasizes microbial threats to public health, established and emerging pathogens, and infectious disease mechanisms and processes.

MCB 5655 – Applied and Environmental Microbiology (3). This course emphasizes new concepts and recent findings in applied and environmental microbiology, and microbial ecology. Students discuss recent journal articles and present data from research projects.

PCB 5235 – Principles of Immunology (3) Students learn the detailed mechanisms of immunological responses to various environmental stimuli and pathogens. Readings in the primary literature serve as a basis for classroom discussions

MCB 6930 – Seminar in Applied and Ecological Microbiology (1) Primary literature provides the basis for studying recent findings in applied and environmental microbiology, and microbial ecology. Students discuss recent journal articles and present data from research projects.

PCB 5525 – Molecular Genetics (3). A detailed introduction into contemporary theory and practice in modern techniques to uncover genetic relatedness among and between organisms.

BSC 5931 – Genomics (4). This course provides a review of the basic mechanisms of molecular/genome evolution, which is used to provide an understanding of the tools that facilitate gene/genome analysis (BLAST searches, gene alignments, gene families, phylogenetic analysis). These concepts are then applied as a final project whose topic is chosen by the students.

PCB 6455 – Statistical Ecology (3). A lecture/laboratory course designed to provide students with a background in data analyses, focusing on encountered data.

PCB 6458 – Biometry II (3). Lecture course that focuses on experimental design and analyses of complex data sets.

BSC 6932 – Scientific Writing (2) Course provides instruction on becoming a successful grant writer as well as understanding the grant proposal writing and review process.

BSC 6932 – Advances in Environmental Ecology (1). Current literature provides the basis for class presentations by students followed by student lead discussion of the topic of the day.

Graduate students concentrating in the area of Physiology and Morphology will select from the following list of courses:

Any course approved by the Graduate Committee

PCB 6458 – Biometry II (3). Lecture course that focuses on experimental design and analyses of complex data sets.

BSC 6932 – Scientific Writing (2) Course provides instruction on becoming a successful grant writer as well as understanding the grant proposal writing and review process.

ZOO 5463 – Herpetology (4). A lecture/laboratory course that describes the evolutionary history of amphibians and reptiles and focuses on extant species in North America and Florida

ZOO 5456 - Ichthyology (4) A lecture/laboratory course that describes the evolutionary history of the fishes and focuses on extant species in North America and Florida

ZOO 5475 – Ornithology (3) A lecture/laboratory course that describes the evolutionary history of the birds and focuses on extant species in North America and Florida

PCB 5256 – Developmental Biology (3). This course explores contemporary literature into molecular developmental biology with an emphasis on the evolutionary history of organisms.

BSC 6932 – Physiological Ecology (3.) Physiological ecology explores how organisms cope with environmental change in natural environments and why variation exists among individuals, populations and species.

BSC 6932 – Advances in Physiology (1). Readings in current physiology literature serves as the basis for classroom presentations and discussion of the topic of the day.

BSC 6932 – Ecoimmunology (3). Ecological immunology addresses why vulnerability to infection, injury, and damage exists in natural populations and what ecological and evolutionary forces explain recurrent patterns of immunological variation in non-model organisms.

BSC 5931 – Comparative Approaches in Evolution (3). Lecture/discussion course on theoretical and empirical aspects of modern methods to study evolutionary processes.

BSC 5931 – Ecological and Functional Morphology (3). This course focuses on the fundamental concepts of biomechanics, ecological and functional morphology, and explores the ecological ramifications and limitations imposed by morphology.

To satisfy the integrative approach taken by the faculty in our Department graduate students frequently take courses from other departments. For example many students in the Physiology and Morphology Concentration Area take courses in the College of Engineering or the College of Medicine; students in the Ecology and Evolution Area take courses in Geography, and students in the Environmental and Ecological Microbiology Area take courses in the College of Public Health or in the Cell Biology, Microbiology, and Molecular Biology Department.

Insert response here.

E. Provide a one- or two-sentence description of each required or elective course.

Each course is described briefly in the above listings of courses.

F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.

Because Integrative Biology graduates are employed in a large variety of fields, including several different types of industry, no specific industry driven standards exist to guide curriculum development. As a result, the doctoral program does not have an industry driven council. The Department of Integrative Biology faculty strives to produce independent creative thinkers who can contribute to their chosen field after graduation. Students learn how to apply various research tools that prepare them for a variety of professions. Students in the Ecology and Evolution Area of Concentration, for example may learn modern molecular techniques or master the application of GIS to enhance their skills as a professional ecologist. Students in any of the three areas of concentration learn to analyze data using the most modern methods of analysis, and are thusly prepared for their professional life. Because many of our graduates seek and earn academic positions, they are provided extensive training to become good teachers. Our students attend teaching enhancement workshops offered through the University and are closely monitored as they perform their duties as teaching assistants.

- G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.
NA

- H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?

No specific accreditation agencies exist for biology programs at any level. Beta, Beta, Beta, is a National Honor Society for biologists, primarily undergraduates, and USF is a member of that society.

- I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

The doctoral program in Integrative Biology relies on the traditional delivery system on the main (Tampa) Campus. No plans exist to collaborate with other universities or to deliver the Ph.D. program on line.

IX. Faculty Participation

- A. Use Table 4 in Appendix A to identify existing and anticipated ranked (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract

status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

- B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated ranked faculty (as identified in Table 2 in Appendix A). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

Table 2 displays the base E&G funds for the Ph.D program, including \$329,904, for faculty salaries, \$24,660, for the graduate program assistant salary and \$351,426 for graduate research assistantship salaries for a total of \$705,990. A total of 1.34 person years is dedicated to the Ph.D program. The E&G cost per FTE is \$26,895 in year one and declines to \$19,764 in year five.

- C. Provide in the appendices the curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).
- D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.

Below is a table that represents faculty productivity during the past five years, including the number of reviewed research papers (articles), book chapters, and books published, along with theses and dissertations directed by each member of the Department of Integrative Biology. We have provided a summary of the extramural funds obtained by the faculty on pages 11 and 12 above.

The Department of Integrative Biology currently has 40 Ph.D. students and 18 MS degree students. The number of graduate students has been fairly constant over the past five years and is limited exclusively by the number of faculty in the department. Each faculty member maintains an active research laboratory.

NAME	THESES	DISSERTATIONS	PUBLICATIONS
Bell	9	6	10 articles, 2 book chapters
Crisman	3	7	6 articles, 8 book chapters
Deban	5	1	10 articles
Fox	5	3	7 Articles, 1 book, 2 chapters
Harwood	1	11	28 articles, 1 book, 5 chapters
Lajeunesse	0	0	12 articles, 5 book chapters
Lewis	1	1	6 articles
Martin	4	3	40 articles, 3 book chapters
McCoy*	16	4	17 articles, 4 book chapters
Motta	2	5	28 articles, 2 book chapters
Mushinsky*	16	4	15 articles, 3 Book chapters

Pierce	2	1	9 articles
Richards	0	0	11 articles, 2 book chapters
Rohr	1	2	37 articles, 1 book chapter
Scott	4	2	10 articles, 1 book chapter
Stiling	4	9	34 articles, 2 books

X. * Drs. McCoy and Mushinsky co-advise their graduate students

Below is a table listing the graduate course taught by professors in the Department of Integrative Biology

Integrative Biology-Graduate Courses
Spring 2008-2013

Course Name	SP 2008	FA 2008	SP 2009	FA 2009	SP 2010	FA 2010	SP 2011	FA 2011	SP 2012	FA 2012	SP 2013
Adv Applied Micro			X		X	X	X		X	X	X
Adv in Benthic	X	X	X		X	X	X	X	X	X	X
Adv in Biology		X									
Adv in Eco Genetics									X	X	
Adv in Eco Genomics											X
Adv in Ecology		X	X	X	X	X	X	X	X	X	
Adv in Evol Biology		X			X	X	X	X	X	X	X
Adv in Herpetology		X		X	X	X	X	X	X	X	X
Adv in Ichthyology	X	X	X		X	X	X	X	X	X	X
Adv in Micro Ecology					X	X	X	X	X	X	X
Adv in Physiology	X	X	X	X	X	X	X	X	X	X	X
Adv in Pop Biology	X	X	X	X	X	X	X	X	X	X	X
Adv Vert Ecophys			X		X	X		X		X	
App and Env Biology		X		X		X			X		
Applied Pop Biology				X		X				X	
Biometry				X		X		X		X	
Biometry II			X		X		X				X
Coastal Plants										X	
Community Ecology				X							
Conservation Biology	X								X		
Eco and Func Morph								X			
Eco of Inf Diseases									X		X
Ecoimmunology						X					
Ecosystem Ecology					X					X	
Epigenetics							X				X
Extended Synthesis							X				
Freshwater Ecology										X	
Genomics		X		X		X		X		X	
Grant Writing Sem										X	
Ichthyology						X				X	
Immun in Context				X							
Invasion Biology	X										

Integrative Biology-Graduate Courses
Spring 2008-2013

Course Name	SP 2008	FA 2008	SP 2009	FA 2009	SP 2010	FA 2010	SP 2011	FA 2011	SP 2012	FA 2012	SP 2013
Lake Eco Systems	X										
Landscape Ecology							X				
Lectures Cont	X	X	X	X	X	X	X	X	X	X	X
Mech of Symbiosis								X			
Phys Ecology		X									
Phys of Movement			X			X		X			
Phys. Ecology							X				
Plant Ecology			X				X				
Pop Biology		X				X				X	
Readings Appl Micro	X	X									
Readings in Cons Bio											X
Restoration Ecology				X							
Scientific Writing		X				X					
Sem in Plant Ecology			X				X				
Seminar in Ecology								X			
Statistical Ecology					X				X		
Topics in Ecohyrdo							X		X	X	
Topics Micro Biology		X	X					X			X
Tropical Ecology									X		
Water in Society					X						
Wetlands	X			X		X		X			

X. Non-Faculty Resources

- A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved.

University of South Florida Libraries

New Degree Program for the Department of Integrative Biology

Doctoral Degree – Integrative Biology

Overview of USF Libraries, Mission, and Program/Discipline Strengths

The University of South Florida is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees at the baccalaureate, masters, specialist, and doctoral levels, including the Doctor of Medicine. The institution was initially accredited in 1965 and was last reviewed and reaffirmed in 2005. The institution is scheduled to receive its next reaffirmation of accreditation review in 2015.

The University of South Florida's Library System consists of USF's main research library, located on the Tampa Campus; two special libraries, the Hinks and Elaine Shimberg Health Sciences Library and the Louis de la Parte Mental Health Institute Library, which are also located on the Tampa Campus; the Nelson Poynter Memorial Library, USF St. Petersburg; the Jane Bancroft Cook Library, USF Sarasota-Manatee; and the USF Polytechnic Library in Lakeland.

Our vision is to become a globally recognized academic library system advancing knowledge through integrated resources, responsive services, research, and instruction.

Together, the USF Libraries provide access to more than 2 million volumes and an extensive collection of electronic resources including approximately 6,500 e-journal subscriptions and 800 aggregator databases containing another 53,000 unique e-journal titles, 443,000 e-books, and 826,000 digital images. In addition, students have access to over 45,000 audio/visual materials including videos, CDs, and DVDs.

In addition to extensive electronic and print resources, the USF Libraries offer unique access to primary research materials through the Special and Digitized Collections Department. Specializations include: Holocaust & Genocide Studies, Science Fiction, Oral Histories, Florida Studies, Sacred Leaves medieval manuscripts, literature and book arts, children and young adult literature, sheet music, and rare books. Most special collections are available at the USF Tampa Library.

The library endeavors to develop and maintain a collection that will satisfy the needs for resources that support the undergraduate and graduate curriculum in the Department of Integrative Biology as well as serve the more specialized demands from graduate students and faculty for advanced research materials.

The Department of Integrative Biology currently offers the following graduate degrees:

The [Master of Science \(M.S.\) in Biology](#) offers three areas of concentration: ecology and evolution, environmental and ecological microbiology, and physiology and morphology.

The [Doctor of Philosophy \(Ph.D.\) in Biology](#) offers three areas of concentration: ecology and evolution, environmental and ecological microbiology, and physiology and morphology.

The research expertise of the Department of Integrative Biology faculty emphasizes organismal interactions and adaptations to the environment. Current faculty research interests include: marine and freshwater ecology; restoration ecology; population ecology; plant-animal interactions; community ecology; plant systematics; conservation biology; ecotoxicology ; biomechanics and functional morphology; environmental microbiology; microbial physiology; and gene transfer.

Changing the title of the current Doctor of Philosophy in Biology to the Doctor of Philosophy in Integrative Biology would reflect the focus of the Department's current research and would allow for more accurate comparisons to peer institutions across the country.

USF Libraries Collections

The library collects current research materials in all subject areas within the Library of Congress subject classifications relating to the biological sciences. These include materials in the call number areas QH-QR. Library of Congress call number areas for the subject areas of Ecology, Evolution, Systematics, and Population Ecology are:

Ecology	QH540-549.5
Evolution	QH359-425
Systematics	QH 83; QK91-97; QL351-352
Population Biology	QH 352-353

Emphasis is on acquiring and maintaining a robust collection of electronic journals and in developing a strong research monographic eBook collection representing the important trade, university and professional presses. Datasets, conference proceedings, technical reports, dissertations, reference works, graduate textbooks, audio-visual materials are acquired selectively.

➤ Number of Books in Biological Science

Print	41798
Electronic	6262

eBook Collections include: Springer eBooks in Biomedical and Life Sciences, Springer eBooks in Earth and Environmental Sciences, Annual Reviews, NetLibrary

➤ Number of Journals in Biological Science

Print	1454
Electronic	2365

Online journals in the Life Sciences include the following subject areas: Animal Physiology, Biochemistry, Bioinformatics, Biology, Biophysics, Botany, Computational Biosciences, Entomology, Evolutionary Studies, General & Multidisciplinary, Genetics, Genomics, Immunology, Limnology, Morphology,

Ornithology, Paleontology, Taxonomy & Systematics, Toxicology, and Zoology. **Notable online journals***, owned by the **USF Libraries**, include: Science (29.747), Nature (34.480), Trends in Ecology & Evolution (11.564), Ecology Letters (10.318), Annual Review of Ecology, Evolution and Systematics (8.190), Frontiers in Ecological Environments (6.922), ISME Journal (6.397), Molecular Ecology (5.690), Global Ecology and Biogeography (5.913), Global Change Biology (5.561), Evolution (5.429), Ecological Monographs (4.862), Proceedings of the Royal Society of London B. Biological Sciences (4.857), American Naturalist (4.796), Journal of Ecology (4.690), Perspectives in Plant Ecology, Evolution & Systematics (4.684), Conservation Biology (4.666), Functional Ecology (4.546), Ecology (4.411), Ecography (4.385), Diversity & Distribution (4.224), and the Journal of Applied Ecology (4.197) .

* Top Twenty Journals in Biology with ISI Impact Factors – 2009 JCR
Journal Citation Reports – Science Edition.

EJournal Packages include: SpringerLink, Science Direct, Wiley Online Library, JSTOR Biological, JSTOR Botany and Plant Sciences, JSTOR Ecology and Evolutionary Studies , JSTOR Zoology

Subject *	Books	eBooks	Total Books	Journals	eJournals	Total Journals
Biology	41798	6262	48060	1454	2365	3819
Chemistry	9718	1430	11148	516	503	1019
Geology	10187	1008	11195	338	374	712
Mathematics & Statistics	35995	10428	46423	641	1183	1824
Physics	27754	2903	30657	591	625	1216

* Catalog

- **Number of Electronic Databases in Biology** - over 50 major databases in the Biological Sciences , including:

[AGRICOLA](#)

AGRICOLA provides literature citations for journal articles, monographs, proceedings, theses, patents, translations, audiovisual materials, computer software, and technical reports pertaining to all aspects of agriculture.

[Algology, Mycology & Protozoology Abstracts \(Microbiology C\)](#)

Algology, Mycology and Protozoology is a resource for microbiologists and researchers in immunology, pathology, environmental research, toxicology, and other related fields.

[Animal Behavior Abstracts](#)

Animal Behavior Abstracts surveys all of the important journals dealing with the biology of particular taxonomic groups.

[ASFA : Aquatic sciences and Fisheries Abstracts](#)

ASFA is a component of the Aquatic Sciences and Fisheries Information System

[ASFA Aquaculture Abstracts](#)

ASFA Aquaculture Abstracts contains information essential to all aspects of marine and freshwater aquaculture is covered in ASFA Aquaculture Abstracts.

[ASFA Marine Biotechnology Abstracts](#)

ASFA Marine Biotechnology benefits all researchers and managers concerned with the science, technology, and management of marine environments.

[ASFA. 1, Biological Sciences and Living Resources](#)

ASFA 1 provides extensive coverage of all aspects of marine, freshwater, and brackish water organisms and environments are examined, including information on biology and ecology of aquatic organisms, exploitation of living resources, and related legal, policy, and socioeconomic issues.

[ASFA. 2, Ocean technology, policy and non-living resources](#)

ASFA 2 is the source that puts professionals in touch with effective management solutions, alerts them to problems, and updates them on new legislation that affects management practices.

[ASFA. 3, Aquatic Pollution and Environmental Quality](#)

ASFA 3 contains information that will prove information on aquatic environments and marine pollution problems.

[Biological & Agricultural Index Plus](#)

Biological & Agricultural Index covers a wide range of specialties: Biochemistry ; Biology ; Botany ; Ecology ; Entomology ; Environmental Science ; Fishery Sciences ; Genetics ; Limnology ; Marine Biology ; Soil Science ; Wildlife Management ; Zoology

[Biological Sciences](#)

This interdisciplinary database offers abstracts and citations to a wide range of research in biomedicine, biotechnology, zoology and ecology, agriculture and veterinary science.

[BioOne Abstracts](#)

The BioOne bibliographic database is an indexed and fully-searchable collection of abstracts that link to the full-text articles from the BioOne organization, providing an aggregation of over 82 high-impact bioscience research journals.

[BIOSIS Previews](#)

BIOSIS Previews is the online version of Biological Abstracts and Biological Abstracts/RRM (reports, reviews, and meetings). BIOSIS Previews indexes over 6000 journals covering biological and medical research, and discoveries of new organisms.

[Ecology Abstracts](#)

Ecologists will find in this resource the essence of current ecology research across a wide range of disciplines, reflecting recent advances in light of growing evidence regarding global environmental change and destruction.

[EIS, Digests of Environmental Impact Statements](#)

The federal government issues hundreds of environmental impact statements each year and this one resource provides detailed abstracts of all of those statements.

[Entomology Abstracts](#)

Entomology Abstracts recent research reports covering insects, arachnids,

myriapods, onychophorans, and terrestrial isopods.

[Environmental Engineering Abstracts](#)

Environmental engineering abstracts covers the technological and engineering aspects of air and water quality, environmental safety, and energy production.

[Environmental Sciences & Pollution Management](#)

Multidisciplinary database provides comprehensive coverage of environmental sciences.

[FORMIS](#)

Ant Bibliography is a composite of several ant literature databases. It contains citations for a large part of the world's ant literature (about 30,000 references).

[Genetics Abstracts](#)

Genetics abstracts provides access to the worldwide literature of genetics, from microbes to plants to humans.

[GREENR](#) (Global Reference on the Environment, Energy, and Natural Resources)

Indexed online resource that integrates popular and scholarly content in subject areas related to physical, social, and economic aspects of environmental issues.

[Industrial and Applied Microbiology Abstracts \(Microbiology A\)](#)

Significant findings and practical applications in agricultural, food and beverage, chemical, and pharmaceutical industries.

[Kew Record of Taxonomic Literature](#)

The Kew record of taxonomic literature database contains references to all publications relating to the taxonomy of flowering plants, gymnosperms and ferns.

[Oceanic Abstracts](#)

Provides citations and abstracts to the international technical literature on marine and brackish-water environments. Focuses on marine biology and physical oceanography, fisheries, aquaculture, non-living resources, meteorology and geology

[Plant Science](#)

Plant Science contains citations and abstracts of scientific literature on plant science, focusing on all plant scientific aspects, especially on pathology, symbiosis, biochemistry, genetics, biotechnology, techniques and environmental biology.

[Pollution Abstracts](#)

Pollution Abstracts combines information on scientific research and government policies. Topics covered: atmosphere, emissions, mathematical models, effects of pollution on people & animals, and environmental action on global pollution issues.

[Sea turtle Bibliography](#)

Developed by the Archie Carr Center for Sea Turtle Research at the University of Florida; includes all aspects of sea turtle biology, conservation and management.

[TOXLINE](#)

Major areas of subject coverage include: air pollution, environmental chemicals and pollutants, genotoxicity, hazardous materials, health and safety, human and animal toxicity, industrial and household chemicals, and risk information.

[Water Resources Abstracts](#)

Subject coverage include: groundwater, lakes, estuaries, erosion and sedimentation, water supply and conservation, desalination, water yield improvement, water quantity management and control, watershed protection, water quality management, water resources planning, water law, engineering works and

hydraulics.

[Web of Science](#)

ISI Web of Science provides seamless access to the Science Citation Expanded®, Social Sciences Citation Index®, and Arts & Humanities Citation Index™. It enables users to search current and retrospective multidisciplinary information from approximately 8,500 of the most prestigious, high impact research journals in the world.

[Zoological Record](#)

Comprehensive coverage of worldwide zoological literature, including scientific journals, popular journals, monographs, books, newsletters, conferences, selected dissertations, review annuals, and reports.

➤ **Related Databases - School of Natural Sciences & Mathematics (SNSM)**

The Doctor of Philosophy in Integrative Biology would be most closely aligned with the Global Change Science and the Computational Theory & Practices research clusters. The disciplines included in these research clusters include: Chemistry, Physics, Mathematics & Statistics, and Geology.

In addition to the databases in the biological sciences, the USF Libraries support this research focus by providing access to the premier databases and journals in these related science disciplines: **SciFinder Scholar** (Chemistry) **GeoRef** (Geology,) **MathSciNet** (Mathematics & Statistics), **Medline** (Health), **Inspec**, **IEEE-Explore** (Engineering), **IOP Journals** (Physics), **ProQuest Dissertations & Theses** (full text).

➤ **Datasets, Maps & GIS**

The USF Library is one of the founding partners of the Karst Information Portal (KIP), which is an open-access digital library linking scientists, managers, and explorers to a knowledge base of highly interdisciplinary research information on karst environments.

The USF Libraries have also established a central repository for unbiased information and data on the BP Deepwater Horizon oil spill in the Gulf of Mexico. The Gulf Oil Spill Information Center (GOSIC) provides access to the latest information on the Gulf oil spill, published research and grey literature on the topic. GOSIC has also laid the groundwork for formation of a repository for geospatial data associated with the oil spill. This geo-spatial portal will also provide other STEM disciplines, including the biological sciences, with a repository for the data sets needed to support their research.

➤ **Government Documents**

The USF Tampa Library is a designated Federal Depository Library. The materials that are received from the Government Printing Office are selected based on the research needs of the university. The library routinely receives publications from the Department of Interior, the United States Geological Survey, the Environmental Protection Agency and the Department of Agriculture, which include research surveys, technical reports, statistical data, and maps. In addition to recent publications, the library also maintains an historical collection of research materials in the natural sciences.

Expenditures

In any given year, the USF Libraries materials budget is pushed to its limit. The rising cost of continuing journal subscriptions, the need for new research materials, and requests for access to online data sets are part of the daily landscape. A large portion of the USF Libraries' 6.2 million budget supports the continuation of

the electronic resources. The biological sciences are well represented throughout the USF Libraries electronic collections. The USF Libraries recognize the need to continue their support for research and teaching within the STEM disciplines and have included several STEM initiatives in their strategic goals. The Karst Information Portal and the Gulf Oil Spill Information Center are more outward examples of the USF Libraries' commitment to science and technology. Another primary research area that has been identified is Global Change Science. The USF Library has also included Global Change Science as one of its strategic goals and is currently working on the development of collections in marine and freshwater ecological research to provide research support for the study of the effects of climate change on plant and animal habitats.

Summary Statement

Recognizing the value and importance of research in biology, the USF Libraries will continue a sustained level of support for doctoral research in Integrative Biology, along with allied and associated subject areas and disciplines. Within the next five years, the expectation would be for a continued level of support for this discipline. An increase in the cost of the library's journal subscriptions would be anticipated, with typical annual increases of 3-6 %. There are several new journals that should be added to support the Global Change initiative, including "Nature's Climate Change." The acquisition of additional resources would have to be balanced against the research needs of other academic disciplines on campus within the confines of any budgetary restraints that the university could face during the next five years.

Prepared by:

Cheryl McCoy

Coordinator of Collection Development, USF Tampa Library

Date: 2/7/2011

Email: cmccoy@usf.edu

Reviewed & Approved by:

Todd Chavez, Director of Academic Resources, USF Libraries

Date: 2/8/11

Email: tchavez@usf.edu

As of February 2011, the collections of the USF Tampa Library and affiliates are sufficient to support the Doctor of Philosophy in Ecology, Evolution, Systematics, and Population Biology. Sustained annual investments to maintain the recurring elements of this collection and to purchase newly published materials are required to preserve sufficiency. With escalating costs, typical annual increases of 3-6% are likely. Strategic investments are required as new faculty are hired and areas of emphasis evolve.

Certified by:

William Garrison

William Garrison, Dean of USF Libraries

Date: 2/8/11

Email: wgarrison@usf.edu

University of South Florida Libraries
Collection Analysis for the Department of Integrative Biology
Proposed Doctoral Degree in Ecology, Evolution, Systematics, And Population Biology

- B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 3 in Appendix A.**

No new library resources are needed to sustain the new degree, the USF library has an outstanding record of provided the needed resources for the biology faculty.

- C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.**

We currently have eight classrooms that, among other things, are used for Ph.D. level instruction. There are also three large auditoriums that the department shares with other departments for departmental research seminars.

Each faculty has office space, a computer and access to the needed software to support his/her teaching and research. Near the office of each faculty member is a laboratory that is used by a faculty member and his/her graduate students for their research. Doctoral students are provided space in the lab, access to the computers in the lab, and if a TA, an additional office for meeting with the students in her/his classes. Each doctoral student has a dedicated computer and supporting software. All faculty members and graduate students have access to a shared printer, a fax machine, and a copier. All research labs have printers.

The Department of Integrative Biology also oversees a 500 acre tract of land located within 2 miles of the campus that serves as a research site for some of the ecology doctoral students. The USF Botanical Garden also provides space for research; a new greenhouse was just built to support the research of a new faculty member and her students. The Department owns six vehicles which can be used by faculty or graduate students for research. Students working on freshwater or marine research projects have access to three boats.

- D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (J) below.**

No additional space of any kind is needed to implement or maintain the proposed program through Year 5.

- E. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.**

The following table is a summary of the equipment available for graduate students to use for their research.

Description	Manufacturer	Serial ID	Unit	Cost
1991 electric 36 volt club car			USF01	1,825.00
MIXER MILL	SPEX X	10194	USF01	4,436.26
4444-2002 Fastcam SA4 500K C@-			USF01	45,014.00
Leica MZ6 Stereo microscope			USF01	7,709.12
9-34EB-1-0A0 AHP-1200CPV Solid			USF01	2,778.92
CC-GARDINER			USF01	1,737.32
Mettler Toledo Analytical bala			USF01	2,677.04
MIXER MILL	SPEX X	10194	USF01	4,436.26
TOWER COMPUTER	DuroPC	QP03814BDNN	USF01	1,125.00
LAPTOP COMPUTER	APPLE	FDO1428R04E	USF01	1,389.00
LAPTOP COMPUTER	Dell	W803606JATN	USF01	1,189.00
SPEEDVAC CONCENTRATOR	SAVANT	V04V-430845-W	USF01	5,494.71
LAPTOP COMPUTER	APPLE	W89300SW8YB	USF01	2,389.00
COMPUTER	APPLE	OP92405JOTL	USF01	1,649.00
LAPTOP COMPUTER	APPLE	W89364DG642	USF01	1,819.00
495000266324 ADD TO			USF01	15,000.00
PLANT GROWTH CHAMBER	PERCIVAL	14505-02-10G	USF01	13,432.70
PLANT GROWTH CHAMBER	PERCIVAL	14505-02-10G	USF01	13,432.70
PLANT GROWTH CHAMBER	PERCIVAL	14505-02-10G	USF01	13,432.70
PLANT GROWTH CHAMBER	PERCIVAL	14505-01-10G	USF01	13,432.70
PLANT GROWTH CHAMBER	PERCIVAL	14505-01-10G	USF01	13,432.70
PLANT GROWTH CHAMBER	PERCIVAL	14505-01-10G	USF01	13,432.70
ENVIRONMENTAL GAS MONITOR	PP SYSTEMS	0718	USF01	5,044.17
ENVIRONMENTAL GAS MONITOR	PP SYSTEMS	0718	USF01	5,044.17
RESPIRATION CHAMBER	PP SYSTEMS	0724	USF01	1,110.83
RESPIRATION CHAMBER	PP SYSTEMS	0724	USF01	1,110.83
LEGEND CENTRIFUGE	SORVALL	41110676	USF01	1,627.20
LEGEND CENTRIFUGE	SORVALL	41110676	USF01	1,627.20
BALANCE	DENVER	25650017	USF01	

				1,696.53
BALANCE	DENVER	25650017	USF01	1,696.53
SPEEDVAC CONCENTRATOR	SAVANT	V04V-430845-W	USF01	5,494.71
Laptop Computer	Apple	W8008227642	USF01	1,849.00
LAPTOP COMPUTER	APPLE	W8008227642	USF01	1,699.00
LANDCRUISER	TOYATO		USF01	16,775.00
Microcentrifuge	Sorvall Legend		USF01	1,356.00
SPECTROPHOTOMETER	THERMO-NANODROP	1094.000	USF01	23,500.00
WHITE RHINO SKULL WITH HORNS	BONE CLONES		USF01	1,238.71
TRAILER	LOADMASTER		USF01	1,550.00
VACUUM PUMP	EDWARDS	066391305	USF01	1,990.20
BALANCE	DENVER	21750597	USF01	1,012.67
BALANCE	DENVER	21950669	USF01	1,012.67
PORTABLE WATER CHECKER	HORIBA	T703001	USF01	2,824.23
DIGITAL CAMERA	LEICA	254303507	USF01	2,563.02
SIEVE SHAKER	W. S. TYLER	26993	USF01	1,553.60
WATER LOGGER METER	YSI	07G101794	USF01	11,537.12
GPS SONAR SYSTEM	LOWRANCE	101721878	USF01	1,849.00
TOWER COMPUTER	DELL		USF01	1,325.49
TOWER COMPUTER	DELL		USF01	1,318.71
TOWER COMPUTER	DELL		USF01	1,344.59
CENTRIFUGE	EPPENDORF	0021610	USF01	3,757.07
CAMERA	PHOTRON	132900039	USF01	20,030.00
TRUCK (WHITE)	FORD		USF01	20,811.00
TRUCK (WHITE)	FORD		USF01	20,811.00
TOWER COMPUTER	DELL		USF01	1,588.77
CENTRIFUGE	EPPENDORF	0010405	USF01	1,892.26
MICROSCOPE	LEICA	293943-082007	USF01	1,768.25
MICROSCOPE	LEICA	10447422	USF01	2,596.87

STEREO MICROSCOPE	LEICA	10446339	USF01	1,104.41
LAPTOP COMPUTER	DELL		USF01	1,389.00
BALANCE	METTLER TOLEDO	1128222698	USF01	2,672.35
IVEB	THELCO	603738-67	USF01	1,704.20
BOAT	TRACKER	BUJ66147G607	USF01	2,179.00
OUTBOARD MOTER	MERCURY	0R073656	USF01	1,995.00
FLUOROMETER METER	TURNER	800498	USF01	2,289.07
MICROSCOPE	LEICA		USF01	1,748.07
PCR STATION	CLEANSPT	CS07-055	USF01	1,448.23
BIOSAFETY CABINET	LABCONCO	070975625	USF01	7,430.04
HIGH SPEED CAMERA	FASTEC IMAGE	0151	USF01	5,000.00
RBPPTOC WASHER	BOPTEK	210005	USF01	6,120.00
VACUUM PUMP	THOMAS		USF01	1,170.00
MICROPLATE READER	BIOTEK	209592	USF01	7,380.00
PCR SYSTEM	APPLIED BIOSYSTEMS		USF01	20,449.00
PCR SYSTEM	APPLIED BIOSYSTEMS	271000726	USF01	20,375.00
DISMEMBARTOR	FISHER-SONIC	FS3550	USF01	1,703.29
OVEN	THERMO FISHER	604481-204	USF01	1,742.40
HOMOGENIZER	FISHER	282241	USF01	1,494.80
PROJECTOR	INFOCUS		USF01	1,038.95
SPECTROPHOTOMETER	NANODROP	E847	USF01	8,950.00
MICROSCOPE	LEICA	5601967	USF01	11,097.60
ILLUMINATOR	TECHNIQUIP	54006	USF01	1,573.39
FREEZER	REVCO	Z14S-245971-ZS	USF01	6,818.62
FERMENTATION SYSTEM	ADV		USF01	13,847.00
CENTRIFUGE	EPPENDORF	0010484	USF01	1,776.65
THERMAL CYCLER	BIO RAD	580BR-08380	USF01	3,934.00
MICROSCOPE	LEICA		USF01	3,201.84
5 CU FT REFRIGERATOR	FISHER		USF01	

				1,283.40
AQUAPEN	PHOTON SYSTEM INSTRUMENT		USF01	3,048.57
DURANGO WC#03-72556	DODGE		USF01	18,300.25
MICROSCOPE	MERJA		USF01	1,030.09
MICROSCOPE	LEICA		USF01	28,827.33
LIGHT SOURCE	LEICA		USF01	4,189.74
SPECTROPHOTOMETER	NANODROP		USF01	8,950.00
THERMAL CYCLER	BIO RAD		USF01	3,774.35
LUMINOMETER	PROMEGA GLOMAS		USF01	5,905.35
COMPUTER	APPLE		USF01	1,129.00
MICROSCOPE	LEICA		USF01	1,843.25
MICROSCOPE	LEICA		USF01	2,642.76
HAN HELD WATER QUALITY METER	YSI		USF01	2,600.00
HAN HELD WATER QUALITY METER	YSI		USF01	2,600.00
WATER QUALITY METER	YSI		USF01	9,959.00
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,250.00
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,250.00
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,250.00
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,250.00
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,334.17
PHYSIOLOGY SYSTEM	AD INSTRUMENT		USF01	3,795.83
VITALVIEW SOFTWARE W/PCI CARD	MINIMITTER		USF01	4,537.35
05400300 EPP Centrifuge 5702,			USF01	1,591.01
Infinity2-1C Lumenera infinity			USF01	1,804.96
I-Solution Lite IMT Image Anal			USF01	1,106.10
BALANCE ADD TO			USF01	5,946.00
BALANCE	DENVER		USF01	1,628.99
MIXER ADD TO			USF01	5,946.00
MIXER	EPPENDORF		USF01	1,477.13

DNA SEQUENCER ADD TO			USF01	5,946.00
DNA SEQUENCER	PERKIN-ELMER		USF01	5,650.00
DNA SEQUENCER ADD TO			USF01	6,305.47
CENTRIFUGE	THERMO CORP		USF01	1,639.00
CENTRIFUGE ADD TO			USF01	4,825.00
TOWER COMPUTER	APPLE	HO93913W20H	USF01	3,433.00
495000266324 ADD TO			USF01	661.28
PCR - SYSTEM	APPLIED-BIOSYSTEMS	275002941	USF01	18,000.00
LAPTOP COMPUTER	Dell	W802967XAGU	USF01	1,199.00

- F. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.

None

- G. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.

None

- H. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.

The Department of Integrative Biology has 29 teaching assistantships used to support graduate students who teach undergraduate laboratories. External funding used directly to provide salaries for Ph.D. students in Integrative Biology during the past two academic years (2011-2012 and 2012-2013) has totaled \$372,649. During that time 18 Ph.D students have served as Research Assistants on grants obtained from the National Science Foundation (NSF), National Oceanic and Atmospheric Association (NOAA), the Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA). Note: funds to pay the tuition expenses for these students are not included in the above total dollar amount.

- I. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.

The Department of Integrative Biology currently usually has between 5 to 10 Research Assistantships available for graduate students, depending upon grant support. Internships and practicum experiences are not typically a part of Ph.D. programs in Integrative Biology

- J. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.

No new capital expenditure is required.

Appendix A Tabular information

Appendix A Tabular data. Use Table 1 in Appendix A (A for undergraduate and B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 40 credit hours per year and graduate FTE will be calculated as 32 credit hours per year. Describe the rationale underlying enrollment projections. If, initially, students within the institution are expected to change majors to enroll in the proposed program, describe the shifts from disciplines that will likely occur.

See Table 1B. The enrollment projections are based on past experience with the Ph.D. in the Department of Biology, but the data have been filtered to reflect only those students who are working with, or have worked with, faculty that are now housed in the Department of Integrative Biology (i.e. students who studied with faculty in the Cell Biology, Molecular Biology and Microbiology doctoral program have been omitted from our calculations). No enrollment shifts will occur.

TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(Graduate Degree Program)

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	0	0	0	0	1	0.75	2	1.5	3	2.25
Students who transfer from other graduate programs within the university**	0	0	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	4	3	6	4.5	6	4.5	7	5.25	7	5.25
Individuals who graduated from preceding degree programs at other Florida public universities	6	4.5	8	6	9	6.75	10	7.5	11	8.25
Individuals who graduated from preceding degree programs at non-public Florida institutions	4	3	4	3	5	3.75	5	3.75	5	3.75
Additional in-state residents***	0	0	0	0	0	0	0	0	0	0
Additional out-of-state residents***	18	13.5	18	13.5	18	13.5	18	13.5	18	13.5
Additional foreign residents***	3	2.25	4	3	5	3.75	6	4.5	6	4.5
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	35	26.25	40	30	44	33	48	36	50	37.5

* List projected yearly cumulative ENROLLMENTS instead of admissions

** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

TABLE 2

Instruction & Research Costs (non-cumulative)	Year 1						Year 5				
	Funding Source					Subtotal E&G and C&G	Funding Source				Subtotal E&G and C&G
	Ph.D Program Reallocated Base* (E&G)	Enrollment Growth (E&G)	Other New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)		Ph.D Program Continuing Base** (E&G)	Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	
Faculty Salaries and Benefits	329904	0	0	0	0	\$329,904	\$361,113	0	0	0	\$361,113
A & P Salaries and Benefits	0	0	0	0	0	\$0	0	0	0	0	\$0
USPS Salaries and Benefits	24,660	0	0	0	0	\$24,660	28,606	0	0	0	\$28,606
Other Personnel Services	0	0	0	0	0	\$0	0	0	0	0	\$0
Assistantships & Fellowships	351,426	0	0	0	0	\$351,426	351,426	0	0	0	\$351,426
Library	0	0	0	0	0	\$0	0	0	0	0	\$0
Expenses		0	0	0	0	\$0		0	0	0	\$0
Operating Capital Outlay	0	0	0	0	0	\$0	0	0	0	0	\$0
Special Categories	0	0	0	0	0	\$0	0	0	0	0	\$0
Total Costs	\$705,990	\$0	\$0	\$0	\$0	\$705,990	\$741,145	\$0	\$0	\$0	\$741,145

*Identify portion of reallocation sources in Table 3 associated with PhD program.

**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "other new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

Total Positions (person-years)	Year 1	Year 5
PhD program Faculty	1.34	1.00
A & P	0.00	0.00
USPS	1.00	1.00

Calculated Cost per Student FTE

	Year 1	Year 5
Total E&G Funding	\$705,990	\$741,145
Annual Student FTE	26.25	37.5
E&G Cost per FTE	\$26,895	\$19,764

MEP Notes:

Faculty = %effrot in program X budgeted salary/benefits

USPS = .25 of CB annual and .50 of KG annual

Assistanships - took all budgeted for year 1

MEP Notes:

Faculty = % effort in program X budgeted salary/benefits

USPS = .25 of CB annual and .50 of KKG annual

Assistanships - took all budgeted for year 1

TABLE 3
ANTICIPATED REALLOCATION OF EDUCATION & GENERAL FUNDS

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
From Integrative Biology*	705,990	705,990	705,990
Totals	\$705,990	\$705,990	\$705,990

*Note: these funds currently support Integrative Biology's portion of the Biology PhD and is reallocated back to IB in support of the new program

**TABLE 4
ANTICIPATED FACULTY PARTICIPATION**

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Susan S. Bell PhD - Marine Science	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.10	0.075
A	Thomas Crisman PhD - Zoology-Limnology	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.10	0.075
A	Stephen, Deban PhD - Integrative Biology	Assoc. Prof	NTK	Fall 2010	9	0.75	0.15	0.113	9	0.75	0.20	0.150
A	Gordon Fox PhD - Ecology & Evolutionary Biology	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.20	0.150
A	Valerie Harwood PhD - Biomedical Sciences	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.15	0.113
A	Marc Lajeunesse PhD - Ecology Biology	Assoc. Prof	TEN	Fall 2010	9	0.75	0.05	0.038	9	0.75	0.20	0.150
A	David B. Lewis PhD - Limnology & Marine Science	Assoc. Prof	TEN	Fall 2010	9	0.75	0.05	0.038	9	0.75	0.20	0.150
A	Lynn Martin PhD - Ecology & Evolutionary Biology	Assoc. Prof	NTK	Fall 2010	9	0.75	0.15	0.113	9	0.75	0.20	0.150
A	Earl McCoy PhD - Biological Sciences	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.15	0.113
A	Phillip Motta PhD - Zoology	Professor	TEN	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.10	0.075
A	Henry Mushinsky PhD - Zoology	Professor	TEN	Fall 2010	9	0.75	0.15	0.113	9	0.75	0.15	0.113
A	Christopher Osovitz PhD - Ecology, Evolution & Marine Biology	Instructor	NTK	Fall 2010	9	0.75	0.05	0.038	9	0.75	0.05	0.038
A	Sidney Pierce PhD -	Professor	TEN	Fall 2010	9	0.75	0.05	0.038	9	0.75	0.05	0.038
A	Christina Richards PhD - Botany	Asst. Prof.	NTK	Fall 2010	9	0.75	0.10	0.075	9	0.75	0.15	0.113
A	Kathleen Scott PhD -	Professor	TEN	Fall 2010	9	0.75	0.15	0.113	9	0.75	0.20	0.150
A	Peter Stiling PhD - Zoology	Professor	TEN	Fall 2010	9	1.00	0.10	0.100	9	1.00	0.10	0.100
A	Jason Rohr PhD - Ecology & Behavior	Professor	TEN	Fall 2010	9	0.75	0.15	0.113	9	0.75	0.20	0.150
	Total Person-Years (PY)					13.00		1.34		13.0		1.90

Faculty Code		Source of Funding	PY Workload by Budget Classification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	1.34	1.90
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	0.00
C	New faculty to be hired on a new line	New Education & General Revenue	0.00	0.00
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00	0.00
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00	0.00
Overall Totals for			Year 1 1.34	Year 5 1.90

Letter of support form sister universities in Floirda



25 February 2013

Dr. Ralph Wilcox
Provost and Executive Vice President
University of South Florida
4202 E Fowler Ave, CGS 401
Tampa, FL 33620

Dear Ralph,

Faculty in Integrative Biology within our Department of Biological Sciences reviewed the proposal from USF to establish a new PhD in Integrative Biology. We understand that USF is doing this subsequent to splitting the broad discipline of Biology into two separate departments, each with its own PhD program. We agree that each sibling department should have its own PhD program.

While many of the courses in your PhD program are similar to courses offered in our PhD program, we do not see this as duplicative. By the time students are engaged in doctoral education, the courses are reflective of the research interests of the faculty who will be their dissertation mentors. Our faculty serve, as do your faculty, as external members of dissertation committees for students around the world. Our faculty would be willing to collaborate with USF faculty as external members of dissertation committees of USF students. Such participation sometimes leads to joint research proposals.

I am confident your proposed PhD program will be a success.

Sincerely yours,

Douglas Wartzok
Provost and Executive Vice President

MEMORANDUM

TO: Angel Kwolek-Folland
Associate Provost for Academic Affairs

FROM: R. Elaine Turner, Senior Associate Dean
College of Agricultural and Life Sciences

DATE: March 13, 2013

SUBJECT: Review of proposed PhD programs

R. Elaine Turner

Thank you for the opportunity to review the proposals for new PhD programs in Cell and Molecular Biology and Integrative Biology at the University of South Florida. Based on the information provided, these two new doctoral programs will replace the existing PhD in Biology. I have reviewed the proposals and also have received comments from the graduate coordinators of our doctoral programs in Animal Molecular and Cellular Biology and Microbiology and Cell Science. Based on these reviews, the new proposals do not appear to increase the amount of overlap or duplication with our existing programs. Both graduate coordinators expressed openness to future collaboration with USF faculty related to graduate education and research.

Please let me know if you have additional questions.

**Review of the University of South Florida Proposed PhD
Degrees in Cell and Molecular Biology, and Integrative
Biology**

Dr. Brian J. Wilkinson
Professor of Microbiology and
University Distinguished Professor
School of Biological Sciences
Illinois State University
Normal, Illinois 61790-4120

March, 2013

1. The Two Degree Programs are a Logical and Positive Development for the Organization of Biology and the University of South Florida

Before I address this specific issue, I would like to recount a little professional history at Illinois State University (ISU). I believe that the development of biology at my institution has been stifled because of our failure to reorganize into separate departments. Furthermore, a very successful degree program (in terms of student interest) in Biochemistry and Molecular Biology offered by the Departments of Chemistry and Biological Sciences has been disbanded because of a lack of an appropriate organizational structure of department status and the autonomous authority that it carries.

The fundamental divergence in biologists is whether they are predominantly philosophically and functionally laboratory or field scientists. These two kinds of biologists see the world differently and keeping these divergent philosophies in the same department is a recipe for failure. For example, for the last decade the Department of Biological Sciences at ISU tried to reorganize the undergraduate curriculum, but failed to do so. The revision failed because of the inability of the diverse faculty to agree on things like whether all undergraduates had to take a course in ecology. The discipline of biology is too large and broad to be accommodated in one **department**. In recognition of this we organized as a **School** of Biological Sciences a few years ago.

This organization has facilitated curriculum revision, but this structure does not give the different interests in the department the latitude to truly thrive. Because biology is such a large discipline and attractive to a large group of students, biology departments end up with too many diverse options for efficient operation. Also, biology departments have a tendency to simply end up with too many faculty in the same academic unit for efficient philosophical, academic, and bureaucratic operation.

The interdisciplinary program in Biochemistry and Molecular Biology at ISU is being reorganized with the biochemistry program going to the Department of Chemistry and molecular biology program going to the School of Biological Sciences. The Biochemistry and Molecular Biology program had to have the approval of both the Department of Chemistry and School of Biological Sciences to make curricular changes, lacked its own degree granting authority, and lacked an adequate budget. Because of the lack of departmental autonomy the academic program was destined for failure.

I believe that appropriate administrative structure is critical for the optimum operation of academic programs.

In 2006 reorganization of the Department of Biology at the University of South Florida was initiated. This process was completed in 2009 with the creation of two new departments, the Department of Cell Biology, Microbiology and Molecular Biology and the Department of Integrative Biology. I congratulate the faculty of the Biology Department, the Dean of the College and the Provost on their vision in effecting this change. It seems that creation

of two new independent PhD programs, which in essence have operated as such for some time, is the formal last piece of the puzzle to be put into place.

2. The Two Proposed Programs are Distinct and Reflect the Trajectory of the Field

The proposed PhD program in Cell and Molecular Biology is strongly biomedically oriented and is focused on the cellular and molecular basis of human disease. A large student interest exists at both the undergraduate and graduate levels. Dealing as it does with the nation's health, significant grant funding is available on a competitive basis. The Cell Biology, Microbiology and Molecular Biology department at USF has a large and diverse doctoral program, attracting a diverse and internationally represented student body. Students in the existing program work with Cell Biology, Microbiology and Molecular Biology faculty who are leaders in their respective fields of study. Significant funding exists from sources such as the National Institutes of Health (NIH, the gold standard for biomedical research), American Cancer Society and the National Science Foundation (NSF). The students already engaged in the Cell and Molecular Biology PhD program are producing significant scientific publications in top tier journals. The program is not duplicative of other programs in other State of Florida public universities. It is a STEM program that supports the University and State University System strategic goals.

The proposed PhD program in Integrative Biology is broad-based and themed on the morphological and physiological adaptations that facilitate the biological, ecological and evolutionary competency of organisms. Plants, animals and microbes are studied with approaches ranging from levels of organization from molecular to ecosystem levels. Living organisms are studied as encountered in their natural environments in this program rather than as model, laboratory entities in the Cell and Molecular Biology PhD program. The Integrative Biology graduate program successfully attracts students from all parts of the globe to study with a world class faculty with an outstanding track record in obtaining grant money and publishing in first rate scientific journals. The PhD program in Integrative Biology is also a STEM program and fully compatible with University and State University System strategic goals.

The approaches to biology of these two programs will remain viable for the foreseeable future.

3. The Curricula are Robust and Strengthened by the Creation of the New Departments and Degrees

Prior to World War II, biology, chemistry, physics and mathematics were often housed together in Departments of Natural Sciences. It is of course unthinkable nowadays that the **disciplines** of chemistry and biology could be housed together in a single department. It is unlikely that a single person could claim to truly be a master of both disciplines. Likewise a

PhD in biology reflects an administrative convenience rather than true mastery of all of biology. The two curricula are well-designed, focused and rigorous and represent “truth in advertising” for the recipients of the respective degrees.

4. The Proposed Budgets are Appropriate

Given the de facto operation of these programs as separate PhD programs the financial resources are already in place from both intramural and extramural sources. Students are supported on teaching and research assistantships, and consumables are largely purchased through grant dollars awarded to the faculty from federal, state, industrial, and foundation sources.

5. The Faculty are Accomplished and Well Qualified to Mentor Students

As a whole the faculty of the two departments are productive in publishing in significant numbers in prestigious primary literature journals. They successfully compete for extramural funding from federal and other sources. Their accomplishments are validated by invitations to write reviews and book chapters, present seminars at national and international meetings, review manuscripts prior to publication, serve on editorial boards, and serve on grant review panels. The faculty provide an excellent environment within which candidate students earn their PhD degrees.

Summary

The creation of two new departments, Cell Biology, Microbiology and Molecular Biology, and Integrative Biology, from the Department of Biology was a forward-thinking move by the University of South Florida that promoted the further development of the broad discipline of biology at the university. It created two departments within which faculty share a common academic vision for their respective disciplines, and provides an efficient administrative structure. It is entirely appropriate that the two separate PhD programs are formally created at this time to further ensure that these two departments will continue to grow and flourish.

CURRICULUM VITAE

Susan Schloemer Bell

Personal

Telephone No. (813) 974-2542 (Office); (813) 988-3689 (Home)

email: sbell@usf.edu

Education

Institution

Clark University, Worcester, Massachusetts	Biology	B.A.1972
University of New Hampshire, Durham, NH	Zoology	M.S.1974
University of South Carolina, Columbia, SC	Marine Science	Ph.D. 1979

Dissertation topic: Biological regulation of meiofauna community structure and population dynamics in a salt marsh habitat.

Areas of Specialization

Ecology; Marine Ecology; Benthic Ecology; Seagrass Ecosystems; Mangrove Ecosystems; Landscape Ecology; Restoration Ecology

Employment

2009-2011	Chair, Department of Integrative Biology
2006-2009	Co-Chair, Department of Biology, University of South Florida
2006-2009	Division Director, Integrative Biology, University of South Florida
1998-2000	Interim Chair, Department of Biology, University of South Florida
1992-1993	Faculty Intern/Assistant Dean, College of Arts and Sciences, University of South Florida
1990-present	Professor, Department of Biology/Integrative Biology, University of South Florida.
1983-1990	Associate Professor, Department of Biology, University of South Florida.
1979-1983	Assistant Professor, Department of Biology, University of South Florida.
1979	Research Associate, Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina
1975-76	Ecological Researcher, Norwalk Health Department, Norwalk, CT.
1975	Instructor in Genetics, Norwalk Community College, Norwalk, CT.

Other Professional or Related Activities

1971	Independent study, Marine Biology course, Bermuda Biological Station.
1971	Participant on R/V Eastward Cruise.
1972-78	Graduate Teaching and Research Assistant, University of New Hampshire and University of South Carolina.
1977	Participant in Reproductive Ecology Symposium, Belle W. Baruch Institute for Marine Biology and Coastal Research, Georgetown, SC.

- 1978-present Reviewer of manuscripts for Nature, Marine Biology, Journal of Experimental Marine Biology and Ecology, Northeast Gulf Science, Bulletin of Marine Science, Transactions of American Microscopical Society, Journal of Freshwater Invertebrate Ecology, Ecology, Journal of Marine Research, Marine Ecology Progress Series, Ecological Monographs, Estuaries, Journal of Coastal Research, Ophelia, Restoration Ecology, Oecologia, Ecological Applications, Wetlands, Estuarine Coastal and Shelf Science, Ecosystems, Limnology and Oceanography, Global Change Biology
- 1979 Participant in NSF sponsored Workshop on Marine Science and Minority Schools.
- 1979-present Reviewer of grants for National Science Foundation (Biological Oceanography, Ecosystems, Polar Programs, Systematics, International Programs and Small Business Programs; Marine Biology and Field Laboratories), EPA, NOAA, Florida Sea Grant, Texas Sea Grant, California Sea Grant, Hudson River Foundation, Georgia Sea Grant, South Carolina Sea Grant, New Jersey Sea Grant; North Carolina Sea Grant, Australian Research Council
- 1979 Participant in Marine Benthic Dynamics Symposium, Belle W. Baruch Institute for Marine Biology and Coastal Research, Georgetown, SC.
- 1979 Judge for "Outstanding Graduate Student Paper," American Society of Zoologists, Tampa, FL.
- 1981 Convener and organizer of symposium: "Meiofaunal Ecology: Present Concepts and Future Directions," sponsored by American Microscopical Society and American Society of Zoologists, Dallas, TX.
- 1981 Local arrangements committee, International Echinoderm Conference, St. Petersburg, FL.
- 1982 Local arrangements committee, Florida Field Biologists meeting, Tampa, FL.
- 1982 Member of University site visitation committee, Sea World Shark Institute, Long Key, Fl. 1983, Co-convener and Program Chairman of Benthic Ecology Meetings, Melbourne, FL.
- 1984-1990 Member of Executive Committee and Board of Correspondents, International Association of Meibenthologists
- 1984 Invited participant, International Conference on Biology of Benthic Marine Organisms. Techniques and methods as applied to the Indian Ocean, Aurangabad, India.
- 1985 Invited Speaker, Salt Marsh workshop, sponsored by Technical Subcommittees for salt marsh management of the Governor's working group for mosquito control, Vero Beach, FL
- 1985-1986 Member-at-large. Southeastern Estuarine Research Society
- 1986 Convener, Sixth International Meiofauna Conference, Tampa, Florida 1986-1988 Secretary, Southeastern Chapter, Ecological Society America
- 1988 Co-convener of symposium, "Habitat Complexity: The Physical Arrangements of objects in Space." Brooksville, Fla.

1989	Member, NSF Panel, Undergraduate Laboratory Improvement Program
1989	Visiting Scientist, National Museum of New Zealand
1989-2000	Executive committee, Center for Urban Ecology, University of South Florida, Tampa
1989-1994	Corporate Stewardship Committee, Tampa Electric Company
1990	Florida Sea Grant, Proposal Selection Committee
1990	Member NSF Site Visitation Team, Louisiana University Marine Science Consortium
1990-1998	Head, Behavior, Ecology, Evolution and Systematics Division, Department of Biology, USF
1992	Invited participant, EPA Workshop on Seagrasses, Sarasota, FL
1992	Invited Participant, West Florida Shelf Workshop, St. Petersburg, FL
1993-1995	Member-at-Large, Estuarine Research Federation
1994-1995	President , USF Chapter, Sigma Xi
1994	NSF Panel Member, Postdoctoral Fellowships in Environmental Biology
1994-	Coalition for Scientific Literacy, USF
1994	Florida Sea Grant Advisory Committee
1995	Invited Participant, NOAA, Habitat Equivalency Analysis Workshop
1995	Invited Participant, HEC Workshop, "Meeting the Challenges of Education in Science and Mathematics"
1996	Invited Participant, NSF Workshop on Restoration Ecology, Santa Barbara, CA
1997, 2000	NSF Panel Member, Marine Biology Laboratories and Field Stations
1997	Panel Member, NOAA, Invasive Species Program
1997	Invited Speaker, California Interagency Ecological Program, Annual Workshop, Asilomar, CA
1998	Invited Speaker, Florida Bay Seagrass Workshop, Key Largo, FL
1998	Co- Organizer, Benthic Ecology Meetings, Melbourne, FL
1998	Invited Speaker, Restoration Ecology Workshop, Michigan State University
1998	Invited Speaker, NOAA Restoration Workshop, Society of Ecological Toxicology and Environmental Chemistry
1998-2001	Co-Organizer and Scientific Program Chair, International Estuarine Research Federation Meetings St. Petersburg, FL
1998-2000	NASULGC, Member of Board on Natural Resources Ecology Section
1999	Invited participant: ESA, NOAA, NMFS workshop on National Marine and Estuarine Classification
2000	Invited participant, The Nature Conservancy Workshop on Marine Conservation in the Gulf of Mexico
2000	Member, Steering Committee, Institute of Ecosystem Studies Workshop "Structure and function of boundaries in ecological mosaics: a workshop on the status and opportunities for integrated

research”

2000-01 Reviewer, Predoctoral Awards, Association for Women in Science Educational Foundation

2001-02 Mentor, McNair Minority Fellowship Program

2001 Peer Review Team, USEPA Western Ecology Laboratory

2001 Outside reviewer, Louisiana Board of Regents, Marine and Environmental Science Graduate Program

2003 Plenary Speaker, CALFED Science Conference on Restoration

2003 Invited Participant, Cary Conference, Institute of Ecosystem Studies, “Ecosystems and landscape heterogeneity”

2003 Landscape Pattern Task Group, State of the Nation’s Ecosystems, The Heinz Center, Washington, DC

2004-2007 Chair, Coastal Landscape Pattern Task Force, State of the Nation’s Ecosystems, The Heinz Center, Washington, DC

2005-2007 Chair, Publications Committee, Estuarine Research Federation

2005 Center for Environmental Studies, FAU, Member, Technical Team, San Luis, Brazil

2006 Peer Review Team, USEPA Western Ecology Laboratory

2007 Participant- Institute for Academic Leadership-Workshop June 2007

2007 Participant- Institute for Academic Leadership-Workshop October 2007

2007- present Tampa Bay Ecological Services Steering Committee

2008- 2010 Group Leader-Institute for Academic Leadership

2008 NSF Review Panel, Biological Oceanography Program

2009 Invited Speaker, Landscape Ecology Workshop, Stockholm Sweden

2009 Everglades Marine Vegetation Modeling Working Group- National Park Service

2010 Invited participant: "Long-term monitoring of Coastal Ecosystem Responses to the Deepwater Horizon Oil Spill" NSF workshop, Florida State University

2011 Member of Seagrass Restoration Review Committee for the Chesapeake Bay Scientific and Technical Advisory Committee (STAC)

2012 Restore America 2012 Meeting, Program Committee

Editorial Positions

1994-present Editorial Board, **Journal of Experimental Marine Biology and Ecology**

2001-present Editorial Board, **Restoration Ecology**

2007-2009 Editorial Board, Research Letters in Ecology

Outside Examiner for Theses/Dissertations

1989 Outside examiner, Ph.D. thesis. University of British Columbia

1998 External reviewer, MS Thesis, University of West Indies

2000 Outside Examiner, Ph.D thesis, University of Sydney, Australia

2001 Outside Examiner, Ph.D thesis, University of Queensland

2002 Outside Examiner, Ph.D thesis, University of Queensland

2003 Outside Examiner, MSc Dissertation, University of Capetown, South

Africa

- 2003 Outside Examiner, PhD Dissertation, Flinders University, Australia
- 2003 **Outside examiner, PhD Dissertation, University of Queensland, Australia**
- 2004 **Outside examiner, PhD Dissertation, University of Western Australia, Australia**
- 2004 **Outside examiner, PhD Dissertation, University of Melbourne, Australia**
- 2005 **Outside examiner, PhD Dissertation, University of Sydney, Australia**
- 2012 **Outside examiner, PhD Dissertation, University of Western Australia, Australia**
- 2012 **Faculty Opponent, PhD Dissertation, University of Stockholm**

Advisory Committees

- 1990-1998 Technical Advisory Committee, Tampa Bay and Sarasota Bay National Estuary Programs
- 1995 Ecosystems Management Advisory Committee, Florida Dept. of Environmental Protection
- 1999-present Advisory Board, Florida Institute of Oceanography
- 2000-2006 Rookery Bay, (NERRS), Research Advisory Committee

Honors or Awards

- 1968 Woman's Society of Engineer's Award
- 1968-72 Jonas Clark Scholarship, Clark University
- 1972 Connecticut State Graduate Fellowship
- 1973 University of New Hampshire Summer Fellowship
- 1976 Woman Seaman's Friend Society Fellowship
- 1977 Woman Seaman's Friend Society Fellowship
- 1977-78 Belle W. Baruch Fellowship
- 1977 Sigma Xi Travel Grant
- 1978-79 Belle W. Baruch Fellowship
- 1978 Sigma Xi Travel Grant
- 1979 Sigma Xi Award for Outstanding Graduate Student, University of South Carolina.
- 1987 University of South Florida Enhancement of Affirmative Action Award
- 1993 University of South Florida, Teaching Incentive Award
- 1998 University of South Florida, Professional Excellence Award
- 2002 University of South Florida, Presidential Excellence Award

Grants

- 1979-81 National Science Foundation Grant -- Biological Oceanography Program "Meiofaunal and Macrofaunal functional groups and their response to biogenic structure" OCE 7875564 and OCE 8001726 \$67,394.

1981-84	National Science Foundation Grant -- Biological Oceanography Program "Experimental investigations on epibenthic meiobenthos in a subtropical habitat. OCE 8001726 1A \$85,000.
1984-85	National Science Foundation Grant -- Biological Oceanography Program "Continuation of experimental studies on harpacticoid copepods in epibenthic habitats" \$14,928.
1984	National Science Foundation Grant -- International Programs "A short-term visit to New Zealand to study meiofauna in seagrass beds" \$3,416.
1985-86	NOAA/SPD Studies on meiofauna and trophic interactions in Rookery Bay, Florida. \$10,000.
1986	Florida Department of Natural Resources, "Seagrass restoration: meiofaunal succession and trophic interactions." \$61,964.
1987	Florida Department of Natural Resources, "Experimental Planting of <u>Halodule wrightii</u> in Tampa Bay, Florida. Evaluation of meiofaunal response and trophic links with fish. \$16,000.
1988	Florida Sea Grant, "Habitat Complexity: The Physical Arrangement of Objects in Space, \$11,500 (with E. D. McCoy and H.R.Mushinsky).
1988-91	Southwest Florida Water Management District. "Monitoring of Cabbage Head Bayou: The impact of improved tidal flushing, \$133,542.
1989-91	Florida SeaGrant, "Macrobenthic production in natural and restored seagrass beds. \$60,079.
1988-89	University of South Florida, International Travel Grant, \$1,000.
1990-1993	NOAA, ERHP, Accelerating and evaluating the development of restored and constructed seagrass ecosystems in the S.E. United States, \$255,000
1990-1992	Florida Department of Natural Resources, Marine Resources Grant, "Utilization of restored habitats by red drum: evaluation of feeding flexibility, \$105,438
1990-1993	Pinellas County Commission, Coastal Management Division, "The effects of sedimentation on sandy beach fauna in the Gulf of Mexico \$56,889

1994-1996	National Science Foundation, "Dynamics of habitat structure in seagrass landscapes: ecosystem implications." \$50,018
1994-1997	NOAA, Coastal Ocean Program, "Multiple scale studies of spatial and temporal influences on seagrass ecosystems: structure, function and management" \$150,000
1994-1996	National Science Foundation, "Research Experiences for Undergraduates", NSF Ecosystems Program, \$20,000
1995-1997	Florida Sea Grant, "Boating Impacts on faunal-seagrass links: modification of habitat function" \$132,706
1995-1998	National Science Foundation "FLEDGE-ling" (Florida Education In Geology and Ecology): an inquiry-based science enrichment program for middle school girls, Young Scholars Program, \$124,700 (E. Snow P.I., I. Bartsch and S. Bell co PIs)
1998-2001	NOAA,NEERS, Assessment of the impact of mangrove trimming on fishes in southwestern Florida \$49,500
1998	SWFWMD, "FLEDGE-ling- a science program for middle school girls" \$10,000
1998-2000	National Fish and Wildlife Foundation Shell Marine Habitat Program, " Assessing the improvement of seagrass restoration by reduction of bioturbation and sediment stabilization by shell hash " \$106,104 (total costs)
2001-2003	Pinellas County Environmental Foundation, "Assessing the improvement of seagrass restoration with spaced and aggregated plantings \$61,000"
2001- 2002	DOEd: USF Globalization Research Institute, "The occurrence of seagrass disease and its relationship to seagrass dynamics: first stages of a Florida-Caribbean study" \$17,938
2002-2003	NOAA, CICEET, "Development of an in situ camera system for evaluating ichthyofaunal utilization of the mangrove intertidal" \$25,000
2002-2003	Florida Fish and Wildlife Commission, "An experimental test of seagrass restoration: the relative importance of spatial design and exclusion of bioturbators" \$20,000
2003-2004	Florida Fish and Wildlife Commission, " An experimental test of seagrass restoration:monitoring transplanted seagrass in Tampa Bay, Florida: Assessing long term success." \$20,000
2003-2004	USGS, "The benthic community of offshore sand banks: A literature synopsis of the benthic fauna resources in potential

Minerals Management service borrow areas” \$58,931

- 2003-2005 NOAA, CICEET, “Application of an in situ infrared camera system for the evaluation of ichthyofaunal utilization of restored and degraded mangrove habitats: developing a set of reference conditions from a NERR site” \$221,393
- 2003-2004 NSF, Biological Oceanography, “Assessing the impact of a macroalgal outbreak in Tampa Bay, FL” \$64,999 (co PI with F. Thomas)
- 2003-2005 Washington Sea Grant "Juvenile Salmon Response to Intertidal Eelgrass *Zostera marina* Landscape Structure," \$213,182, (C. Simenstad PI; J. Cordell, J.K. Parrish, C. Weller, K. Fresh and S.S. Bell, Associate Investigators)
- 2004-2006 NFWF, Pinellas County Environmental Foundation, “Seagrass restoration in Tampa Bay: the initiation of long term assessment of success” \$207,176
- 2004-2005 Florida Sea Grant, “Documenting a macrophyte shift from seagrass to an alga: first measure of algal growth rates, light environments and possible seagrass loss , \$6009
- 2007-2008 NFWF, Pinellas County Environmental Foundation, “Long term assessment of seagrass restoration ” \$86,000
- 2008-2009 NFWF, “Restoring Value to Fish Habitat in Tampa Bay Tidal Wetlands” \$93653 (PI)
- 2009-2012 NASA, NRA/Research Opportunities in Space and Earth Sciences, “Mapping and Characterization of Seagrass Habitats Using Spacecraft Observations”, \$359,537, (R. Pu, Co-PI)
- 2009- 2012 NOAA,NERRS, “Dynamics of mangrove boundaries: field tests of mangrove expansion into marsh plant habitat”, \$60,000(PI)
- 2009-2011 NSF, “ULTRAEx, Urban development, power relations, and water”, \$270, 884 (Senior Personnel)
- 2010-2011 NSF, RAPID Deep Water Horizon Oil Spill: Trophic organization of sandy beach ecosystems across gradients of development and oiling \$ 127,693 (PI)
- 2010-2012 Ecosphere, Lost River Restoration, \$99,000 (PI)
- 2011 GOMRI, Oil spill impacts on food webs of barrier islands: critical sampling of Florida beaches , \$49,853 (PI)

PROFESSIONAL SOCIETIES

AAAS

Society of the Sigma Xi

Ecological Society of America

Southeastern Estuarine Research Society

Estuarine Research Federation

Graduate Students: Major Professorship

Rick Milton	Gary Patton
Kevin Tipton	Susan Service
Ruth Pangallo	Keith Walters
Derrick Currie	Josepha Kurdziel
Wendy Tweedale	Harry Meyer
Ken Longenecker	Rita Longenecker
Lacey Knowles	Brad Robbins
Cyrena Rose	Karen Moody
Susan Jensen	Kevin Madley
R.Allen Brooks	Sheri Saiter
L.Ben Motten(co- chair)	Amy Erickson
William Ellis	Samuel Jacobson
Heather Hamilton (co-chair)	
Justin Bowles	
Carla Purdy	Jennifer Gibson
Justin Krebs	Kristina Morrow
Laura Bedinger	Michael Middlebrooks
Alison Meyers	Jennifer Peterson

Postdoctoral Associates

Roberto Llanso	Lee Ann J. Clements
Frederic E. Vose	William L. Ellis
Alex Tewfik	Louise Firth
Lore Ayoub	Lesley Baggett

Books Published

Habitat Complexity: The Physical Arrangement of Objects in Space. (S.S. Bell, E.D. McCoy and H.R. Mushinsky, eds.) Chapman and Hall, Ltd. 1990.

Journal Publications (total =102)

- Bell, S.S. and B.C. Coull, 1978. Field evidence that shrimp predation regulates meiofauna. *Oecologia (Berl.)* 35:141-148.
- Bell, S.S. M.C. Watzin, and B.C. Coull. 1978. Biogenic structure and its effects on the spatial heterogeneity of meiofauna in a salt marsh. *J. exp. mar. Biol. Ecol.* 35:99-107
- Bell, S.S. 1979. Short- and long-term variation in a high marsh meiofauna community. *Estuar. Coast. Mar. Sci.* 9:331-350.
- Coull, B.C. and S.S. Bell. 1979. Perspectives of marine meiofauna ecology. In "Ecological processes in coastal and marine ecosystems," (R.J. Livingston, ed.) Plenum Press, NY. PP. 189-216.
- Coull, B.C., S.S. Bell, A.M. Savory and B.W. Dudley. 1979. Zonation of meiobenthic copepods in a southeastern United States salt marsh. *Estuarine Coast. Mar. Sci.* 9:181-188.
- Coull, B.C. and S.S. Bell. 1979. On a Nitocrella and Mesochra mexicana (Copepods: Harpacticoida) from South Carolina salt marshes. *Trans. Am. Micros. So.* 98:219-224.
- Bell, S.S. 1980. Meiofauna-macrofauna interactions in a high salt-marsh habitat. *Ecological Monogr.* 50:487- 505.
- Bell, S.S. and B.C. Coull. 1980 . Experimental evidence for a model of juvenile macrofauna-meiofauna interactions. IN *Marine Benthic Dynamics* (K.R. Tenore and B.C. Coull, eds.). University of South Carolina Press. pp. 179-192.
- Bell, S.S. and K.M. Sherman. 1980. A field investigation on meiofaunal dispersal: tidal resuspension and implications. *Mar. Ecol. Prog. Ser.* 3:245-249.
- Bell, S.S. 1982. On the population biology and meiofaunal characteristics of Manayunkia aestuarina (Polychaeta: Sabellidae: Fabricinae) from a South Carolina salt marsh. *Estuar. Coast. Shelf Sci.* 14:215-221.
- Bell, S.S. and L.D. Coen. 1982. Investigations on epibenthic meiofauna. I. Abundances on and repopulation of Diopatra tube caps in a subtropical system. *Mar. Biol.* 67:303-309.
- Bell, S.S. and L.D. Coen. 1982 . Investigations of epibenthic meiofauna. II. Influence of microhabitat and macroalgae on abundance of small invertebrates on Diopatra cuprea tube-caps in Virginia. *J. exp. mar. Biol. Ecol.* 61:175-188.
- Bell, S.S. and J.B. McClintock. 1982. Invertebrates associated with echinoderms from the west coast of Florida with special reference to harpacticoid copepods. In *Proc. Internat. Echinoderm Conf . , Tampa Bay* (J. M. Lawrence, ed.) Balkema Press Rotterdam. pp. 229-234.
- Coull, B.C. and S.S. Bell. 1983. Biotic assemblages: Populations and communities. IN *The Biology of the Crustacea* (F.J. Vernberg and W.B. Vernberg, eds.). Academic Press, New York. pp. 283-319.
- Bell, S.S. and D.J. Devlin. 1983. Short-term macrofauna recolonization of sediment and epibenthic habitats in Tampa Bay, Florida. *Bull. Mar. Sci.* 33:109-108.
- Bell, S.S. 1983. Book review of Marine Biology: an ecological approach by J.W. Nybakken. *Ecology* 63.
- Bell, S.S. and J.C. Kern. 1983. A new species of Enhydrosoma (Copepoda:Harpacticoida) from Tampa Bay, Florida. *Bull. Mar. Sci.* 33:899-904.

- Bell, S. S. 1983. An experimental study of the relationship between below-ground structure and meiofaunal taxa. *Mar. Biol.* 76:33-39.
- Kern, J.C., N.A. Edwards, and S.S. Bell. 1984. Precocious clasping of early copepodite stages: a common occurrence in Zausodes arenicolus Wilson (Copepoda: Harpacticoida). *Crustacean Biol.* 4:261-265.
- Kern, J.C. and S.S. Bell. 1984. Spatial heterogeneity in size structure of two benthic invertebrates on small spatial scales (meters) and its implications. *J. exp. mar. Biol. Ecol.* 78: 221-235.
- Bell, S.S., K.W. Walters and J.C. Kern. 1984. Meiofauna from seagrass habitats: A review and prospectus for future research. *Estuaries* 7: 331-338.
- Bell, S.S. and S.A. Woodin. 1984. Community unity in soft bottom benthos: experimental evidence from a sand flat in Virginia, USA. *J. Mar. Res.* 42:605-632.
- Kern, J.C. and S.S. Bell. 1984. Short-term temporal variation in population structure of two harpacticoid copepods, Zausodes arenicolus Wilson and Paradactylopodia brevicornis (Claus). *Mar. Biol.* 84: 53-63.
- Bell, S.S. 1985. Habitat complexity of polychaete tube-caps: influence of architecture on dynamics of a meio-epibenthic assemblage. *J. Mar. Res.* 43: 647-671.
- McCoy, E.D. and S.S. Bell. 1986. Tampa Bay; the end of the line? In (S. Treat, J.L. Simon, R.R. Lewis III and R.G. Whitman, Sr., eds). *Proceedings, Tampa Bay Area Scientific Information symposium*. S. Treat, J. Simon, R. Lewis III and R. Whitman Jr. (eds). pp. 460-474.
- Bell, S.S., J.C. Kern and K.W. Walters. 1986. Sampling for meiofaunal taxa in seagrass systems: lessons from studies in a subtropical Floridian estuary. *In Proceedings of Life Histories of Benthic Marine Invertebrates: Techniques and Methods as applied to the Indian Ocean*. pp. 239-245.
- McCoy, E.D., S.S. Bell, and K. Walters. 1986. A technique for placing biotic boundaries along environmental gradients. *Ecology* 67: 749-759.
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- Bell, S.S., Walters, K. and M.O. Hall. 1986. Habitat utilization by harpacticoid copepods: A morphometric approach. *Mar. Ecol. Prog. Ser.* 35: 59-64.
- Bell, S.S. 1988. Experimental approaches to the study of meiofauna. *In A survey of meiofauna*. (H. Thiel and R. Higgins, eds.) Smithsonian Publ. pp. 169-180.
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- Pangallo, R. and S.S. Bell. 1988. Dynamics of the aboveground and below ground structure of the seagrass Halodule wrightii (Asherson) Asherson. *Mar. Ecol. Prog. Ser.* 43: 297-301.
- Bell, S. S., G.R F. Hicks and K. Walters. 1988. Active swimming in meiobenthic copepods in seagrass beds: species patterns and role of reproductive behavior. *Mar. Biol.* 98: 351-358.
- Hall, M.O. and S.S. Bell. 1988. Complexity of epiphytic algae on seagrass blades and its effects on the small motile epifauna. *J. Mar. Res.* 40:613-630.
- Tipton, K. and S.S. Bell. 1988. Foraging patterns of two syngnathids in a seagrass bed in Tampa Bay, Florida: The importance of harpacticoid copepods. *Mar. Ecol.*

- Prog.Ser. 47: 31-43.
- Bell, S.S., G.R.F. Hicks and K. Walters. 1989. Experimental studies of post emergence settlement of harpacticoid copepods. *J. exp. mar. Bio. Ecol.* 130:291-303.
- Meyer, H. and S.S. Bell. 1989. On the mouthparts and feeding biology of Metis holothuriae (Copepoda Harpacticoida) *Trans. Amer. Micros. Soc.* 108:414-419.
- McCoy, E.D. and S.S. Bell. 1990. Habitat Structure: An Overview. In *Habitat Complexity: The Physical Arrangement of Objects in Space.* (S.S. Bell, E.D. McCoy and H.R. Mushinsky, eds) Chapman and Hall Ltd, England.
- Bell, S.S. 1990. Amphipods as insect equivalents? An alternative view. *Ecology* 72:350-354.
- Bell, S.S. and G.R.F. Hicks. 1991. Marine landscapes and faunal recruitment: a field test with seagrasses and meiobenthic copepods. *Mar. Ecol. Prog. Ser.* 73:61-69.
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- Bell, S.S., L.A. Clements, and J.P. Kurdziel. 1993. Production in natural and restored seagrass beds: a case study of a macrobenthic polychaete. *Ecol. Applic.* 3:610-621.
- Bell, S.S., M.O. Hall and M.S. Fonseca. 1994. Evaluation of faunal and floral properties of seagrass beds in high and low energy regimes: a geographic comparison. p.267-272 IN *Changes in fluxes in estuaries: implications from science to management.* (K.R. Dyer and C.F. D'Elia eds.) Olsen and Olsen Press
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- Walters, K.W. and S.S. Bell. 1994. Benthic, pelagic and phytal linkages in a subtidal seagrass bed. *Mar. Ecol. Prog. Ser.* 108:237-249
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- Lawrence, J.W., B.D. Robbins, and S.S. Bell. 1994. Scaling of the pieces of the Aristotle's lantern in five species of Strongylocentrotus (Echinodermata: Echinoidea) . *J. Nat. Hist.* 29:243-247.
- Dawes, C, S.S. Bell, R. Davis III, E.D. McCoy, H.R. Mushinsky, and J.L. Simon. 1995. Initial effects of Hurricane Andrew on the shoreline habitats of southwestern Florida. *J. Coast. Res.* 21:103-110.
- Bell, S.S., M.O. Hall, and B.D. Robbins. 1995. Toward a landscape approach in seagrass beds: using macroalgal accumulation to address questions of scale. *Oecologia (Berl.)* 104:163-168.
- Jensen, S.L., Robbins, B.D. and S.S. Bell. 1996. Predicting population decline: seagrass demographics and the reconstructive technique. *Mar. Ecol. Prog. Ser.* 136:267-276.

- Jensen, S.J., B.D. Robbins and S.S. Bell. 1997. On the use of the reconstructive technique: criticisms, comments and questions. *Mar. Ecol. Prog. Ser.* 146:305-309.
- Bell, S.S. and M.O. Hall. 1997. Drift macroalgal abundance in seagrass beds: investigating large scale associations with physical and biotic attributes. *Mar. Ecol. Prog. Ser.* 147:277-283.
- Peachey, R.L. and S.S. Bell. 1997. The effects of mucous tubes on the distribution, behavior and recruitment of seagrass meiofauna. *J. exp. mar. Biol. Ecol.* 209:279-292.
- Bell, S.S., M.S. Fonseca, and L.B. Motten. 1997. Linking restoration and landscape ecology. *Restoration Ecol.* 5:318-323.
- Llanoso, R.J., S.S. Bell, and F. E. Vose. 1998. Benthic resource use by two sciaenid fishes in a restored mangrove impoundment. *Estuaries* 21:294-306.
- Fonseca, M.S. and S. S. Bell. 1998. Influence of physical setting on seagrass landscapes near Beaufort, North Carolina, USA. *Mar. Ecol. Prog. Ser.* 171:109-121.
- Knowles, L.L. and S.S. Bell. 1998. The influence of habitat structure in faunal habitat associations in a Tampa Bay seagrass system, Florida. *Bull. Mar. Sci.* 62:781-794.
- Bartsch, I., E. Snow and S.S. Bell. 1998. FLEDGE-ling: A Science Program for Girls. *J. Women Minorit. Sci. Engineer.* 4:321-331.
- Bell, S.S., B.D. Robbins and S. L. Jensen. 1999. Gap dynamics in a seagrass landscape. *Ecosystems* 2:493-504.
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- Jensen, S.L. and S.S. Bell. 2001. Seagrass growth and patch dynamics: cross-scale morphological plasticity. *Plant Ecol.* 155:201-217.
- Brooks, R.A. and S.S. Bell. 2001. Colonization of a dynamic substrate: factors affecting recruitment of the wood boring isopod, *Sphaeroma tenebrans*, onto red mangrove roots. *Oecologia* 127:522-532.
- Brooks R.A. and S.S. Bell. 2001. Mobile corridors in marine landscapes: enhancement of faunal exchange at seagrass/sand ecotones. *J. exp. mar. Biol. Ecol.* 264:67-84.
- Bell, S.S. 2001. Handbook for restoring tidal wetlands. *Limnology and Oceanography* 46:1583 (Book review)**
- Bell, S.S. 2001. Seagrass Ecology. *Quarterly Review of Biology* 76: 510. (Book review)
- Bell, S.S., R.A. Brooks, B.D. Robbins, M.S. Fonseca and M.O. Hall. 2001. Faunal response to fragmentation in seagrass habitats: implications for restoration efforts in a marine environment. *Biol. Conserv.* 100:115-123.
- Bell, S.S., M.O. Hall, S. Soffian and K.M. Madley. 2002. Assessing the impact of boat propeller scars on fish and shrimp utilizing seagrass beds. *Ecological Appl.* 12:206-217.**
- Fonseca, M.S., P. E. Whitfield, N. M. Kelly, and S. S. Bell. 2002. Modeling seagrass landscape pattern and associated ecological attributes. *Ecological Appl.* 12: 218-230.**
- Brooks, R.A. and S.S. Bell. 2002. Mangrove response to attack by a root boring isopod: root repair versus architectural modification. *Mar. Ecol. Prog. Ser.* 231:85-90.**
- Bell, S. S., W.E. Ellis and R.A. Brooks. 2003. Structural spacing and the determination of habitat complexity: examining the Bartholomew et al. (2000) index. *Mar. Ecol. Prog. Ser.* 248:293-295.
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289:123-138.

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- Erickson, A.A., S.S. Bell and C.J. Dawes. 2004. Does Mangrove Leaf Chemistry Help Explain Crab Herbivory Patterns? *Biotropica* 36: 333-343.
- Brooks, R.A. and S.S. Bell. 2004. The distribution and abundance of *Sphaeroma tenebrans*, a wood boring isopod, in fringing and overwash red mangrove, *Rhizophora mangle* habitat within Tampa Bay. *Bull. Mar. Sci* 76: 27-46
- Ellis, W. G. and S. S. Bell. 2004. Canopy gaps formed by mangrove trimming: an experimental test of the impact on litter fall and standing litter stock in Southwest Florida, USA. *J. exp. mar. Biol. Ecol.* 311:201-222.**
- Robbins, B.D. and S.S. Bell. 2004. Relationships between a hermit crab and its shell resource: an analysis of spatial patterns within a seagrass dominated landscape. *Mar. Ecol. Prog. Ser.* 282:221-227.**
- Bowles, J.W. and S.S. Bell. 2004. Simulated herbivory and the dynamics of disease in *Thalassia testudinum*. *Mar. Ecol. Prog. Ser.* 283:127-132.**
- Ellis, W.L. and S.S. Bell. 2004. Conditional Use of Mangrove Habitats by Fishes: Depth as a Cue to Avoid Predators. *Estuaries* 27:966-976.
- Bell, S.S., M.S. Fonseca and N. Stafford. 2005. Seagrass ecology: new contributions from a landscape perspective. IN *Seagrass Biology: A Treatise* (T. Larkum, R. Orth and C. Duarte, eds). Kluwer (invited chapter) p.625-645.
- Brooks, R.A. and S.S. Bell. 2005. A multivariate study of mangrove (*Rhizophora mangle*) morphology using both above and below water architecture. *Est. Coast. Shelf Sci.* 65: 440-448.
- Bell, S.S. 2006. Seagrasses and the metapopulation concept. IN *Marine metapopulations* (J. Kritzer and P. Sale, eds). Academic Press p. 387-404**
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- Bell, S.S., M.S. Fonseca and W.J. Kenworthy. 2007. Dynamics of a subtropical seagrass landscape: links between disturbance and mobile seed banks. *Landscape Ecol.* 10.1007/s10980-007-9137-z.**
- Fonseca, M.S., W.J. Kenworthy, E. Griffith, M.O. Hall, M. Finkbeiner and S.S. Bell. 2007. Contrasting influence of disturbance and life history on landscape pattern

- of an oceanic seagrass (*Halophila decipiens*). Estuar. Coast. Shelf Sci.
<http://dx.doi.org/10.1016/j.ecss.2007.06.014>
- Bell, S.S., A. Tewfik, M.O. Hall and M.S. Fonseca. 2008. Evaluation of seagrass planting and monitoring techniques: Implications for assessing recovery times and habitat equivalency analysis. Restor. Ecol 16: 407-416.
- Ellis, W. and S.S. Bell. 2008. Tidal influence on a mangrove intertidal fish community as observed by in situ video recording: Implications for studies of tidally migrating nekton. Mar. Ecol. Prog. Ser. 370:207-219
- Demes, KW, SS Bell, and CJ Dawes. 2009. The effects of elevated phosphate concentrations on calcification in the green alga *Halimeda incrassata*. J. Exp. Mar. Bio. Ecol. 374:123-127.
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- Krebs, J.A. and S.S. Bell. 2011. Risk of predation reflects variation in the reproductive strategy of a dominant forage fish in mangrove tidal tributaries. Oecologia DOI: 10.1007/s00442-011-2117-7
- Middlebrooks, M., S.K. Pierce and S.S. Bell. 2011. Foraging behavior of the photosynthetic gastropod, *Elysia clarki*, under starvation conditions. PLoS ONE 6(7): e22162. doi:10.1371/journal.pone.0022162
- Peterson, J.M. and S.S. Bell. Tidal events and saltmarsh structure influence black mangrove (*Avicennia germinans*) recruitment across an ecotone. Ecology (in press)
- Zhao, Y., R. Pu, S. S. Bell, C. Meyer, and L. Baggett. Hyperion Image Optimization in Coastal Waters. Trans. Geosci. Remote Sensing (in press)
- Erickson, A, S.S. Bell and C.J. Dawes. Associational resistance protects mangrove leaves from crab herbivory. Acta Oecologica (accepted)
- Ellis, W.G. and S.S. Bell. Intertidal fish communities may make poor indicators of environmental quality: lessons learned in a damaged mangrove forest. Ecological Indicators (accepted).
- Ayoub, L., P. Hallock Muller, P. Coble and S. S. Bell. UV-absorbing substances in reef waters: links with coral cover? J. exp. Mar. Biol. Ecol. (in revision)
- Tewfik, A., S.S. Bell and G. Huxel. Differentiating omnivorous strategies and use of diverse marine subsidies within a barrier island food web. (Submitted)
- Pu, R., Bell, S.S. Meyer, C., Baggett, L., and Zhao, Y. Mapping and Assessing Seagrass Habitats Using Satellite Imagery. Remote Sensing Environ. (submitted)
- Pu, R., Bell, S.S. Baggett, L., Meyer, C., and Zhao, Y. Discrimination of Seagrass Species and Cover Classes with *In Situ* Hyperspectral Data. J. Coast. Res. (submitted).

Invited Seminars

Harbor Branch Institution

Philadelphia Academy of Science
University of Florida
State University of New York - Stony Brook,
Eckerd College
University of South Carolina
Louisiana State University
University of Connecticut
New Zealand Oceanographic Institute
Dauphin Island Marine Environmental Sciences Consortium
Horn Point Environmental Laboratory
University of Tampa
University of Texas
Florida State University
University of North Carolina
Institute of Ecosystem Studies (N.Y.)
University of Washington
Stockholm University
Dalhousie University

Presentations (1992-2009)

Bell, S.S., M. O. Hall, and M. S. Fonseca. Using energy regime to compare seagrass ecosystems. Benthic Ecology Meetings, Mobile.

Longenecker, K. and S.S. Bell. The effects of structural complexity and prey density on the foraging ability of a cryptic fish Gobiosoma bosc. Benthic Ecology Meetings, Mobile.

Kurdziel, J. P. Bell, S.S., M. O. Hall and D. Meyer. Manipulation of algal abundance: illuminations the nature of fauna enhancement in seagrass beds. Benthic Ecology Meetings, Mobile.

Moody, K. M. and S.S. Bell. Spatial scales of association: a test with drift algae and the seagrass fish Gobiosoma robustum. Benthic Ecology Meetings, Mobile

Peachey, R.L. and S.S. Bell. The effects of mucus tubes on the distribution behavior and immigration/recruitment of seagrass meiofauna. Benthic Ecology Meetings, Mobile
Knowles, L.L. and S.S. Bell. Amphipods drift algae and seagrass: consequences of structural complexity. Benthic Ecology Meetings, Mobile

Gregg, C., S.S. Bell, and B.D.. Robbins. Spatial patterns of spirorbid polychaetes in seagrass beds: a look at recruitment and population density. Benthic Ecology

Meetings, Mobile

Vose, F. E. and S.S. Bell. Evaluation of habitat restoration in mangrove-rimmed habitats. Benthic Ecology Meetings, Mobile

Robbins, B.R. and S.S. Bell. Perspectives in the use of marine benthos to explore landscape theory. Benthic Ecology Meetings, Mobile

Bell, S.S., B.D. Robbins, M.O. Hall. Trapping of drift macroalgae by seagrass: the effects of seagrass arrangement. International Estuarine Federation. Hilton Head, S.C.

Bell, S.S., M.O. Hall, and M.S. Fonseca. Using energy regime to compare seagrass ecosystems. American Society of Limnology and Oceanography Meetings, Calgary. Invited Talk.

Bell, S.S. B.R. Robbins, M.O. Hall and S. Jensen. New perspectives on seagrass ecosystems: a view from lighter than air platforms (LTAPS). Benthic Ecology Meetings, Mystic, CT

Robbins, B.D. and S.S. Bell. Resource-linked macrofauna: relationship between the homeowner and builder. Benthic Ecology Meetings, New Brunswick, N.J.

Bell, S.S. and B.D. Robbins. Sedimentation and seagrass patch dynamics: methods to assess multiscale changes. Benthic Ecology Meetings, New Brunswick, N.J.

Jensen, S.L., Robbins, B.D. and S.S. Bell. Seagrass population decline: math or reality? Benthic Ecology Meetings, New Brunswick, N.J.

Robbins, B.D., and S.S. Bell. Patterns of seagrass distribution in the shallow subtidal; quantifying temporal trends in fragmentation. 13th International Research Federation Meetings, Corpus Christi , TX

Brooks, R.A., and S.S. Bell. Scaling of plant-animal relationships in seagrass beds: searching for patterns with small crustaceans. 13th International Research Federation Meetings, Corpus Christi , TX

Bell, S.S. Landscape analyses of seagrass beds in Tampa Bay, Fl: deciphering linkages of fish and seagrass. 13th International Research Federation Meetings, Corpus Christi , TX Jensen, S.L., B.D. Robbins and S.S. Bell. Testing the validity of a model for seagrass population decline: vague or vague? 13th International Research Federation Meetings, Corpus Christi , TX

Bell, S.S., B.R. Robbins and S.L. Jensen. Holey seagrass: seagrass dynamics from

a negative perspective. Benthic Ecology Meetings, Columbia

Brooks, A.R. and S.S. Bell. Does drift macroalga facilitate bed hopping of amphipods? Benthic Ecology Meetings, Columbia

Jensen, S.L. and S.S. Bell. Notes from the underground: seagrass foraging and morphological plasticity. Benthic Ecology Meetings, Columbia

Madley, K.A. and S.S. Bell. Characteristics which affect the movement of drifting macroalgae in a patchy seagrass shoal. Benthic Ecology Meetings, Columbia

Bell, S.S., B.D. Robbins and R.A. Brooks. Linking plant growth patterns with landscape attributes of seagrass beds. Benthic Ecology Meetings, Portland .

Robbins, B. and S.S. Bell. Hermit crab response to seagrass and gastropods: a shell game. International Estuarine Research Federation Mtgs. Providence.

Bell, S.S., M. S. Fonseca, and M.O. Hall. Fauna-seagrass relationships: similarity of faunal assemblages across exposure regimes .International Estuarine Research Federation Mtgs. Providence.

Bell, S. S., M.O. Hall, S. Saiter and K. Madley. The impact of propeller scars on fish utilizing seagrass beds. International Estuarine Research Federation Mtgs. Providence.

Bell, S.S., M.S. Fonseca and M.O. Hall. Functional equivalency in restored seagrass beds: a 7 year study. Meetings of the Ecological Society of America, Albuquerque.

Bell, S.S. and M.S. Fonseca. Restoration of seagrasses: what are the questions that remain? Invited talk, SETAC, Charlotte , NC

Brooks, R.A. and S.S. Bell. Factors controlling the recruitment of the wood-boring isopod, *Sphaeroma terebrans*. onto red mangrove prop roots in a South Florida estuary. Benthic Ecology Meetings, Baton Rouge, LA

Erickson, A.A., C.A. Dawes and S.S. Bell. Crab herbivory in mixed versus pure stands of the red mangrove *Rhizophora mangle* L. Benthic Ecology Meetings, Baton Rouge, LA

Erickson, A.A., C.A. Dawes and S.S. Bell. Crab herbivory and associational defenses in mixed versus pure stands of the red mangrove *Rhizophora mangle* L. Ecological Society of America Meetings, Spokane WA

Brooks, R.A., S.S. Bell, W.E. Ellis, A.A. Erickson, S.B. Jacobson, N.V. Rizzuto. Ecological engineers: revisiting the past and evaluating the future. Benthic Ecology Meetings 2000, Wilmington, NC

Ellis, W.E. and S.S. Bell. Getting the drop on mangrove fishes: a drop trap for sampling nekton from the flooded mangrove understory. Benthic Ecology Meetings 2000, Wilmington, NC

Erickson, A.A., S.S. Bell and C. Dawes. Crab herbivory on the red mangrove when found in pure stands versus in association with the black mangrove and white mangrove. Benthic Ecology Meetings 2000, Wilmington, NC

Erickson, A.A., M. Saltis, S.S. Bell and C. Dawes. Detecting herbivory on mangroves using a novel technique. Benthic Ecology Meetings 2001, Durham N.H.

Fonseca, M.S., S.S. Bell, W.J. Kenworthy, P. Whitfield, M. Finkbeiner, and M.O. Hall. An examination of scale dependence in the assessment of temporally and spatially dynamic deepwater seagrass (*Halophila decipiens*) beds of the West Florida Shelf. 16th International meeting of the Estuarine Research Federation 2001. St. Petersburg, FL (Invited talk)

Brooks, R.A. and S.S. Bell. Mangrove response to attack by a root boring isopod: root repair versus architectural modification. 16th International meeting of the Estuarine Research Federation 2001. St. Petersburg, FL

Erickson, A.A., M. Saltis, S.S. Bell and C.J. Dawes. Dietary preference for mangrove leaves as measured by leaf damage and crab gut contents. 16th International meeting of the Estuarine Research Federation 2001. St. Petersburg, FL

Ellis, W.L. Jr. and S.S. Bell. Investigation of the impacts of mangrove crab canopy removal on the fishes of Rookery Bay, FL. 16th International meeting of the Estuarine Research Federation 2001. St. Petersburg, FL

Bell, S. S., M.S. Fonseca and J.W. Kenworthy. Mobile seedbanks of seagrasses in the West Florida Shelf. Benthic Ecology Meetings, Orlando, FL. 2002.

Bowles, J.W. and S.S. Bell. The effect of clipping and reduction of short shoot density on the extent of *Labyrinthula* spp. infection in *Thalassia testudinum*. Benthic Ecology Meetings 2003, Groton, CT

Erickson, A.A., S.S. Bell and C.W. Dawes. Do different measures of herbivory lead to similar conclusions? Benthic Ecology Meetings 2003, Groton, CT

Purdy, C.N. and S.S. Bell. The role of chemical cues from seagrass beds on megalopal settlement in the blue crab. Benthic Ecology Meetings 2003, Groton, CT

Stafford, N.B. and S.S. Bell Biological correlates of hydrodynamic regime in a seagrass landscape. Ecological Society of America 2003, Savannah, GA.

Bell, S.S. Seagrass Restoration Studies in Florida: Lessons Learned about Site Selection and Monitoring Programs. Plenary Address 2003, CALFED meetings, Sacramento, CA

Bell, S.S. M.O. Hall and M.S. Fonseca. Seagrass-faunal relationships: what have we learned after 15 years of study? 2003, International Estuarine Research Federation, Invited talk, Seattle WA

Bell, S.S. Seagrass Restoration Success at Lassing Park: A Long-Term Perspective. Submerged aquatic habitat restoration in estuaries meeting, 2003, Sarasota, FL.

Ellis, W.L. and S.S. Bell. In situ infrared video monitoring of estuarine fishes: A useful management tool in structurally complex systems. International Estuarine Research Federation, 2003, Seattle WA

Bowles, Justin W.1, Nathaniel B. Stafford, Susan S. Bell and Bradley D. Robbins. Connecting the Squares: Quantifying Space Occupation in a Seagrass-Algal Landscape. Benthic Ecology Meetings, Mobile, AL 2004

Stafford, N. B. and S. S. Bell. Space Competition Between Seagrasses and *Caulerpa prolifera* Following Simulated Disturbances in Lassing Park, Florida. Benthic Ecology Meetings, Mobile, AL 2004

Thomas, F. I. M., A. Meyers and S. Bell. Comparison of Ammonium Uptake Rates for Seagrass and Macroalgal (*Caulerpa prolifera*) Communities: Effects of Hydrodynamics on Nutrient Uptake. Benthic Ecology Meetings, Mobile, AL 2004

Bell, S.S. and Stafford, N. B. Disturbance in seagrass landscapes: detection and ecological implications. Association of Limnology and Oceanography, Savannah, GA (Invited Talk) 2004

A. A. Erickson, S. S. Bell, C. J. Dawes. Relating mangrove herbivore preference and consumption to leaf chemistry and structure. Ecological Society of America Portland OR 2004

A. A. Erickson, S. S. Bell, C. J. Dawes. Relating mangrove herbivore preference and consumption to leaf chemistry and structure. Association for

Tropical Biology and Conservation (ATBC) Miami, FL. 2004

Villanueva, S.M., L.A. Bedinger and S.S. Bell. Globbs of tubes and algal glue. Benthic Ecology Meetings, Williamsburg, VA 2005

Gibson, J. A. and S. S. Bell. Does the alga, *Caulerpa prolifera*, support different epifaunal assemblages than seagrass? Answers for crustaceans and gastropods. Benthic Ecology Meetings, Williamsburg, VA 2005

Bedinger, L., S. Villanueva, and S.S. Bell. The Ecological Role of Rhizophytic Algae: Preliminary Studies on *Caulerpa prolifera* at Lassing Park, St. Petersburg, Florida. Southeast Phycological Colloquy, Ft. Pierce 2005

Ellis, W. and S. S. Bell. In situ video observations of fish behavior as a metric of habitat quality: an application in the mangroves of western Florida (USA). EMBA meetings, Vienna, Austria 2005

Bell, Susan S., Kent Cavender-Bares, Robin O'Malley, Virginia Burkett, Joshua Collins, Lesley Ewing, Rikki Grober-Dunsmore, Jimmy Johnston, Richard Lathrop, Thomas Minello, Gerald Niemi, Charles Roman, Charles Simenstad, Robert Stewart, Drew Talley, Roman Zajac, and Joy Zedler. Pattern of the Landscape at the Sea-Land Interface. Meetings of the International Association of Landscape Ecology, Syracuse, New York. 2005.

Villanueva, S. and S. S. Bell. Southeastern Estuarine Research Federation meetings, St Augustine Florida. 2006

Bedinger, L.A. and S.S. Bell. Notes from the underground: Bryopsidalean green algal holdfasts in soft sediments. Phycological Society of America meetings, Fairbanks, Alaska. 2006

Tewfik, A. and S.S. Bell. Using infaunal communities to determine functional equivalency of restored seagrass beds: consideration of plant dynamics. Ecological Society of America Meetings, Memphis, TN 2006

Bell, S.S. Seagrass landscape dynamics and the legacy of *Caulerpa prolifera*. Benthic Ecology Meetings, Atlanta. 2007.

Meyers, A. and S.S. Bell. The accumulation of detrital matter within a seagrass (*Thalassia testudinum*) bed: is it linked to seagrass density? Benthic Ecology Meetings, Atlanta. 2007

Ellis, W and Bell, S., [Is Fish Habitat Quality Best Measured in Numbers or Nibbles?: Guidance from *In Situ* Video Recordings](#). Estuarine Research Federation Meetings Providence, R.I. 2007

Krebs, J.; McIvor, C.; Bell, S., [Assessing Restoration Success Using Nekton-Based Metrics of Habitat Quality in a Tidal Mangrove Wetland](#) Estuarine Research Federation Meetings Providence, R.I. 2007

Meyers, A.; Bell, S.; Thomas, F., [Seagrass and Depositional Processes: Experimental Evaluation of the Influence of Flow Regimes and Shoot Density](#) Estuarine Research Federation Meetings Providence, R.I. 2007

Villanueva, S.; Bell, S., [Insight from a Die-off: linking changes in macrophyte cover with ontogeny of infaunal communities](#) Estuarine Research Federation Meetings Providence, R.I. 2007

Stacy M. Villanueva and Susan S. Bell, Assessing changes in macrophyte cover, macrofaunal community structure, and sediment characteristics following a die-off of *Caulerpa prolifera* in Tampa Bay. Southeastern Estuarine Research Society 2008

Alison C. Meyers and Susan S. Bell Florence I.M. Thomas
Rethinking measures of ecosystem function in seagrass ecosystems. Benthic Ecology Meetings 2009

Bell, Susan S. and N. Stafford. Dynamics of Seagrass Landscapes Viewed Over Long Time Periods and Large Spatial Scales. International CERF Meetings, Portland Oregon 2009

Pu, R., S. Bell, K. Levy and C. Meyer. Mapping detailed seagrass habitats using satellite imagery IGARSS 2010.

Bell, S.S. and F. Thomas. Ecological Engineers: the role of canopy plants. Invited talk, SICB, Seattle 2010.

Bell, S.S., A. Tewfik and K. Morrow. Trophic relationships on coastal beaches. NSTC JSOST Deepwater Horizon Oil Spill Principal Investigator (PI) Conference St. Petersburg, FL, October 5-6, 2010.

Baggett, L. S. Bell, R. Pu, and Y. Zhao A Critical Evaluation of the Use of Percent Cover and Leaf Area Index in the Mapping of Seagrass Meadows Using Satellite Imagery Benthic Ecology Meeting, Mobile AL, March 16-20, 2011

Kaufmann, K. and S.S. Bell. Areas of seagrass loss and stable coverage: do fine scale maps of patch dynamics agree with trends detected by larger scale assessment? CERF meetings, Daytona FL Nov 2011

Krebs, J. M., McIvor, C. C. and Bell, S. S. Developing Nekton-Based Metrics Of Habitat Quality For The Assessment Of Wetland Restoration In Tidal Mangrove Ecosystems. CERF meetings, Daytona FL Nov 2011

University Service 1990-present

Department Committees: Head- Behavior, Ecology, Evolution and Systematics Section 1990-1998; Seminar Committee 1990, 1996-1998; Departmental Planning Committee 1990-1993; 1996, 2001-2003; Search Committee, Departmental Chair 1996; Search Committee Environmental Microbiologist; Chair=s Advisory Committee 1993-1998; Chairperson, Departmental Planning Committee 2002, Member 2004- present; Chair; Search Committee, Environmental Plant Biologist Search Committee; Graduate Admissions Committee, 1995-1996 and 1997-98; Honors Program Committee 1995-1997; Faculty Advisory Committee 1996-98, 2001-2004; Van Committee 1997-98; Search Committee, Theoretical Biologist; Peer Teaching Evaluation 2000- 2005; Curriculum Committee 2004-2006; Provost's Steering Committee 2008-2009; FIO Director Search Committee

College: Strategic Planning Committee 1990; College of Arts and Sciences Interim Graduate Committee 1990-91; Search Committee, Chairperson, Department of Communication; College of Education/College of Arts and Sciences, Education Articulation Committee 1997-present; College of Arts and Sciences, Tenure and Promotion Committee 1999-2001 (Chair 2001); Search Committee, Department of Geology, Hydrogeologist 1999; Search Committee, Department of Physics, Biomedical Physicist 1999; Search Committee, Department of Mathematics, Biostatistician 2000; College of Arts and Sciences Research Committee 2001-2003; Search Committee, Dept. of Geography, Remote Sensing, 2005-2006.

University: Year of Discovery Committee 1990; Gender in Academe Committee 1990-91; ad hoc Committee for Development of Environmental Science and Policy Program 1991-92; Scientific Literacy Initiative 1993; Environmental Science and Policy Steering Committee 1993-96; Steering Committee, Committee for Scientific Literacy 1993; Steering Committee, USF Water Related Research 1993; Executive Committee, Coalition for Scientific Literacy; 1997 Graduate Student Grievance Committee, Water Institute Planning Committee 1997; Grievance Committee, Student Athlete 1998. Member, USF Urban Initiative Committee 1999; Intellectual Property, Advisory Committee 1999; Co-Chair, Search Committee, Director of Botanical Gardens 1999; Member, Search Committee, Director of School of Architecture 1999; Member Search Committee, Dean, College of Marine Sciences 2000-01; Water Institute Steering Committee 2000; Steering Committee, Globalization Research Center 2001; Distinguished Professor Review Committee 2002, 2008

CURRICULUM VITAE

NAME: Thomas L. Crisman

POSITION: Professor
Department of Integrative Biology
SCA 110
University of South Florida
Tampa, Florida 32611
813.974.5134
Email: tcrisman@usf.edu

EDUCATION: A.B. 1970 (Zoology-Geology) Indiana University
M.A. 1972 (Zoology) Indiana University
Ph.D. 1976 (Zoology-Limnology) Indiana University

EXPERIENCE: 1/07-5/11
Patel Professor of Environment
Patel Center for Global Solutions
University of South Florida

11/95 – 1/07
Director
Howard T. Odum Center for Wetlands
University of Florida

8/88 – 1/07
Professor
Department of Environmental Engineering Sciences
University of Florida

3/06 and 3/07
Co-Instructor
I Curso/Taller Mesoamericano en Restauracion y Manejo de Humedales
Organization for Tropical Studies, Palo Verde Nacional Park, Costa Rica

5/03 – 8/04
Fulbright Scholar
Aegean Initiative
Aristotle University, Thessaloniki, Greece
Middle East Technical University, Ankara, Turkey

6/94
Instructor
Summer Field Course in Tropical Ecology
Makerere University Field Station
Kibale Forest, Uganda

2/91 - 11/95
Associate Director for Environmental Programs
Center for African Studies
University of Florida

11/90 - 1/91
Visiting Professor
Institute of Environment
Makerere University
Kampala, Uganda

8/82 - 8/88
Associate Professor
Department of Environmental Engineering Sciences
University of Florida

5/87
Instructor
Course in Chironomid Taxonomy and Ecology
Department of Biology
University of Joensuu, Finland

10/86 - 8/87
Visiting Research Scientist
Karelian Institute, University of Joensuu, Finland
University of Copenhagen, Denmark

1/83 - 2/83
Instructor
UNESCO Postgraduate Course in Tropical Limnology
University of Zimbabwe
Harare, Zimbabwe

8/77 - 8/82
Assistant Professor
Department of Environmental Engineering Sciences
University of Florida

9/75 - 8/77
Post-Doctoral Research Fellow
Limnological Research Center
University of Minnesota

7/76 - 9/76
Lecturer
Department of Ecology
University of Minnesota

PROFESSIONAL SOCIETIES:

American Society of Limnology and Oceanography
Ecological Society of America
Florida Academy of Sciences
International Association of Theoretical and Applied Limnology
North American Benthological Society
North American Lake Management Society
Sigma Xi
Society of Wetland Scientists

AWARDS AND HONORS:

- 1) Ford Foundation Travelling Scholar (Venezuela) 1974
- 2) Carl Eigenmann Zoology Fellowship 1974-1975
- 3) Visiting Scientist, Australian Academy of Sciences 1978
- 4) Who's Who in the South and Southwest 1979
- 5) Invited Chairperson for Ph.D. Examining Committee for James Elmore, Biology Department, University of South Florida, Tampa. July 1980.
- 6) Who's Who in Frontier Science and Technology 1983
- 7) Member. Florida Acid Deposition Research Peer Review Panel, Florida Department of Environmental Regulation. 1985-1986.
- 8) Invited External Examiner for Ph.D. Examining Committee of Allen J. Uutala, College of Environmental Science and Forestry, State University of New York, Syracuse. December 1986.
- 9) Elected to Conservation Committee of International Association of Limnology 1987-1990.
- 10) Visiting Scientist, Polish Academy of Sciences 1987.
- 11) Program Organizer, Biological Sciences Section, 52nd Annual Meeting, Florida Academy of Sciences, Tampa 1988.
- 12) Named one of the top 100 researchers at the University of Florida, 1990.
- 13) Elected Teacher of the Year, Department of Environmental Engineering Sciences, University of Florida, 1990.
- 14) Selected 1991-1992 Teacher/Scholar of the Year, University of Florida, 1992.
- 15) Nominated by the University of Florida for National Professor of the Year competition sponsored by the Council for Advancement and Support of Education (CASE), 1992.
- 16) Recipient University of Florida Teaching Improvement Program Award. 1993.
- 17) Recipient of Edward Deevey, Jr. Award of the Florida Lake Management Society for scientific contributions to Florida limnology. 1994.
- 18) Scientific committee. International workshop entitled: "Qualidade de Aguas Continentais no MERCOSUL" held at Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. 7-9 December 1994.
- 19) Mission Member. UNDP/World Bank evaluation team for the GEF project entitled: Conservacion de la Biodiversidad en los Humedales del Este, Uruguay. Programa de Conservacion de la Biodiversidad Desarrollo Sustentable en los Humedales del Este (PROBIDES). November 1995.

- 20) Recipient University of Florida Teaching Improvement Program Award. 1996.
- 21) Technical advisor to government of Andalucia for the management of Donana National Park, Spain. 1996-2001.
- 22) United States Department of State appointment to the Board of Governors, U.S.-Israel Binational Science Foundation. Member 1997-current, Board Chair 2001-2002.
- 23) Mission Chief. UNDP/World Bank evaluation team for the GEF project entitled: Conservation of the Dana Wildlands, the Azraq Oasis and the Institutional Strengthening of the Royal Society for the Conservation of Nature (Jordan). June 1996.
- 24) Elected Teacher of the Year, Department of Environmental Engineering Sciences, University of Florida, 1998.
- 25) Faculty Productivity Award, University of Florida, 1999
- 26) Program Committee Chair. International Conference on Agriculture and the Environment in the Paraguay River Basin. 8-10 June 2001. Asuncion, Paraguay.
- 27) Finalist, Distinguished Alumni Professor, University of Florida. April 2001.
- 28) Visiting Lecturer. US Consulate, Thessaloniki, Greece. June 2001
- 29) Advisory Board. Greek Wetland Center, Thessaloniki, Greece. 2001-2003.
- 30) Management Board. African Wetland Center, Accra, Ghana. 2001- present.
- 31) Technical Advisory Panel. Eden Again Project. Iraq Foundation. 2002- present.
- 32) Team Member. External valuation team for programs of School of Environment, University of South Carolina. 2003.
- 33) Elected to Graduate Council UF. 2003-2006
- 34) Fulbright Scholar, Aegean Initiative. Residence at Aristotle University, Thessaloniki, Greece and Middle East Technical University, Ankara, Turkey. 2003-2004.
- 35) Appointed as a Sagamore of the Wabash by Indiana Governor Joseph E. Kernan, the highest honor given to a citizen of Indiana. 2003.
- 36) Named as Distinguished International Educator, University of Florida. 2004.
- 37) Selected as 2005 Medalist by the Florida Academy of Sciences
- 38) Delegate at 2008 Water Congress: Planning for Florida's Water Future. Century Commission for a Sustainable Florida. Orlando, FL.
- 39) Chair, Board of Directors, Balkan Environmental Center, Lagadas, Greece. 2008- Present.
- 40) Member. Technical Advisory Group: Wetlands Hybrid. Hillsborough County Environmental Protection Commission, Tampa, FL. 2007-2008.

- 41) Olin Sewall Pettingill Lecturer, University of Michigan Biological Station, Pellston, MI. 2010.

COMMITTEES OF SCIENTIFIC SOCIETIES:

- 1) Elected, Executive Committee, Florida Academy of Sciences 1989
- 2) Chair, Technical Transfer Acid Rain Subcommittee, North American Lake Management Society 1989-1990.
- 3) President, Florida Academy of Sciences 1992-1993.
- 4) Marshall, University of Florida Chapter, Sigma Xi, 1992-1993.
- 5) International Cooperation Committee. Society of Wetland Scientists. 1996 - .

EDITORIAL BOARDS:

1980. Verhandlungen Internationalis Vereinigung Limnologie, Volume 21. International Association of Theoretical and Applied Limnology.
- 1982-1985. Journal of Freshwater Ecology.
- 2001- Journal of Limnology
- 2001-2007 Associate Editor. Journal of the American Water Resources Association.
- 2001-2002. Encyclopedia of Environmental Microbiology. G. Bitton (editor in chief), Wiley Press.
- 2002- African Journal of Aquatic Science.
- 2002-2007 Southeastern Naturalist

SESSION CHAIRPERSON AT SCIENTIFIC MEETINGS:

- 1) Technical Session #3: Spill Control Groundwater Protection, Hazardous Waste Management, Acid Rain. Fourth Annual Meeting of Florida Assoc. for Water Quality Control. Daytona Beach, Florida. May 19, 1981.
- 2) Technical Session #1: Freshwater Ecology and Management. 49th Annual Meeting, Florida of Sciences. St. Leo, Florida. May 4, 1985.
- 3) Technical Session #58W: Aquatic Toxicology I. 48th Annual Meeting, American Society of Limnology and Oceanography, University of Minnesota, Minneapolis. June 21, 1985.

CONVENOR OF SYMPOSIA:

- 1) J.R. Beaver and T.L. Crisman. Lake Okeechobee. Symposium held in conjunction with 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William

and Mary, Virginia. June 1990.

- 2) T.L. Crisman, R. Claudi, and R.J. Brock. Exotic Bivalves in North America. Symposium held in conjunction with 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Virginia. June 1990.
- 3) P. Schmidt, A. Goldman, T.L. Crisman and R. Cohen. Sustainability in Africa: Integrating Concepts. 1992 Carter Lecture Series, Center for African Studies, University of Florida. April 1992.
- 4) F.A.R. Barbosa and T.L. Crisman. Brazilian Program on Conservation and Management of Inland Waters. Federal University of Minas Geras, Belo Horizonte, Brazil. April 1992.
- 5) T.L. Crisman and P. Schmidt. Emerging Water Management Issues in Africa. 150th Annual Meeting of American Association for the Advancement of Science (AAAS), Philadelphia, PA. Sponsored by MacArthur Foundation and Carnegie Foundation. February 1998.
- 6) T.L. Crisman and M.T. Brown. A Symposium in Celebration of the 25th Anniversary of the Center for Wetlands, University of Florida. Gainesville, FL. November 1998.
- 7) T.L. Crisman, L.J. Chapman and C.A. Chapman. A Symposium on Aquatic Conservation and Mangement in Africa. 1999 Carter Lecture Series, Center for African Studies, University of Florida. March 1999.
- 8) T.L. Crisman, W. Wise, and J.J. Warwick. 2000. Integrating wetlands and hydrology for sustainable water management. Panel discussion. AWRA Annual Meeting, Miami, FL., November 2000.
- 9) T.L. Crisman, F. Miralles-Wilhelm and M. Doyle. 2005. Traditional Wetland Cultures in Transition. Center for Ecosystem Science and Policy (U. Miami) and co-sponsors Howard T. Odum Center for Wetlands (U. Florida) and British Consulate. Miami, FL June 2005.
- 10) L. Berry and T.L. Crisman. 2007. Florida Climate Change Conference. Tampa, FL May 2007.
- 11) S. Vyapari and T.L. Crisman. 2008. 35th Annual Conference on Ecosystems Restoration and Creation: Assessment of Wetland Mitigation and Mitigation Banks. Plant City, FL. November 2008.

WORKSHOP AND SHORT COURSE ORGANIZER/CO-ORGANIZER

1994. History of Land Use In Africa. Kibale Forest, Uganda. Co-organized with Boston University.

1994. Managing the Pantanal Wetland. Cuiaba, Mato Grosso and Campo Grande, Mato Grosso do Sul, Brazil.

1994. Biomanipulation of Lakes and Reservoirs. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.

1996. Application of Biological Principles to Water Management. 11-25 May. Short course at IPH/Universidade do Rio Grande do Sul, Porto Alegre, Brazil.

2007. UNESCO-IHE. Third Annual Hydroinformatics Course in Florida.
Organizer/Instructor
two-day session in Tampa Bay area on water issues in urban and urbanizing environments.

2010. The Impending Water Crisis of Tampa Bay: Waste, Reuse and Environmental Protection. Workshop I: Potential Contaminants from Water Reuse. USF College of Public Health, USF. Department of Integrative Biology (College of Arts and Sciences) and Physicians for Social Responsibility. USF, Tampa, FL.

2010. The Impending Water Crisis of Tampa Bay: Waste, Reuse and Environmental Workshop II: Engineering, Ecosystem Impacts and Financial Considerations. USF College of Public Health, USF Department of Integrative Biology (College of Arts and Sciences) and Physicians for Social Responsibility. USF, Tampa, FL.

2010. Communicating with Policymakers. A workshop for NSF funded Biosphere-Atmosphere Research and Training (BART) Program, University of Michigan Biological Station, Pellston, MI.

PUBLICATIONS

Dissertation:

Crisman, T.L. 1976. North Pond, Massachusetts: postglacial variations in lacustrine productivity as a reflection of changing watershed-lake interactions. Ph.D. dissertation, Indiana University, Bloomington.
112 pp.

Journals and Refereed Book Chapters:

- 1) Crisman, T.L. and D.R. Whitehead. 1975. Environmental history of Hovey Lake, Southwestern Indiana. *American Midland Naturalist*. 93: 198-205.
- 2) Whitehead, D.R., and T.L. Crisman. 1978. Paleolimnological studies of small New England (USA) ponds. Part I. Late-glacial and postglacial trophic oscillations. *Pol. Arch. Hydrobiol*. 25: 75- 86.
- 3) Crisman, T.L. and D.R. Whitehead. 1978. Paleolimnological studies of small New England (USA) ponds. Part II. Cladoceran community responses to trophic oscillations. *Pol. Arch. Hydrobiol*. 25L 75- 86.
- 4) Crisman, T.L. 1979. Algal remains in Minnesota lake types: A comparison of modern and late-glacial distributions. *Verh. Internat.Verein. Limnol*. 20: 445-451.
- 5) Crisman, T.L. 1980. Chydorid cladoceran assemblages from Florida. pp. 642-656. IN: W.C. Kerfoot (ed.). *The Evolution and Ecology of Zooplankton Communities*. New England Press.
- 6) Beaver, J.R., T.L. Crisman, and J.S. Bays. 1981. Thermal regimes of Florida lakes. *Hydrobiologia*. 83: 267-273.
- 7) Beaver, J.R. and T.L. Crisman. 1981. Acid precipitation and the response of ciliated

- protozoans in Florida lakes. *Verh. Internat. Verein. Limnol.* 21: 353-358.
- 8) Crisman, T.L., J.R. Beaver, and J.S. Bays. 1981. Examination of the relative impact of microzooplankton and macrozooplankton on bacteria and algae in Florida Lakes. *Verh. Internat. Verein. Limnol.* 21: 359-362.
 - 9) Beaver, J.R., and T.L. Crisman. 1982. The trophic response of ciliated protozoans in freshwater lakes. *Limnol. Oceanogr.* 27: 246-253.
 - 10) Bays, J.S. and T.L. Crisman. 1983. Zooplankton trophic state relationships in Florida lakes. *Can. J. Fish. Aquat. Sci.* 40:1813-1819.
 - 11) Binford, M.W., E.S. Deevey and T.L. Crisman. 1983. Paleolimnology: Historical perspective on lacustrine ecosystems. *Ann. Rev. Ecol. Syst.* 14: 255-286.
 - 12) Brezonik, P.L., T.L. Crisman and R.L. Schulze. 1984. Planktonic communities in Florida softwater lakes of varying pH. *Can. J. Fish. Aquat. Sci.* 41: 46-56.
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- 5) Crisman, T.L. 1977. Pediastrum in Minnesota lake types: A correlation of modern and early postglacial distributions. 20th Congress of Societas Internationalis Limnologiae, Copenhagen, Denmark.
- 6) Crisman, T.L. 1977. Interpretation of fossil cladoceran assemblages based on modern cladoceran-trophic state relationships. 10th Congress of International Union for Quaternary Research. Birmingham, England.

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- 57) Crisman, T.L. 1988. The use of subfossil chironomids for assessing water quality in Florida lakes. Third Semi-Annual Meeting, Florida Association of Benthologists, Mote Marine Laboratory, Sarasota, FL.
- 58) Crisman, T.L. 1988. The structure and function of natural lakes of the warm temperate-subtropical transition in the southeastern United States. Symposium on Biotic Communities of the Southeastern United States, 49th Annual Meeting, Association of Southeastern Biologists, Biloxi, MS (Invited Presentation).

- 59) Crisman, T.L. 1988. Macroinvertebrate communities of the Oklawaha Chain of Lakes. 52nd Annual Meeting, Florida Academy of Sciences, University of Tampa, Tampa, FL.
- 60) Meier, H. and T.L. Crisman. 1988. Macroinvertebrate community structure in a Florida sand bottom stream. 52nd Annual Meeting, Florida Academy of Sciences, University of Tampa, Tampa, FL.
- 61) Keller, A.E., T.L. Crisman, S. McKinney, and T. Goldsby. 1988. The loss of black crappie from Lake Weir, Florida: A toxicological problem? 52nd Annual Meeting, Florida Academy of Sciences, University of Tampa, FL.
- 62) Jones, J.K. and T.L. Crisman. 1988. The use of citizen-based Secchi disk monitoring programs for assessing the impact of non-point nutrient sources on lakes. 52nd Annual Meeting, Florida Academy of Sciences, University of Tampa, Tampa, FL.
- 63) Beaver, J.R., T.L. Crisman, and R.W. Bienert, Jr. 1988. Contribution of myxotrophic ciliates to the biomass of both subtropical lakes. 51st Annual Meeting, American Society of Limnology and Oceanography, University of Colorado, Boulder, CO.
- 64) Crisman, T.L. and J.R. Beaver. 1988. Shad and Tilapia impact on plankton structure and community metabolism in a eutrophic subtropical Florida lake. 51st Annual Meeting, American Society of Limnology and Oceanography, University of Colorado, Boulder, CO.
- 65) Crisman, T.L. 1989. Management activities at Lake Maxinkuckee, Marshall County, IN. 1989 Indiana Lake Management Conference, Warsaw, IN. (Invited Presentation).
- 66) Crisman, T.L. and W.B. Eviston. 1989. Created wetlands for reversing the effects of wetland destruction at two Indiana lakes. 10th Annual Meeting, Society of Wetland Scientists, Orlando, FL.
- 67) Crisman, T.L. 1989. Sediment cores to document lake water quality history. 4th Annual Florida Lake Management Conference, Winter Haven, FL. (Invited Presentation).
- 68) Crisman, T.L. 1989. An overview of the biotic structure and function of natural lakes in the southeastern U.S.. Special Session: Southeastern Reservoirs and Lakes: A Regional Perspective on Processes and Use. 52nd Annual Meeting, American Society of Limnology and Oceanography, Fairbanks, AK. (Invited Presentation with Honorarium).
- 69) Beaver, J.R. and T.L. Crisman. 1989. Temporal dynamics of autotrophic and microheterotrophic communities in natural lakes of the southeastern U.S. with emphasis on latitudinal gradients. Special Session: Southeastern Reservoirs and Lakes: A Regional Perspective on Processes and Use. 52nd Annual Meeting, American Society of Limnology and Oceanography, Fairbanks, AK. (Invited Presentation with Honorarium).
- 70) Crisman, T.L. and J.R. Beaver. 1989. A latitudinal assessment of distribution patterns in chaoborid abundance for eastern North American lakes. 24th Congress, Societas Internationalis Limnologie, Munich, West Germany.
- 71) Beaver, J.R. and T.L. Crisman. 1989. Use of microzooplankton as an early indicator of advancing cultural eutrophication. 24th Congress, Societas Internationalis Limnologie, Munich, West Germany.
- 72) Crisman, T.L. and J.R. Beaver. 1989. Applicability of planktonic biomanipulation for

managing eutrophication in the subtropics. Conference entitled: Biomanipulation Tool for Water Management. Amsterdam, Netherlands.

- 73) Beaver, J.R. and T.L. Crisman. 1989. Replacement of an endemic pump-filter feeding fish by an exotic ecological equivalent and its impact on plankton structure and function in subtropical lakes. Conference entitled: Biomanipulation Tool for Water Management. Amsterdam, Netherlands.
- 74) Keller, A.E. and T.L. Crisman. 1989. Acute toxicity of several metals and organic compounds to the freshwater mussel Anodonta imbecilis. 10th Annual Meeting SETAC, Toronto, Canada.
- 75) Crisman, T.L., J.R. Beaver, E.F. Lowe, and G.D. Hall. 1989. A three-phase management plan for eutrophic Lake Apopka, Florida: Preliminary data from Phase I. 9th Annual International Symposium on Lake and Reservoir Management, North American Lake Management Society, Austin, TX.
- 76) Brock, R.J., J.R. Beaver, and T.L. Crisman. 1989. Corbicula fluminea: Exotic nuisance or biomanipulation tool for subtropical lakes? 9th Annual International Symposium on Lake and Reservoir Management, North American Lake Management Society, Austin, TX.
- 77) Beaver, J.R. and T.L. Crisman. 1989. Commercial harvesting of rough fish in hypereutrophic Florida lakes as a nutrient removal technique. 9th Annual International Symposium on Lake and Reservoir Management, North American Lake Management Society, Austin, TX
- 78) Gottgens, J.F. and T.L. Crisman. 1989. Removal of organic matter and nutrients using a short-term partial drawdown. 9th Annual International Symposium on Lake and Reservoir Management, North American Lake Management Society, Austin, TX.
- 79) Crisman, T.L. and J.K. Jones. 1989. The use of citizen-based Secchi disk monitoring programs for assessing point and nonpoint source pollution. 9th Annual International Symposium on Lake and Reservoir Management, North American Lake Management Society, Austin, TX.
- 80) Crisman, T.L. 1990. A paleolimnological perspective on mercury and other contaminants in lacustrine environments. Annual Meeting, Florida Chapter, American Fisheries Society (Invited Presentation).
- 81) Brock, R.J., T.L. Crisman, and J.L. Hulbert. 1990. The need to delineate the ecological role of the exotic clam Corbicula fluminea in Florida freshwater habitats. 54th Annual Meeting, Florida Academy of Sciences, Florida Institute of Technology, Melbourne, FL.
- 82) Kiefer, J.H., V. Nilakantan, J.R. Beaver, T.L. Crisman, and P.V. Zimba. 1990. Bacterioplankton-trophic state relationships in Lake Okeechobee. 54th Annual Meeting, Florida Academy of Sciences, Florida Institute of Technology, Melbourne, FL.
- 83) Brock, R.J. and T.L. Crisman. 1990. Can Corbicula distributions in North American lakes serve as a model for the spread of Dreissena polymorpha? 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Williamsburg, VA.
- 84) Crisman, T.L. and J.R. Beaver. 1990. Interactions between planktivorous, benthivorous and littoral fish and plankton in Lake Okeechobee, Florida. 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Williamsburg, VA.
- 85) Beaver, J.R., T.L. Crisman, and P.V. Zimba. 1990. Spatial and temporal dynamics of littoral

and pelagic zooplankton communities in Lake Okeechobee, Florida. 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Williamsburg, VA.

- 86) Gottgens, J.F. and T.L. Crisman. 1990. Quantitative impacts of lake level stabilization on material transfer between water and sediment in Newnans Lake, Florida. 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Williamsburg, VA.
- 87) Kiefer, J.H., J.R. Beaver, T.L. Crisman, V. Nilakantan, and P.V. Zimba. 1990. Bacterioplankton dynamics in Lake Okeechobee. 53rd Annual Meeting, American Society of Limnology and Oceanography, College of William and Mary, Williamsburg, VA.
- 88) Crisman, T.L. 1990. A review of fifteen years of research on the structure and function of Florida acidic lakes. Florida Acidic Deposition Conference, Tampa, Florida. (Invited Presentation).
- 89) Brock, R.J. and T.L. Crisman. 1990. Effects of the filter-feeding clam, *Corbicula*, on larval fish survivability. 10th Annual International Symposium on Lake, Reservoir and Watershed Management, North American Lake Management Society, Springfield, MA.
- 90) Crisman, T.L. and J.R. Jones. 1990. Paleolimnological investigation of the effects of water level stabilization on Lake Weir, Florida. 10th Annual International Symposium on Lake, Reservoir and Watershed Management, North American Lake Management Society, Springfield, MA.
- 91) Kiefer, J.H. and T.L. Crisman. 1990. Age related changes in the chemistry and trophic state of wetlands constructed on phosphate mined lands. 10th Annual International Symposium on Lake, Reservoir and Watershed Management, North American Lake Management Society, Springfield, MA.
- 92) Crisman, T.L. 1990. Assessing the impact of acid deposition on the biota of Florida lakes. Conference entitled Acid Rain: Public Policy Choices, Center for Governmental Responsibility, Orlando, FL. (Invited Presentation).
- 93) Crisman, T.L. 1990. The feasibility of using exotic bivalve molluscs as a biofilter in aquacultural systems. Bionetics/NASA, Cape Canaveral, FL (Invited Presentation).
- 94) Crisman, T.L. 1991. Exotic species and their effect on native plant populations. 11th Annual Meeting, Midwest Aquatic Plant Management Society, East Lansing, MI. (Invited Presentation).
- 95) Crisman, T.L. 1991. Exotic species and impact on freshwater ecosystems. Symposium entitled: Exotic Species: Impact on Michigan Waters, Michigan Chapter, North American Lake Management Society, East Lansing, MI. (Invited Keynote Presentation).
- 96) Crisman, T.L. 1991. Aquatic ecology in Florida: past, present, and future. 6th Annual Meeting, Florida Lake Management Conference, Lakes Education/Action Drive (LE/AD), Winter Haven, FL. (Invited Presentation).
- 97) Crisman, T.L., J.H. Kiefer, A. Neugaard, and D. Evans. 1991. Age related changes of nutrient processing and aquatic invertebrate communities in wetlands constructed on phosphate mined lands. 3rd Annual Conference, Society for Ecological Restoration, Orlando, FL.

- 98) Crisman, T.L., R.J. Brock, and J.R. Beaver. 1991. Potential of exotic planktivores for managing eutrophic subtropical lakes. 3rd Annual Conference, Society for Ecological Restoration, Orlando, FL.
- 99) Fernandes, C.A. and T.L. Crisman. 1991. Long-term responses of a eutrophic tropical lake to copper sulphate application for algal management. 3rd Annual Conference, Society for Ecological Restoration, Orlando, FL.
- 100) Nilakantan, V. and T.L. Crisman. 1991. Narmada Valley Restoration and the Sardar Sarovar Project - possibilities of restoration. 3rd Annual Conference, Society for Ecological Restoration, Orlando, FL.
- 101) Gottgens, J.F., T.L. Crisman, and W.E. Bolch. 1991. Lead-210 and cesium-137 dating of soft lake sediments using low-energy gamma-ray spectroscopy. 55th Annual Meeting, Florida Academy of Sciences, St. Leo College, St. Leo, FL.
- 102) Fernandes, C.A. and T.L. Crisman. 1991. Evidence of algal succession due to seasonality in two Brazilian lakes. 55th Annual Meeting, Florida Academy of Sciences, St. Leo College, St. Leo, FL.
- 103) Nilakantan, V. and T.L. Crisman. 1991. Comparative grazing effects of Chydorus sphaericus on blue-green algae and attached bacteria. 55th Annual Meeting, Florida Academy of Sciences, St. Leo College, St. Leo, FL.
- 104) Brock, R.J. and T.L. Crisman. 1991. The importance of including benthic analysis in the limnological assessment of shallow lakes. 54th Annual Meeting, American Society of Limnology and Oceanography, Bedford Institute of Oceanography, Halifax, Nova Scotia, Canada.
- 105) Gottgens, J.F. and T.L. Crisman. 1991. Redistribution of organic sediments in a shallow lake following partial drawdown. 54th Annual Meeting, American Society of Limnology and Oceanography, Bedford Institute of Oceanography, Halifax, Nova Scotia, Canada.
- 106) Crisman, T.L., R.J. Brock, and W. Courtenay. 1991. The ecological effects of exotic species in North American lakes. 20th Assembly of the IUGG, IAHS - Hydrology of Natural and Manmade Lakes, Vienna, Austria.
- 107) Crisman, T.L. and J.H. Kiefer. 1991. Successional trends in the structure and function of constructed wetlands on phosphate mined lands. Annual Meeting, National Association of State Land Reclamationists, Orlando, FL. (Invited Presentation).
- 108) Crisman, T.L. 1991. Utilization of established exotic species as biomanipulation tools for lake management. Symposium entitled: Biological Pollution: The Control and Impact of Invasive Exotic Species, Indiana Academy of Sciences, Indianapolis. (Invited Presentation).
- 109) Fernandes, C.A. and T.L. Crisman. 1991. Lake Paranoa: Management of a subtropical urban reservoir. 11th Annual Meeting, North American Lake Management Society, Denver, CO.
- 110) Nilakantan, V., T.L. Crisman, E.J. Philips, and J.R. Beaver. 1991. Bacterioplankton dynamics in some Florida lakes. 11th Annual Meeting, North American Lake Management Society, Denver, CO.

- 111) Crisman, T.L. and J.F. Gottgens. 1991. Paleolimnological evaluation of the effectiveness of a constructed wetland as a nutrient/sediment trap. 11th Annual Meeting, North American Lake Management Society, Denver, CO.
- 112) Schaberg, B.A., J.R. Beaver, and T.L. Crisman. 1991. Effects of organic color on prediction of gross primary productivity in Florida lakes. 11th Annual Meeting, North American Lake Management Society, Denver, CO.
- 113) Beaver, J.R., T.L. Crisman, and B.A. Schaberg. 1991. Zooplankton biomass-trophic state-organic color relationships in Florida lakes. 11th Annual Meeting, North American Lake Management Society, Denver, CO.
- 114) Gottgens, J.F., T.L. Crisman, L. Lars, H. van Rinsvelt, W. Maenhaut, and W.E. Bolch. 1992. Paleolimnological assessment of the contribution of residential development and peat bog drainage on the trophic state of Fish Lake, Indiana. Annual Meeting, American Society of Limnology and Oceanography, Sante Fe, NM.
- 115) Crisman, T.L. and J.F. Gottgens. 1992. A paleolimnological perspective on the progressive loss of cisco (Coregonus artedii) from northern Indiana lakes. Annual Meeting, American Society of Limnology and Oceanography, Sante Fe, NM.
- 116) Crisman, T.L. 1992. Applicability of the subtropical experience for the management and conservation of aquatic resources in the tropics. United Nations Conference on the Environment and Development. Florida Division of United Nations Association, Gainesville, FL. (Invited Presentation).
- 117) Crisman, T.L. 1992. Wetlands and aquatic systems: stresses and potentials. Symposium entitled: Sustainability in Africa: Integrating Concepts. 1992 Carter Lecture Series, University of Florida.
- 118) Crisman, T.L. 1992. Observed and potential impact of exotic fauna on Florida lakes. 7th Annual Florida Lake Management Conference, Winter Haven, FL. (Invited Presentation).
- 119) Kiefer, J.H. and T.L. Crisman. 1992. Design considerations influencing water quality and plant communities in reclaimed freshwater marshes. 19th Annual Conference on Wetlands Restoration and Creation, Tampa, FL.
- 120) Streever, W.J. and T.L. Crisman. 1992. Thoughts on sampling strategies in comparative wetland faunal studies. 19th Annual Conference on Wetlands Restoration and Creation, Tampa, FL.
- 121) Crisman, T.L. and R.J. Brock. 1992. Direct and indirect alterations of planktonic food web structure attributable to the filter-feeding clam Corbicula fluminea. Symposium entitled: The Biology and Impact of Exotic Species on North American Freshwaters. Annual Meeting of North American Benthological Society, Louisville, KY. (Invited Presentation).
- 122) Brock, R.J. and T.L. Crisman. 1992. Viability of algal cells in the pseudofeces of the Asiatic clam, Corbicula fluminea, and the implications for lake management. Symposium entitled: The Biology and Impact of Exotic Species on North American Freshwaters. Annual Meeting of North American Benthological Society, Louisville, KY. (Invited Presentation).
- 123) Kiefer, J.H. and T.L. Crisman. 1992. Use of botanical indicators as success criteria for constructed freshwater marshes. 13th Annual Meeting Society of Wetland Scientists, New

Orleans, LA.

- 124) Streever, W.J. and T.L. Crisman. 1992. Chydorid cladoceran assemblages of herbaceous marshes in central Florida. 13th Annual Meeting Society of Wetland Scientists, New Orleans, LA.
- 125) Delfino, J.J., B.E. Rood, C.D. Earle, J.F. Gottgens and T.L. Crisman. 1992. Mercury accumulations in sediments and soils of the Everglades: Initial findings. 29th Annual Pesticide Residue Workshop, St. Petersburg, FL.
- 126) Crisman, T.L. and N.M. Gourlie. 1992. Survival and grazing rates of *Diaptomus floridanus* in acidic Florida lakes. 25th Congress, Societas Internationalis Limnologie, Barcelona, Spain.
- 127) Fernandes, C.A. and T.L. Crisman. 1992. Lake Paranoa: Management approaches for a tropical urban reservoir. 25th Congress, Societas Internationalis Limnologie, Barcelona, Spain.
- 128) Phlips, E.J., P.V. Zimba, M.S. Hopson and T.L. Crisman. 1992. Dynamics of the plankton community in submerged plant dominated regions of Lake Okeechobee, Florida. 25th Congress, Societas Internationalis Limnologie, Barcelona, Spain.
- 129) Streever, W.J., J.F. Gottgens and T.L. Crisman. 1992. Patterns of sediment flux in a subtropical permanently flooded cave system. 25th Congress, Societas Internationalis Limnologie, Barcelona, Spain.
- 130) Kiefer, J.H. and T.L. Crisman. 1992. Developmental trends in water quality and related functions of constructed freshwater marshes. 4th International Wetlands Conference, Columbus, OH.
- 131) Crisman, T.L. and W.J. Streever. 1992. Comparison of chydorid cladoceran communities of wetlands and lake littoral zones and their use in trophic state assessment. 4th International Wetlands Conference, Columbus, OH.
- 132) Streever, W.J. and T.L. Crisman. 1992. Comparative fish community structure in created and natural freshwater marshes in central Florida. 4th International Wetlands Conference, Columbus, OH.
- 133) Fernandes, C.A., A.J.A. Rocha, T.L. Crisman and G. Medley. 1993. Lake Hollingsworth, Florida: Twenty-four hour profile of some physico-chemical parameters. 57th Annual Meeting, Florida Academy of Sciences, St. Petersburg, FL.
- 134) Gottgens, J.F., B.E. Rood, C.D.A. Earle, J.J. Delfino and T.L. Crisman. 1993. Increased mercury accumulation rates in Florida Everglades sediment. Annual Meeting, American Society of Limnology and Oceanography, Edmondton, Alberta, Canada.
- 135) Rood, B., J. Delfino, J. Gottgens, C. Earle, T. Crisman, L. Garcia and N. Ushakoff. 1993. Increased mercury accumulations rates in Florida Everglades sediment. Division of Environmental Chemistry, American Chemical Society. Denver, CO.
- 136) Crisman, T.L. 1994. Using the Florida reclamation experience to promote sustainable development on mined lands in the Third World. Florida Section, American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc. (AIME), Lakeland, Florida (Invited Presentation).

- 137) Bitter, G.W., W.J. Streever and T.L. Crisman. 1994. A review of benthic invertebrate monitoring data from wetlands constructed on phosphate-mined lands. 58th Annual Meeting, Florida Academy of Sciences, Tallahassee, FL.
- 138) Goodkin, L.O., T.L. Crisman and J.D. Williams. 1994. Temperature and salinity tolerance of selected nonindigenous fishes established or collected in the state of Florida. 58th Annual Meeting, Florida Academy of Sciences, Tallahassee, FL.
- 139) Kuntz, H.C. and T.L. Crisman. 1994. Little Lake Weir: A paleolimnological study of progressive eutrophication. 58th Annual Meeting, Florida Academy of Sciences, Tallahassee, FL.
- 140) Crisman, T.L. 1994. Planktonic food web dynamics of Lake Apopka. 5th Annual Florida Lake Management Symposium. Florida Lake Management Society/Lake Education-Action Drive. Orlando, FL (Invited Presentation).
- 141) Fernandes, C.A., J. Gottgens, T.L. Crisman and G. Medley. 1994. Paleolimnology and chemical stratigraphy in two central Florida urban lakes. 5th Annual Florida Lake Management Symposium. Florida Lake Management Society/Lake Education-Action Drive. Orlando, FL.
- 142) Crisman, T.L. and W.J. Streever. 1994. Using the Florida experience as a model for lake and wetland management in the subtropics and tropics. International Conference on Tropical Limnology in Commemoration of the 65th Anniversary of the Ruttner-Thienemann Limnological SUNDA Expedition. Salatiga, Indonesia.
- 143) Streever, W.J. and T.L. Crisman. 1994. Constructing freshwater wetlands: the subtropical perspective. International Conference on Tropical Limnology in Commemoration of the 65th Anniversary of the Ruttner-Thienemann Limnological SUNDA Expedition. Salatiga, Indonesia.
- 144) Crisman, T.L. 1994. The role of biomanipulation in the management of freshwater ecosystems in MERCOSUL countries. Seminar on the Quality of Continental Waters of MERCOSUL, Sociedade Brasileira de Limnologia/Instituto Argentino de Recursos Hidricos/Instituto de Pesquisas Hidraulicas, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. (Invited Presentation).
- 145) Cooper, A.T., D.Y. Goswami, S.S. Block and T.L. Crisman. 1994. Solar detoxification for portable water treatment in developing countries in the tropics. ASES Annual Conference. Toronto, Canada.
- 146) Crisman, T.L. 1995. Freshwater aquatic ecosystems (lakes and rivers) of Florida. Symposium entitled: Ecosystems of Florida: Conserving and Managing for the Future. Society of American Foresters, Gainesville, FL.. (Invited Presentation).
- 147) Leslie, A.J., C.M. Keenan and T.L. Crisman. 1995. Structure of benthic invertebrate communities in north Florida cypress domes. 16th Annual Meeting, Society of Wetland Scientists, Boston, MA.
- 148) Crisman, T.L. 1995. A historical perspective on biomanipulation in South America and projections for its use in lake and reservoir management. 26th Congress, Societas Internationalis Limnologie, Sao Paulo, Brazil.

- 149) Beaver, J.R. and T.L. Crisman. 1995. The importance of fish standing crop in limnetic nutrient budgets. 26th Congress, Societas Internationalis Limnologiae, Sao Paulo, Brazil.
- 150) Chapman, L.J., C.A. Chapman and T.L. Crisman 1995. The role of wetlands in the maintenance of fish faunal structure and diversity in the Lake Victoria basin. 26th Congress, Societas Internationalis Limnologiae, Sao Paulo, Brazil.
- 151) Streever, W.J., J.F. Gottgens, B.E. Rood and T.L. Crisman. 1995. Paleo-speleo: ^{210}Pb dating of sediments from flooded caves. 26th Congress, Societas Internationalis Limnologiae, Sao Paulo, Brazil.
- 152) Crisman, T.L. 1995. Transferring the subtropical experience in natural systems: Technology for treating wastes in tropical countries. Second International Conference on Ecological Engineering for Wastewater Treatment. Waedenswil, Switzerland. (Invited Presentation).
- 153) Chapman, C.A., L.J. Chapman and T.L. Crisman. 1996. Variation in the distribution of oxygen and introduced Tilapia in a Uganda crater lake: fisheries implications. Annual Meeting. American Fisheries Society. Denver, CO.
- 154) Crisman, T.L. 1997. El uso de los pantanos o Wetlands como tecnologia natural para el tratamiento de efluentes de las aguas de mina y de las aguas servidas o desogues en las ciudades. Instituto de Ingenieros de Minas del Peru, Lima (Invited Presentation).
- 155) Crisman, T.L. 1998. Exporting the Florida engineering experience with sustainable wetland utilization. Symposium entitled: Hot Topics and Current Issues in Water Resources and Environmental Management. American Society of Civil Engineers, Tampa, FL (Invited Presentation).
- 156) Calzada-Bujak, I., L. Serrano, J. Toja, T.L. Crisman and F. Garcia-Novo. 1998. Phosphorus dynamics in a Mediterranean temporary pond, Donana National Park, Spain. 27th Congress, Societas Internationalis Limnologiae, Dublin, Ireland.
- 157) Otto, G.M., M.W. Clark, T.L. Crisman and T.J. Walker. 1998. Redesign and restoration of a stormwater retention pond for improved appearance, function, and education. 27th Congress, Societas Internationalis Limnologiae, Dublin, Ireland.
- 158) Crisman, T.L., J. Prenger, L.J. Chapman and C.A. Chapman. 1998. Cultural eutrophication of a Ugandan highland crater lake: a twenty-five year comparison of limnological parameters. 27th Congress, Societas Internationalis Limnologiae, Dublin, Ireland.
- 159) Osborne, T.Z., L.J. Chapman, C.A. Chapman, T.L. Crisman, J. Prenger, S. Nyguen and E. Stecker. 1998. Invertebrate community structure and oxygen availability in an intermittent stream/wetland system of the Ugandan highlands. 27th Congress, Societas Internationalis Limnologiae, Dublin, Ireland.
- 160) Chapman, L.J., C.A. Chapman, T.L. Crisman and J. Prenger. 1998. Predictors of seasonal oxygen levels in a Ugandan swamp/river system: a 3-year profile. 27th Congress, Societas Internationalis Limnologiae, Dublin, Ireland.
- 161) Crisman, T.L. 1998. The value of NGO's as integrators of agriculture, conservation and local economies for the management of tropical and subtropical wetlands. 25th Anniversary Symposium, Center for Wetlands, University of Florida, Gainesville.
- 162) Fowlkes, M.D., J.L. Michael, T.L. Crisman and J. Prenger. 1998. Effects of the herbicide

- imazapyr on macroinvertebrates in a logged pondcypress dome. 12th Annual Meeting. Florida Association of Benthologists. Gainesville, FL.
- 163) Stallman, C., T.L. Crisman and F.E. Esteves. 1999. Sediment Composition of Two Tropical Coastal Freshwater Ponds, Macae, RJ, Brazil. 63rd Annual Meeting, Florida Academy of Sciences, University of South Florida.
 - 164) Crisman, T.L., L.J. Chapman and C.A. Chapman. 1999. Incorporating wetland ecotones in the management and conservation of freshwater ecosystems of Africa. A Symposium on Aquatic Conservation and Management in Africa. 1999 Carter Lecture Series, University of Florida. Gainesville, FL.
 - 165) Roberts, C.R. and T.L. Crisman. 1999. Fish responses to hydrological renovation of a pondcypress strand in Tate's Hell Swamp, Florida. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA.
 - 166) Fowlkes, M.D., J.P. Prenger, T.L. Crisman, C. Abramchik and J.L. Michael. 1999. Short term impact of fire and drought on macroinvertebrates in pondcypress domes. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA.
 - 167) Osborne, T.Z., T.L. Crisman, L.C. Chapman and C.A. Chapman. 1999. Dissolved organic carbon and fine particulate organic carbon dynamics in a tropical highland stream-wetland system. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA.
 - 168) Prenger, J.P., P. Krottje, T.L. Crisman and D.J. Cairns. 1999. Biological monitoring and assessment of hydrologic restoration of Tate's Hell Swamp, Florida. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA.
 - 169) McWalter, K.J., G.M. Otto and T.L. Crisman. 1999. Aerial canopy architecture of African papyrus swamps. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA.
 - 170) Crisman, T.L. 1999. Establishing intra and international communication linkages for sound wetland management in the subtropics and tropics. 20th Annual Meeting, Society of Wetlands Scientists, Norfolk, VA. (Invited Presentation).
 - 171) Crisman, T.L. 1999. Conservation of Mediterranean coastal saline ecosystems: The role of the private sector in maintaining ecological function. Post Conference Symposium entitled Saltworks: Preserving Saline Coastal Ecosystems. 6th International Conference on Environmental Science & Technology. Pythagorion, Samos, Greece. (Invited Presentation).
 - 172) Crisman, T.L. 1999. Wetland ecotones and the role of the private sector in aquatic conservation. Second world conference on preservation and sustainable development in the Pantanal. Washington, D.C.. (Invited Presentation).
 - 173) Crisman, T.L. and J.P. Prenger. 1999. Wetlands and archaeology: The role of ecosystem structure and processes. International Wetlands Archaeology Conference (WARP). Gainesville, FL. (Invited Presentation).
 - 174) Calzada-Bujak, I., J.R. White, K.R. Reddy, and T.L. Crisman. 2000. Effects of drawdown on phosphorus dynamics of a subtropical constructed wetland. 6th International Wetland Symposium, International Association of Ecology. Quebec, Canada.
 - 175) Hayworth, J., T.L. Crisman and J. Prenger. 2000. Response of benthic macroinvertebrates to short-term drawdown. 6th International Wetland Symposium, International Association

of Ecology. Quebec, Canada.

- 176) Crisman, T.L. 2000. Development of multiple approaches for the sustainable management of Greek wetlands. Theophrastus 2000: Biodiversity and Natural Heritage in the Aegean. Eressos, Lesvos, Greece. (Invited Presentation).
- 177) Crisman, T.L. 2000. Historical trends in integrating natural habitats into golf courses of southwest Florida. Coastal Management Workshops: Best Management Practices for Golf Courses, NOAA/Florida Department of Environmental Protection. Naples, FL. (Invited Presentation).
- 178) Crisman, T.L. and W. Heinzel. 2000. GREEN-Golf Research Environmental Engineering Network. Golf Course International 2000: International Conference on Golf Course Planning, Construction and Maintenance. Frankfurt, Germany. (Invited Presentation).
- 179) Crisman, T.L. 2001. The role of constructed wetlands for water quality improvement and natural resources management. International Conference on New Developments in Research and Innovative Products in Information, Environmental, Agrobio, and Water Management Technologies. Initiative for Technology Cooperation in the Balkans (ITCB), Thessaloniki, Greece. (Invited Presentation).
- 180) Crisman, T.L. 2001. Sustainable use of wetlands and the treatment of waste water. First Conference on the Status of Water. State Commission of Water and Sanitation, Tuxtla Gutierrez, Chiapas, Mexico. (Invited Presentation).
- 181) Crisman, T.L., C. Mitraki, G. Zalidis and E. Amastasiadis. 2002. Hydrological and cultural eutrophication control of ecosystem stable states in Greek lakes. International Conference on Limnology of Shallow Lakes. Balatonfured, Hungary.
- 182) Chapman, L.J., C.A. Chapman and T.L. Crisman. 2002. Habitat patchiness, hypoxia and fish assemblages in an East African wetland. Environmental Monitoring of Tropical and Subtropical Wetlands. Harry Oppenheimer Okavango Research Centre. Maun, Botswana.
- 183) Crisman, T.L. 2003. Sustaining wetland ecosystems within urbanizing landscapes: The dilemma of structure versus function. Florida Environment: A leadership workshop for Earth Day. Selby Gardens, Sarasota, FL (Invited Presentation).
- 184) Crisman, T.L. 2003. How little water does a wetland need to function?: The reality of transboundary conflicts and water scarcity in the Mediterranean basin, Middle East and Africa. Ohio State University Wetlands Invitational, Ohio State University, Columbus, OH. (Invited Presentation).
- 185) Stevens, M.L., S. Alwash, A. Alwash, I. Ali, R. Beilfuss, J. Callaway, B. Coad, T. Crisman, T. Dunne, J. Evans, D. Hamilton, M. Kentula, E. Maltby, H. Partow, C. Richardson, G. Zalidis, J. Zedler, A. Amirebrahimi, S. Amer, J. Bishop, D. Scott, A. Cattarossi, and D. McCroskey. 2003. Building a scientific basis for restoration of the Mesopotamian marshlands: Findings of the International technical advisory panel restoration planning workshop. 24th Annual meeting of Society of Wetland Scientists, New Orleans, LA.
- 186) Mitraki, C., T.L. Crisman and G. Zalidis. 2003. Lake Koronia, Greece: Shift from autotrophy to heterotrophy with cultural eutrophication and progressive water level reduction. Lake Shores: Ecology, Quality Assessment, Sustainable Development. Konstanz, Germany.

- 187) Crisman, T.L. 2003. Structure, function and stability of lakes and wetlands relative to altered hydrology: examples from Africa, the Mediterranean and the Middle East. Wet 'n Wildlife: Current Trends in Limnology and Zoology in Southern Africa. Joint meeting of South African Society of Aquatic Scientists and Zoological Society of Southern Africa. Cape Town, South Africa. (Invited Plenary Lecture).
- 188) Crisman, T.L. 2003. Responses of Balkan wetlands to cultural eutrophication and altered hydrology: restoring wetland values in the face of increasing abuse. Cultural Olympiad 2001-2004: Roads of Water – Communication Routes of People. Lakes and Rivers of the Balkans. Hellenic Ministry of Culture. Thessaloniki, Greece. (Invited Lecture).
- 189) Crisman, T.L. 2004. Use of the Everglades as a model for large wetland management and restoration in the subtropics and tropics: assessing reality. 19th Annual Conference, The Everglades Coalition. Miami Beach, FL. (Invited Plenary Lecture).
- 190) Talley, B.L. and T.L. Crisman. 2004. Comparison of leaf litter bags vs dipnetting for sampling larval salamanders. The Herpetology Conference, All Florida Herpetology Event. Gainesville, FL.
- 191) Crisman, T.L. 2004. International wetlands in crisis: conservation in the face of increased threats and decreased water. Summer Mtg. American Society of Limnology and Oceanography. Savannah, GA. (Invited Lecture).
- 192) Calzada-Bujak, I. and T.L. Crisman. 2004. Comparison of phosphorus dynamics in two subtropical wetland ecosystems: Donana (Huelva, Spain) and Everglades (Florida, USA). Annual Meeting, Society of Wetland Scientists. Seattle, WA.
- 193) Brock, R.J. and T.L. Crisman. 2004. Assessing the first-order and second-order environmental impact effects of the filter-feeding Asian clam, *Corbicula fluminea*, and the omnivorous African cichlid, *Oreochromis aureus*, under various water quality conditions. 13th International Conference of Aquatic Invasive Species. Ennis, Ireland.
- 194) Talley, B.L. and T.L. Crisman. 2004. Evaluation of Georgia streamside management zone procedures using salamanders: a pre-harvest survey. Riparian Ecosystems and Buffers: Multi-Scale Structure, Function and Management. AWRA Summer Speciality Conference. Olympic Valley, CA.
- 195) Crisman, T.L., G. Zalidis and M. Beklioglu. 2004. Restoration of Lake Koronia, Greece as a model for regional lake and wetland rehabilitation and sustainable management in the eastern Mediterranean basin. III International Meeting on Hydrological Restoration of Wetlands: Donana 2005. Huelva, Spain. (Invited Presentation).
- 196) Beilfuss, R. and T.L. Crisman. 2004. Environmental history of the Mesopotamian Marshes of Iraq and potential for their restoration. III International Meeting on Hydrological Restoration of Wetlands: Donana 2005. Huelva, Spain.
- 197) Talley, B.L. and T.L. Crisman. 2004. Using natural salamander distribution and abundance to predict forested buffer zone effectiveness in first-order streams. 11th Annual Conference, The Wildlife Society. Calgary, Alberta.
- 198) Winn, R., T.L. Crisman and S.W. Golladay. 2004. Aquatic macroinvertebrate assemblages in southwestern Georgia streams. 11th Annual Conference, The Wildlife Society. Calgary, Alberta.
- 199) Miralles, F. and T.L. Crisman. 2004. Ecohydrological principles for wetland management

in the eastern Mediterranean and Middle East. Mesopotamian Marshes and Modern Development: Practical Approaches for Sustaining Restored Ecological and Cultural Landscapes. Harvard University, Boston, MA. (Invited Presentation).

- 200) Winn, R.T., T.L. Crisman and S.W. Golladay. 2004. Aquatic macroinvertebrates in southwest Georgia headwater streams. Annual Conference, American Water Resources Association. Orlando. FL.
- 201) Talley, B.L. and T.L. Crisman. 2005. Dry Creek long-term watershed study: buffer zone performance as viable amphibian habitat. 13th Biennial Southern Silvicultural Research Conference. Memphis, TN.
- 202) Griswold, M.W., R. Winn, T.L. Crisman and W.R. White. 2005. Dry Creek long-term watershed study: assessment of immediate response of aquatic macroinvertebrates to watershed level harvesting and thinning of streamside management zones (SMZs). 13th Biennial Southern Silvicultural Research Conference. Memphis, TN.
- 203) Crisman, T.L. 2005. Integrating vertical, horizontal and temporal scales into the restoration and sustainable management of the lower Tigris-Euphrates River basin. ROPME/UNEP High-level Meeting on the Restoration of the Mesopotamian Marshlands (Al-Ahwar). Manama, Bahrain (Invited Presentation).
- 204) Winn, R.T., T.L. Crisman and S.W. Golladay. 2005. Comparison of bioassessment methods for assessing ecological condition of aquatic macroinvertebrate assemblages in Southwest Georgia headwater streams. Georgia Water Resources Conference. Athens, GA.
- 205) Talley, B.L. and T.L. Crisman. 2005. Amphibians in forested riparian zones of Southwestern Georgia. The Herpetology Conference, All Florida Herpetological Event. Gainesville, FL.
- 206) Crisman, T.L., F.R. Miralles-Wilhelm and M. Doyle. 2005. Integrating coastal wetlands into vertical and horizontal management of Chesapeake Bay. 25th Annual Conference, Society of Wetland Scientists, Charleston, SC (Invited Presentation).
- 207) Winn, R.T., M.W. Griswold, S.W. Golladay and T.L. Crisman. 2005. Macroinvertebrate response to drought in undisturbed headwater streams of southwest Georgia. Annual Meeting, 53rd Annual Meeting, North American Benthological Society, New Orleans, LA.
- 208) Crisman, T.L., L.J. Chapman, T.Z. Osborne and C.A. Chapman. 2005. Fingernail clams (*Sphaerium* sp.) in a highland papyrus swamp in Uganda: distribution and role in FPOC and DOC partitioning and export. 25th Annual Conference, Society of Wetland Scientists, Charleston, SC
- 209) Crisman, T.L., W.R. Wise, C.R. Roberts and R.M. Roberts. 2005. Burrowing of the wetland crayfish (*Procambarus alleni*) in response to water table decline. 25th Annual Conference, Society of Wetland Scientists, Charleston, SC
- 210) Crisman, T.L. and F. Miralles-Wilhelm. 2005. Historical and current interactions of people with wetlands. Conference on Traditional Wetland Cultures in Transition, Miami, FL.
- 211) Stevens, M.L., F. R. Miralles-Wilhelm and T.L. Crisman. 2005. Eco-cultural restoration of the Mesopotamian Marshes. Ecological Society of America and INTECOL, Montreal, Canada.

- 212) Crisman, T.L. 2005. Sustainable wetland management in the face of hydrological and agricultural pressures. Humedales 2005: V Simposio Internacional Humedales. Cienaga de Zapata, Matanzas, Cuba (Invited Presentation).
- 213) Griswold, M.W., R. Winn, and T.L. Crisman. 2005. Logging in streamside management zones (SMZs): The role of altered resources on aquatic biota. 19th Annual Meeting, Florida Association of Benthologists. Palatka, FL.
- 214) Crisman, T.L. 2006. Climate change in Florida. Practice Issues Related to Climate Change in Florida: A Workshop on Needs Assessment and Responses. Center for Environmental Studies, Florida Atlantic University, Palm Beach Gardens, FL (Invited Presentation).
- 215) Crisman, T.L. 2006. Ecohydrology: balancing human and ecosystem needs for water in the face of decreasing global resources. Medalist Presentation. 70th Annual Meeting, Florida Academy of Sciences. Florida Institute of Technology, Melbourne, FL (Invited Presentation).
- 216) Crisman, T.L. and S. Smith. 2006. Science partners in inquiry-based collaborative education (SPICE) grant. 70th Annual Meeting, Florida Academy of Sciences. Florida Institute of Technology, Melbourne, FL (Invited Presentation).
- 217) Griswold, M.W., R. Winn and T.L. Crisman. 2006. Logging in Streamside Management Zones (SMZs): macroinvertebrates as indicators of environmental stress. 14th International Conference on Environmental Bioindicators. International Union of Biological Scientists ((IUBS) Commission on Bioindicators. Baltimore, MD.
- 218) Alexandridis, T., T.L. Crisman, E. Lazaridou, V. Takavakoglou, I. Giannelos, G. Kouloumtouri and G. C. Zalidis. 2006. Dynamics of Phragmites pattern using multi-temporal satellite Earth Observation and its relation to soil-ecohydrological processes. European Geosciences Union General Assembly 2006. Vienna, Austria.
- 219) McMorrow, S.E., D.W. Bennett and T.L. Crisman. 2006. Amphibian assemblages of headwater creeks in an urban landscape: implications for stream management. 6th Annual Meeting, American Ecological Engineering Society. Berkeley, CA.
- 220) Zalidis, G, T.L. Crisman, V. Takavakoglou and T. Alexandridis. 2006. A management plan for Lake Koronia, Greece leading to sustainable agriculture and ecosystem conservation. Protection and Restoration of the Environment VIII. Chania, Greece.
- 221) Griswold, M.W., R.T. Winn and T.L. Crisman. 2006. Effects of physiochemical parameters on macroinvertebrate community structure under two logging regimes. IUFRO Sustainable Forest Management with Fast Growing Plantations. Charleston, SC.
- 222) Bennett, D.W., B.L. Talley and T.L. Crisman. 2006. Assessing amphibian responses to forest harvest and Streamside Management Zone practices in the Dry Creek watershed, Georgia. IUFRO Sustainable Forest Management with Fast Growing Plantations.

Charleston, SC.

- 223) Crisman, T.L., V. Takavakoglou, T. Alexandridis, V. Antonopoulos and G. Zalidis. 2006. Rehabilitation of abandoned saltworks to maximize conservation, ecotourism and water treatment potential. First International Conference on the Ecological Importance of Solar Saltworks. Santorini, Greece (Invited Presentation).
- 224) Talley, B.L., D. Bennett and T.L. Crisman. 2007. Response of amphibians in the first two years following timber harvest in the Dry Creek Experimental Forest, Georgia. 14th Biennial Southern Silvicultural Research Conference. Athens, GA.
- 225) Griswold, M.W., R. Winn and T.L. Crisman. 2007. Resilient macroinvertebrates: the road to recovery following watershed level harvesting and thinning in Georgia streams. 14th Biennial Southern Silvicultural Research Conference. Athens, GA.
- 226) Crisman, T.L. 2007. Florida climate change. Climate Change in Florida Conference, Tampa, FL (Keynote Presentation).
- 227) Crisman, T.L. 2008. Integrating natural treatment options into landscape level development plans. Smart, Sustainable Tampa Bay, United States Green Building Council. St. Petersburg, FL. (Invited Presentation).
- 228) Crisman, T.L. and D. Coenen. 2008. Long-term ecosystem and human adjustments to changing climate in Florida as a response model for 21st century models. Climate Information for Managing Risks: Partnerships and Solutions for Agriculture and Natural Resources (CIMR), University of Florida and Southeast Climate Consortium Symposium, St. Petersburg Beach, Florida (Invited Presentation).
- 229) Crisman, T.L. 2008. Florida: Current and anticipated changes relative to climate change and uncertainties. Florida's Wildlife: On the Frontier of Climate Change, Orlando, Florida (Invited Presentation).
- 230) Crisman, T.L. 2008. Mitigation: Why and what. 35th Annual Conference on Ecosystems Restoration and Creation: Assessment of Wetland Mitigation and Mitigation Banks. Plant City, FL.
- 231) Crisman, T.L. 2008. Landscape sustainability via multifaceted wetland-agriculture interactions. BSF Funded Workshop: Ensuring the Sustainable Reuse of Wastewater for Agricultural Irrigation in Semi Arid/Arid Regions. Haifa University, Israel.
- 232) Crisman, T.L. 2009. Florida: current and anticipated changes from global warming. Pinellas Chapter, Florida Native Plant Society. Largo, FL (Invited Presentation).
- 233) Crisman, T.L. 2009. Balancing demands of humans and ecosystems for water in the face of diminishing global resources and climate change. International Studies School Association Conference. Tampa, FL (Invited Presentation).
- 234) Moellendorf, S. and T.L. Crisman. 2009. Effects of irrigation canals on stream ecosystems: A tropical dry forest case study in Costa Rica. Oregon Chapter, American Fisheries Society. Bend, Oregon.
- 235) Crisman, T.L.. 2009. Modeling climate change in Florida: a climate zone perspective on

- biotic responses. Climate Change: What Does It Mean to Florida. IFAS, University of Florida, Plant City, Florida (Invited Presentation).
- 236) Crisman, T.L. 2009. Opportunities and challenges for the Balkan Environment Center to integrate ecosystem based and engineering approaches for sustainable management in the Balkans. International Conference on New Technologies in Water Management. Thessaloniki, Greece. (Invited Presentation).
 - 237) Crisman, T.L., G.C. Zalidis and V. Takavakoglou. 2009. Assessing ecological value of abandoned, active and restored solar saltworks. Second International Conference on the Ecological Importance of Solar Saltworks. Meridia, Mexico
 - 238) U.A.M. Crisman and T.L. Crisman. 2009. An archaeological perspective on salt production and trade in Mexico. Second International Conference on the Ecological Importance of Solar Saltworks. Meridia, Mexico.
 - 239) N. Goddard, C. Haggerty and T.L. Crisman. 2009. Responses of plant and bird community structure in cypress wetlands relative to a time gradient since isolation within the urban landscape of Tampa, Florida. Annual Meeting, Society of Wetland Scientists, Madison, WI.
 - 240) C. Haggerty, N. Goddard and T.L. Crisman. 2009. Temporal response of tree frogs to isolation of cypress domes within the urban area of Tampa, Florida. Annual Meeting, Society of Wetland Scientists, Madison, WI.
 - 241) C. Mitraki and T.L. Crisman. 2009. Ecological succession of Florida phosphate mine lakes relative to age and design gradients. Annual Meeting, Ecological Society of America. Albuquerque, NM.
 - 242) T.L. Crisman. 2009. Florida as a model for climate change in the subtropics. West Central Florida Chapter, American Meteorological Society, St. Petersburg, FL (Invited Presentation).
 - 243) T.L. Crisman. 2009. Ecohydrological approaches to balancing human and ecosystem needs for sustainable management of water resources. AEESP/WEF Scientist's Luncheon, Orlando, FL (Invited Presentation).
 - 244) Lewis D.B., F.A. Akiwumi, S.S. Bell, T.L. Crisman, S.J. Feit, S.M. Landry, K.A. Nilsson, M.C. Rains, P.E. Thurman, C.C. Trettin, R.L. Vinson and R.K. Zarger. 2010. Urban development, social relationships, and water policy as drivers of wetland change in the Tampa Bay Region. Northern Tampa Bay Local Technical Peer Review Group, Southwest Florida Water Management District, Tampa.
 - 245) C. Mitraki and T.L. Crisman. 2011. Benthic invertebrate communities of lakes created on phosphate mined lands in central Florida. Aquatic Sciences Meeting, American Society of Limnology and Oceanography, San Juan, Puerto Rico.
 - 246) Moellendorf, S.M. and T.L. Crisman. 2011. Ecohydrology of seasonal and canal influenced perennial streams of Guanacaste, Costa Rica. Aquatic Sciences Meeting, American Society of Limnology and Oceanography, San Juan, Puerto Rico.
 - 247) Crisman, T.L. and W.R. White. 2011. Florida headwater streams: distribution, sources and management within urbanizing landscapes. Florida Chapter, American Water Resources

Association, Haines City, Florida.

- 248) Lewis D.B., R.K. Zarger, S.M. Landry, F.A. Akiwumi, M.C. Rains, T.L. Crisman, S.S. Bell, and C.C. Trettin. 2011. Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. Invited symposium presentation. Annual Meeting of US Regional Association of the International Association for Landscape Ecology, Portland, OR.
- 249) Lewis D.B., R.K. Zarger, S.M. Landry, F.A. Akiwumi, M.C. Rains, K.A. Nilsson, C.O. Adjei, S.J. Feit, G.M. Larsen, R.B. Perkerson, P.E. Thurman, T.L. Crisman, S.S. Bell, and C.C. Trettin. 2011. Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem (invited symposium presentation). Annual Meeting Ecological Society of America, Austin, TX.
- 250) Crisman, T.L. and C. de Bodisco. 2011. Water insecurity as a political tool in Yemen. A conference entitled: Yemen After the Arab Spring: From Revolution to Disintegration? The Jamestown Foundation. Washington, D.C. (Invited Presentation).
- 251) Crisman, T.L. 2011. Water, security and climate change in Central Asia. 2011. A conference entitled: Central Asia, Afghanistan and the New Silk Road: Political, Economic and Security Challenges. The Jamestown Foundation. Washington, D.C. (Invited Presentation).
- 252) Custin, H.W. and T.L. Crisman. 2012. Distribution and role of native and exotic bivalves within a freshwater/marine interface of west central Florida. 76th Annual Meeting of Florida Academy of Sciences, University of South Florida. Tampa, FL.
- 253) Thurman, P.E., T. L. Crisman, D. Carr and T. Rochow. 2012. Hydrologic control of ground cover vegetation in palustrine cypress domes of west central Florida. 76th Annual Meeting of Florida Academy of Sciences, University of South Florida. Tampa, FL.
- 254) Haggerty, C.J.E. and T.L. Crisman. 2012. Disturbance response of the exotic Cuban Treefrog, *Osteopilus septentrionalis*, to a rare freeze event in Tampa, Florida. 76th Annual Meeting of Florida Academy of Sciences, University of South Florida. Tampa, FL.

Universities and Institutions:

- 1) Crisman, T.L. 1979. Uses of paleolimnology for interpreting lake histories. Department of Biology, Central Michigan University, Mt. Pleasant.
- 2) Crisman, T.L. 1979. The importance of grazing for controlling primary productivity in Florida lakes. Department of Biology, Central Michigan University, Mt. Pleasant.
- 3) Crisman, T.L. 1979. Trophic-level interactions in Florida lake systems and the potential for biological control of aquatic productivity. Department of Biology, University of West Virginia, Morgantown.

- 4) Crisman, T.L. 1980. Experimental use of Chinese grass carp for controlling problem aquatic weeds in Florida lakes. Pearl River Institute of Freshwater Products. Guangzhou (Canton), China.
- 5) Crisman, T.L. 1980. Testing of methodology for controlling eutrophication in Florida lakes. Institution of Hydrobiology, Academica Sinica, Wuhan, China.
- 6) Crisman, T.L. 1980. Effects of acid rain on subtropical Florida lakes. Beijing Municipal Research Institute of Environmental Protection. Beijing (Peking), China.
- 7) Crisman, T.L. 1980. An overview of the status and environmental problems of Florida lakes. Department of Biology, Fudan University. Shanghai, China.
- 8) Crisman, T.L. 1980. Use of fish to control autotrophic production in Florida lakes. Fisheries Research Institute, Shanghai, China.
- 9) Crisman, T.L. 1983. Control of cultural eutrophication in Florida. Limnological Institute. Nieuwersluis, Netherlands.
- 10) Crisman, T.L. 1983. Zooplankton and ciliated protozoan communities of subtropical Florida lakes. Max-Planck-Institut fur Limnologie. Plon, West Germany.
- 11) Crisman, T.L. 1984. Comparison of temperate and subtropical responses to lake acidification. Martin Marietta Environmental Systems, Columbia, MD.
- 12) Crisman, T.L. 1984. A paleolimnological approach to elucidating the effects of a phosphate detergent ban on Indiana lakes. Monsanto Chemical Corp., St. Louis, Missouri.
- 13) Crisman, T.L. 1984. Effects of acid rain on Florida lakes. Biology Department, Southern Illinois University, Edwardsville, IL.
- 14) Crisman, T.L. 1985. Relationships between subfossil midges in surface sediments and water chemistry for lakes in the Ocala National Forest, Florida, Paleocological Reconstruction of Recent Lake Acidification (PIRLA) Conference. University of Florida, Gainesville.
- 15) Crisman, T.L. 1986. Management of subtropical lakes through biological manipulation. Department of Biology, University of Joensuu, Finland.
- 16) Crisman, T.L. 1987. Biotic structure of softwater subtropical lakes and its sensitivity to acidic precipitation. Department of Biology, University of Joensuu, Finland.
- 17) Crisman, T.L. 1987. The calibration and use of subfossil invertebrates in environmental reconstructions. Geological Survey of Finland, Espoo.
- 18) Crisman, T.L. 1987. Paleolimnology and its application to lake management. Institute of Hydrobiology, Academy of Agriculture and Technology, Olsztyn, Poland.
- 19) Crisman, T.L. 1987. Advances in the interpretation of subfossil invertebrate assemblages from postglacial lacustrine cores. Geological Institute, Polish Academy of Sciences, Warsaw.
- 20) Crisman, T.L. 1988. Alternatives for using benthic invertebrates for monitoring freshwater wetlands. Bionetics/NASA, Cape Canaveral, FL.
- 21) Crisman, T.L. 1989. Opportunities in environmental research in the southeastern United States. Alabama A & M University, Huntsville, AL.

- 22) Crisman, T.L. 1990. Feasibility of using exotic bivalve molluscs as a biofilter in aquaculture systems. Bionetics/NASA, Cape Canaveral, FL.
- 23) Crisman, T.L. 1992. Biomanipulation as a technique for lake management in the subtropics and tropics. Universidade Federal do Rio de Janeiro, Brazil.
- 24) Crisman, T.L. 1993. Natural treatment as an engineering alternative for sewage, agricultural runoff and mining reclamation. Universidad Autonoma de Chiapas, Tuxtla Gutierrez, Mexico.
- 25) Crisman, T.L. 1993. Problems and alternatives for the management and conservation of freshwater ecosystems in the tropics. Instituto Tecnológico y de Estudios Superiores de Monterrey, Tuxtla Gutierrez, Mexico.
- 26) Crisman, T.L. 1994. Biomanipulation as a lake management technique. Swiss Federal Institute for Environmental Science and Technology (ETH) and the Swiss Federal Institute for Water Resources and Water Pollution Control (EAWAG), Zurich, Switzerland.
- 27) Crisman, T.L. 1995. Constructed wetlands and their similarity to natural systems. Programa de Conservación de la Biodiversidad y Desarrollo Sustentable in los Humedales del Este (PROBIDES), Rocha, Uruguay.
- 28) Crisman, T.L. 1995. Biomanipulation for controlling eutrophication in lakes and reservoirs. Universidad de la Republica, Montevideo, Uruguay.
- 29) Crisman, T.L. 1995. Tropical wetland problems. Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.
- 30) Crisman, T.L. 1997. Management issues for subtropical wetlands. University of Sevilla, Spain.
- 31) Crisman, T.L. 1997. Sustainable use of wetlands for nature conservation. Goulandris Natural History Museum, Athens, Greece.
- 32) Crisman, T.L. 1997. Wetland restoration practices in the subtropics. Aristotle University and Greek Wetland Center, Thessaloniki, Greece.
- 33) Crisman, T.L. 1997. Sustainable use of wetlands for nature conservation. Aristotle University and Greek Wetland Center, Thessaloniki, Greece.
- 34) Crisman, T.L. 1997. Use of wetlands as a natural technology for the treatment of mine drainage and domestic wastewaters. Instituto de Ingenieros de Minas del Peru, Lima, Peru.
- 35) Crisman, T.L. 2000. Integrating humans in the conservation and management of wetlands and lakes of the subtropics and tropics. Virginia Institute of Marine Science (VIMS), Gloucester Point, VA.
- 36) Crisman, T.L. 2001. Integrating wetlands in the management of landscapes for multiple purposes. Greek Biotope/Wetlands Center (EKBY) and U.S. Consulate, Thessaloniki, Greece.
- 37) Crisman, T.L. 2001. The functional approach to water management. Greek Biotope/Wetlands Center (EKBY) and U.S. Consulate, Thessaloniki, Greece.

- 38) Crisman, T.L. 2002. The role of ecology in engineering. Department of Civil & Environmental Engineering, University of South Carolina, Columbia. (Invited Talk).
- 39) Crisman, T.L. 2003. Transboundary water issues: from the Mediterranean to Mesopotamia. Stetson University Law School, St. Petersburg, FL. (Invited Talk).
- 40) Crisman, T.L. 2003. Wet agriculture and wetland conservation. Aristotle University, Thessaloniki, Greece.
- 41) Crisman, T.L. 2004. How little water do lake and wetland ecosystems need: living within the reality of increased water demand in Greece. Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, Miami, FL.
- 42) Crisman, T.L. 2004. Restoration of Balkan wetlands within the reality of declining water resources. Louisiana Universities Marine Consortium (LUMCON), Chauvin, LA.
- 43) Crisman, T.L. 2004. Learning to live with less: the global water challenge. The Conservancy of Southwest Florida, Naples, FL
- 44) Crisman, T.L. 2004. Hydrological-ecological linkages in Greek lakes: conservation challenges with declining water resources. Department of Biology, Middle East Technical University, Ankara, Turkey.
- 45) Crisman, T.L. 2004. Integrating ecological engineering into water management and ecosystem conservation in the Mediterranean basin and developing world. Department of Environmental Engineering, Middle East Technical University, Ankara, Turkey.
- 46) Crisman, T.L. 2006. Minimum hydrological requirements for aquatic ecosystems: integrating ecohydrology into sustainable management of lakes and wetlands. Department of Civil and Environmental Engineering, Florida International University, Miami, FL.
- 47) Crisman, T.L. 2006. The reality of water management: determining minimum water requirements for the structure and function of aquatic ecosystems. Department of Ocean Earth and Atmospheric Sciences, Old Dominion University, Norfolk, VA
- 48) Crisman, T.L. 2006. Ecohydrology: assessing the reality of water management in the subtropics and tropics. Virginia Institute of Marine Sciences, College of William and Mary, Gloucester, VA.
- 49) Crisman, T.L. 2006. Environment and development challenges for Caribbean SIDS. Conservation Grenada, St. Georges, Grenada.
- 50) Crisman, T.L. 2006. Meeting the global water challenge: an ecohydrological approach for sustainable aquatic ecosystems. The Patel Center for Global Solutions, University of South Florida, Tampa, FL.
- 51) Crisman, T.L. 2006. Integrating ecohydrology into ecosystem management. Department of Biology, University of South Florida, Tampa, FL.

- 52) Crisman, T.L. and W.R. Wise. 2006. Expert witnesses: their view of the experience. Stetson University Law School, St. Petersburg, FL.
- 53) Crisman, T.L. and W.R. Wise. 2006. Legal implications of the developing field of ecohydrology. Stetson University Law School, St. Petersburg, FL.
- 54) Crisman, T.L. 2008. Integrating natural treatment options and ecohydrology to meet the global water crisis. University of Connecticut, Storrs, CT.
- 55) Crisman, T.L. 2008. Recent advances in using ecological engineering and ecohydrological approaches for managing water resources in the subtropics and tropics. Temple University, Philadelphia, PA.
- 56) Crisman, T.L. 2009. Managing shallow freshwater ecosystems to meet demands of humans and nature conservation. Department of Biology, University of Central Florida. Orlando, FL.
- 57) Crisman, T.L. 2010. Florida as a model for climate change across the tropical-temperate transition. Olin Sewall Pettingill Lecture, University of Michigan Field Station, Pellston, MI.
- 58) Crisman, T.L. 2010. Designing with nature to address the global water crisis. Olin Sewall Pettingill Lecture, University of Michigan Field Station, Pellston, MI.
- 59) Crisman, T.L. 2011. Designing with nature to address water management issues globally. University of Zagreb, Zagreb, Croatia.

RESEARCH GRANTS

Total: \$9,121,283, Pending:

- 1) Heavy metals in ash pond leachate. Florida Department of Environmental Regulation. 1978. (Co-principal investigator with J. Zoltek, Jr.). \$11,505.
- 2) A Florida eutrophication index based on zooplankton composition. 1978-79. Engineering and Industrial Experiment Station, University of Florida (Principal investigator). \$12,000.
- 3) Biotic response of a lake to the control of submersed macrophytes by the white amur. 1977-1981. Waterways Experiment Station, U.S. Army Corps of Engineers. (Principal investigator). \$318,926.
- 4) Loading rates and ecological significance of nutrients and acidity in wet and dry atmospheric precipitation. 1978-79. U.S. EPA. (Co-principal investigator with P.L. Brezonik). \$50,252.
- 5) Study of the limnological effects of a drawdown on Lake Apopka and downstream lakes in the Oklawaha chain. Florida Department of Environmental Regulation. 1977-1981. (Co-principal investigator with P.L. Brezonik). \$176,273.
- 6) Biological survey of the Suwannee River. Suwannee River Water Management District. 1979-1980. (Principal investigator). \$6,600.

- 7) Fish and internal nutrient cycles in Florida lake ecosystems. Office of Water Resources Research. 1979-1981. (Principal investigator). \$17,910.
- 8) Algal control through trophic-level interactions. Florida Department of Natural Resources. 1980-1983. (Principal investigator). \$116,398.
- 9) Algal management through lake aeration. Florida Department of Natural Resources. 1980-1983. (Principal investigator). \$24,000.
- 10) Lake Panasoffkee evaluation of water quality and phytoplankton. Southwest Florida Water Management District. 1980-1981. (Principal investigator). \$14,999.
- 11) Vulnerability of Florida watersheds to riparian disturbance. National Science Foundation. 1980-1982. (Co-principal investigator with E.S. Deevey, Jr. and P.L. Brezonik). \$160,222).
- 12) Effects of acid precipitation on sensitive ecosystems in Florida. 1980-1982. National Atmospheric Deposition Program. (Co-Principal investigator with P.L. Brezonik). \$39,807.
- 13) Aeromonas hydrophila as an indicator of trophic state of Florida lakes. 1980-1981. EIES special project. (Co-principal investigator with G. Bitton and S.R. Farrah). \$12,500.
- 14) Low-energy wastewater recycling through wetland ecosystems: Apalachicola study - experimental use of a freshwater shrub swamp. 1981-1983. Florida Department of Environmental Regulation. (Co-Principal investigator with R. Best, J. McCreary and C. Montague). \$26,500.
- 15) The chemical and physical characterization of chopped Hydrilla. 1981. U.S. Army Corps of Engineers. (Co-principal investigator with J. McCreary). \$3,400.
- 16) Grass carp monitoring in Lake Conway, Florida. 1981. Engineering and Industrial Experiment Station, University of Florida. (Principal investigator). \$21,500.
- 17) Vulnerability of Florida watersheds to riparian disturbance. Phase II. 1982-1983. National Science Foundation. (Co-principal investigator with E.S. Deevey, Jr.). \$48,000.
- 18) Classification of 60 lakes in the Ocala National Forest. 1982-1983. Northwest Biological Consulting. (Principal investigator). \$20,000.
- 19) Environmental training and management course in tropical limnology. 1983. ETMA/Southeast Consortium for International Development. (Principal investigator). \$11,809.
- 20) Paleoecological reconstruction of recent lake acidification in acid sensitive areas of North America. 1983-1986. Electric Power Research Institute. (Co-principal investigator with D.R. Whitehead, D.F. Charles, G.A. Davidson, R.B. Davis, J.C. Kingston, S.A. Norton, D.W. Schindler). Total award: \$2,246,482; UF share: 252,200.
- 21) Effects of lake acidification on bass populations in Florida. 1984-1986. Bass Research Foundation. (Principal investigator). \$57,500.
- 22) Biological survey of Blues Creek, Florida. 1985-1986. Florida Department of Natural Resources. (Principal investigator). \$10,000.
- 23) Evaluation of the response of benthic invertebrates in cypress domes of the Big Cypress

- National Preserve to environmental perturbations. 1985-1986. National Park Service. (Principal investigator). \$7,000.
- 24) Investigations of scandinavian chironomids. 1986-1987. American Scandinavian Foundation. (Principal investigator). \$7,500.
 - 25) The toxicity of Hydrothol-191 to aquatic biota. 1986-1987. Florida Department of Environmental Regulation. (Co-principal investigator with G. Bitton). \$25,000.
 - 26) A paleolimnological calibration model for chironomids. 1986-1987. National Science Foundation. (Principal investigator). \$21,700.
 - 27) Trophic structure manipulation program for Lake Apopka pilot project. 1986-1987. St. Johns River Water Management District. (Principal investigator). \$59,000.
 - 28) Assessment of cultural eutrophication and its management in Lake Weir, Florida. 1986-1990. Save Lake Weir Association, St. Johns River Water Management District, Marion County. (Principal Investigator). \$180,000.
 - 29) Newnans Lake Florida: Net removal of organic matter and nutrients using a partial drawdown. 1989-1990. St. Johns River Water Management District. (Principal Investigator). \$5,753.
 - 30) An evaluation of benthic meiofauna and macrofauna as success criteria for reclaimed wetlands. 1989-1992. Florida Institute of Phosphate Research. (Principal Investigator). \$300,106.
 - 31) Lake Apopka trophic structure manipulation. 1989-1992. St. Johns River Water Management District. (Principal Investigator). \$90,000.
 - 32) Ecological studies of the littoral and pelagic systems of Lake Okeechobee. 1988-1992. South Florida Water Management District. (Co-Principal Investigator with 9 other Investigators). \$2,387,294.
 - 33) Biogeochemical partitioning of mercury in the Everglades and Okefenokee Swamp wetland systems. 1991-1993. Florida Water Resources Research Center. (Co-Principal Investigator with J. Delfino). \$21,908.
 - 34) Assessment of mercury concentrations in soil and sediment samples from the Everglades wetland system. 1991-1993. Florida Department of Environmental Regulation. (Co-Principal Investigator with J. Delfino). \$85,961.
 - 35) Biogeochemical partitioning of mercury in the Everglades and Okefenokee Swamp wetland systems. 1991-1993. South Florida Water Management District. (Co-Principal Investigator with J. Delfino). \$37,668.
 - 36) An evaluation of constructed wetlands on phosphate mined lands in Florida: Aquatic fauna and water quality. 1993-1995. Florida Institute of Phosphate Research. \$99,652.
 - 37) Blue-green algal blooms in Florida Bay: controlling factors and consequences for food webs. 1995-1997 Florida Sea Grant. (Co-Principal Investigator with E.J. Phlips). \$120,000.
 - 38) Development of overseas courses in tropical ecology and management. 1995-1997. Florida Center for Environmental Studies. \$27,851.

- 39) Tropical Conservation Literacy: participation of host country students. 1996-1997. Conservation, Food and Health Foundation. (Co-Principal Investigator with C.A.Chapman and L.J.Chapman).\$8,400.
- 40) Wadi Gaza basin restoration. 1996. H. Boone and Violet M. Porter Charitable Foundation, Inc.. (Co-Principal Investigator with E. Lowe). \$5,000.
- 41) Sustainable land development in a suburban setting in San Salvador: Club Campestre la Montana. 1996-1997. Desarrollos Buenos Aires.(Co-Principal Investigator with J.J. Delfino and W.R. Wise). \$73,253.
- 42) Faunal attenuation: predicting spatial and temporal dynamics of refugia in the Lake Victoria basin. 1996-1999. National Science Foundation. (Co-Principal Investigator with L.J. Chapman). \$120,000.
- 43) Movement of Imazapyr from flatwoods forestry sites into wetlands and impacts on wetland biota. 1997-1999. NAPIAP. U.S. Forest Service. (Co-Principal Investigator with J. Michaels).\$36,560
- 44) Florida Bay data management. 1997. Florida Department of Environmental Protection. \$10,000.
- 45) Well field pumping effects on isolated wetlands in South Florida: Flint Pen Strand and Savannas sites: Instrumentation. 1997. South Florida Water Management District. (Co-Principal Investigator with W.R. Wise and M.D. Annable). \$10,000.
- 46) Assessment of constructed wetlands and wet landfills as low-tech treatment options for leachate in Florida. 1997-1998. Florida Center for Solid and Hazardous Waste.(Co-Principal Inestigator with M. Barger, W. DeBusk, R. Mines and D. Reinhart). \$25,000.
- 47) Redesign of the Duck Pond for effective water management. 1997-1999. City of Gainesville. \$39,976.
- 48) Tabular data management for Florida Bay monitoring efforts. 1997-1998. Florida Department of Environmental Protection. \$30,000.
- 49) Distance learning for wetlands and water resources management in Greece. 1997-1998. USIA. \$6,760.
- 50) Ecosystem monitoring for assessment of hydrologic restoration of Tate's Hell Swamp. 1998-1999. Northwest Florida Water Management District. \$139,652.
- 51) Field measurement and modeling of hydrologic connectivity of isolated wetlands with surficial aquifers. 1998-1999. South Florida Water Management District. (Co-Principal Investigator with W.R. Wise and M.D. Annable). \$100,000.
- 52) Integrating Indigenous African Knowledge, Rights, and Scientific Research in Environmental Conservation. 1998-2001. Ford Foundation. Co-Principal Investigator with M. Chege, L.J. Chapman, C.A. Chapman, A. Goldman, and H. Davis). \$148,252.
- 53) Doctoral training funding for Ugandan students. 1999-2002. Lake Victoria Environmental Management Programme. Global Environmental Fund, World Bank. \$138,000.

- 54) Water quality evaluation of Tumblin' Creek. 1999-2000. City of Gainesville, FL. \$19,875.
- 55) Monitoring and management consultation at the Waldo sewage treatment wetland. 1999-2000. City of Waldo, FL and Suwanee River Water Management District. \$14,200.
- 56) Examination of the relationship between biota and hydrology in isolated wetlands in South Florida. 2000-2001. South Florida Water Management District. (Co-Principal Investigator with W.R. Wise). \$149,500.
- 57) Evaluate the efficacy of Easterly Wetland Treatment System in removing phosphorus from wastewater. 2000-2001. Post, Buckley, Shuh and Jernigan. (Co-Principal Investigator with W.R. Wise). \$85,549. Total UF Contract \$256,000.
- 58) Aquatic macroinvertebrate assemblages in southwest Georgia headwater streams prior to harvesting treatments. 2003-2004. National Council for Air and Stream Improvement. \$21,842.
- 59) Salamander species assemblage of headwater streams in southwest Georgia pre- and postharvesting. 2003-2004. National Council for Air and Stream Improvement. \$4,000.
- 60) Analysis of macroinvertebrate assemblages from Fakahatchee and Picayune Strands of the Everglades. 2003-2005. The Conservancy of Southwest Florida. \$32,000.
- 61) Aquatic macroinvertebrate assemblages in southwest Georgia headwater streams prior to harvesting treatments. 2004-2005. National Council for Air and Stream Improvement. \$13,200.
- 62) Timber harvesting effects on headwater influence in low order streams. 2004-2005. National Council for Air and Stream Improvement. \$21,325.
- 63) Salamander species community of headwater streams and surrounding habitats in southwest Georgia, pre- and post-harvesting. 2004-2005. National Council for Air and Stream Improvement. \$25,896.
- 64) Environmental coordination with University of Miami. 2004-2005. University of Miami. \$71,069.
- 65) Benthic invertebrate and salamander responses in headwater streams in southwest Georgia to timber harvesting. 2005-2006. National Council for Air and Stream Improvement. \$59,689.
- 66) Science partners in inquiry-based collaborative education II (SPICEII). 2006-2011. National Science Foundation. (Co-Principal Investigator with five others). \$1,993,026.
- 67) Benthic invertebrate and salamander responses in headwater streams in southwest Georgia to timber harvesting. 2006-2007. National Council for Air and Stream Improvement. \$75,908.
- 68) Urban Development, Power Relations, and Water Redistribution as Drivers of Wetland Change in the Tampa Bay Region Socioecosystem. 2009-2012. National Science Foundation ULTRA-EX. D. Lewis (PI) F. Akiwumi, T. Crisman, M. Rains, and R. Zarger (Co-PI). \$289,352.

- 69) Development of a Coordinated Watershed Approach for Linking Compensatory Mitigation and Tampa Bay Habitat Restoration Goals. 2009-2011. Tampa Bay Estuary Program. T.L.Crisman (PI) S. Bell, S. Landry, M. Rains, M. Stewart (Co-PI). \$94,561.
- 70) St. Lucie County Wetland Inventory and Evaluation Study. 2009-2010. St. Lucie County, Florida. M.C. Rains and T.L. Crisman. \$84,655.
- 71) Subtropical-Tropical Cooperative Program in Management of Coastal Urban Watersheds. 2010. USF GAP Program. \$10,000.
- 72) Water Quality Sampling, Training and Capacity Building on the North-East Coast of Dominican Republic. 2010. Institute for the Study of Latin America and the Caribbean. University of South Florida. \$5,700.
- 73) An Integrated Approach to Health/Environment/Community in Panama. 2011-2012. College of Public Health, University of South Florida. \$99,998.

COMPLETED M.S. STUDENTS FOR WHICH I WAS CHAIRMAN

- 1) Roger A. Conley. November 11, 1977. Non-thesis project. Phytoplankton succession in Lake Conway, Florida.
- 2) Charles P. Feerick. November 28, 1977. Studies of the periphyton community of Lake Conway, Florida.
- 3) Joann Wirth. April 21, 1978. Non-thesis project. Nutrient release during decomposition of aquatic macrophytes.
- 4) Michael A. Mallin. October 13, 1978. Zooplankton populations dynamics in the Oklawaha lakes.
- 5) Gary S. Comp. August 10, 1979. Diel and seasonal patterns in the vertical distribution of zooplankton in Lake Conway, Florida.
- 6) Brian E. LaPointe. November 21, 1979. The effects of light and nutrients on the biochemical composition and growth of the sealettuce Ulva fasciata Delile.
- 7) Thomas W. Hall. December 4, 1979. Factors affecting the operation of a wastewater treatment system for the production of microalgae.
- 8) Sandra K. Lemlich. May 23, 1980. Non-thesis project. Growth response of bald cypress to long-term application of domestic sewage.
- 9) Randy L. Schulze. June 11, 1980. The biotic response to acid precipitation in Florida lakes.
- 10) Charles A. Biedermann. October 31, 1980. Phytoplankton population dynamics in Lake Apopka and the upper Oklawaha chain of lakes.
- 11) Stephen B. Linda. November 10, 1980. Non-thesis student, Department of Botany,

University of Florida.

- 12) John R. Beaver. November 14, 1980. The distribution of planktonic ciliated protozoans in thirty Florida lakes of varying trophic state.
- 13) Helen M. Kennedy. July 24, 1981. The use of experimental tanks to simulate the effects of gizzard shad Dorosoma cepedianum (LeSueur), on algal composition and nutrient regeneration in a eutrophic Florida lake.
- 14) Nancy M. Gourlie. December 4, 1981. Non-thesis project. The effect of low pH on survival and grazing rates of Diaptomus floridanus.
- 15) Scott A. Russell, April 9, 1982. Diel vertical migration in a subtropical doline lake.
- 16) Raymond W. Bienert, Jr. July 20, 1982. The plankton communities of selected colored lakes in north-central Florida.
- 17) Robert A. Garren. October 22, 1982. Macrophyte species composition - trophic state relationships in fourteen north and north-central Florida lakes.
- 18) Brenda F. Wozniak. November 23, 1982. The effects of aflatoxin B₁ on the immune system of piglets.
- 19) Phillip D. Sacco. April 6, 1983. Non-thesis project. The distribution of two adjacent snail populations: A result of thermal effluent or habitat?
- 20) Randall R. Williams. April 6, 1983. Non-thesis project. Relocation of freshwater unionid mollusks to new habitats.
- 21) James S. Bays. April 27, 1983. Zooplankton trophic state relationships and seasonality in Florida lakes.
- 22) Sheridan Kidd Haack. February 24, 1984. Aquatic macroinvertebrate community structure in a forested wetland: Interrelationships with environmental parameters.
- 23) Duncan J. Cairns. August 20, 1984. Non-thesis project. Protozoan colonization of artificial substrates at varying depth in two north-central Florida lakes of differing color.
- 24) Anne E. Keller. November 20, 1984. Fish communities in Florida lakes: Relationship to physico-chemical parameters.
- 25) Chandler L. Clarkson. March 5, 1985. Macrophyte species distributions and tissue chemical composition in acidic Florida lakes.
- 26) Richard W. Ruble. August 23, 1985. Non-thesis project. Evidence against the success of an attempt to mix the bottom sediments of Lake Brooker, Florida as shown by fossil diatom stratigraphy.
- 27) Jeri T. Reinholtz. March 20, 1986. Non-thesis project. Effects of dessication and chlorination on the asiatic clam Corbicula fluminea.
- 28) Eugene W. Medley. October 3, 1989. Phytoplankton communities of 58 acidic lakes in the Ocala National Forest.

- 29) Henry Meier. November 13, 1989. Macroinvertebrate community structure in a first order sand bottom stream in Florida.
- 30) John H. Kiefer. September 5, 1991. Chemical functions and water quality in marshes reclaimed on phosphate mined lands in central Florida.
- 31) Vani Nilakantan. December 3, 1991. Non-thesis Project. Bacterioplankton dynamics in Florida lakes.
- 32) Andrew Woodruff. December 1, 1992. Florida springs chemical classification and aquatic biological communities.
- 33) Laurence O. Goodkin. November 5, 1993. Temperature and salinity tolerance of selected nonindigenous fishes established or collected in the State of Florida.
- 34) Hugo A. Guillen. January 5, 1994. Design and construction of a baffled plug-flow digester in a rural farm in tropical southern Mexico.
- 35) David R. Ferro. May 6, 1994. Non-thesis Project. Osprey foraging on Rodman Reservoir.
- 36) Heather Kuntz. August 23, 1994. Little Lake Weir: A paleolimnological investigation of progressive cultural eutrophication
- 37) Christine M. Keenan. November 22, 1994. A preliminary evaluation of zooplankton in constructed wetlands: Sample size determination and spatial patterns.
- 38) Jeffrey L. Johnson. January 5, 1995. Effect of drawdown on the seed bank of a central Florida lake.
- 39) Valma R. Jessamy. March 23, 1995. Comparison of summer macroinvertebrate community structure in reclaimed phosphate-mined streams of central Florida.
- 40) Andrea J. Leslie. May 29, 1996. Structure of benthic macroinvertebrate communities in natural and clearcut cypress ponds of north Florida.
- 41) Douglas Scott Simpkins. July 26, 1996. Non-thesis Project. An analysis of the elemental sedimentary history of Lake Apopka, Florida.
- 42) Ima C. Bujak. November 12, 1996. Factors influencing the disappearance of the Cisco, *Coregonus artedii*, from northern Indiana lakes.
- 43) Karl A. Bullock. March 26, 1997. Wetland macroinvertebrate community response to altered nutrient and hydrology regimes from reclaimed water addition in Orange County, Florida.
- 44) Matthew G. Doty. January 5, 1998. Non-thesis Project. Relationships between chydorid cladoceran assemblages and macrophyte species composition in a central Florida constructed wetland.
- 45) Amanda R. Miles. April 23, 1998. Non-thesis Project. Seasonal and diurnal patterns of dissolved oxygen in a Florida swamp.
- 46) Tonya D. Cheek. April 24, 1998. Non-thesis Project. Historical trends in golf course design and the role of golf courses in greenway connections: a case study in Collier County, Florida.

- 47) G. Mark Otto. May 6, 1998. An evaluation of *Cyperus papyrus* for wastewater treatment in eastern equatorial Africa.
- 48) Susan L. Hetrick. December 4, 1998. Non-thesis Project. Vegetation and benthic macroinvertebrate community changes in Florida pondcypress swamps following clearcutting.
- 49) Danielle M. Gephardt. December 9, 1998. Non-thesis Project. Uptake abilities and hydrological regimes of select wetland and aquatic plants.
- 50) Michelle L. Cangelosi. December 14, 1998. Non-thesis Project. Post 1880 chronology of sediment and phosphorus accumulation rates in Lake Nabugabo, Uganda.
- 51) Nadine Orrell. April 5, 1999. Non-thesis Project. Paleolimnological investigation of Lake Conway, Florida.
- 52) Michael Stevens. December 3, 1999. Non-thesis Project. Sweetwater Branch stream restoration design.
- 53) Francis Bennett. December 9, 1999. Non-thesis Project. The effects of emergent macrophytes on infiltration in stormwater basins.
- 54) Byron Shumate. December 10, 1999. Non-thesis Project. A feasibility study for the use of cladocerans as paleoindicators in Florida
- 55) Christopher R. Roberts. March 16, 2000. Zooplankton, macroinvertebrate and fish responses to hydrologic renovation of a pondcypress ecosystem in Tate's Hell Swamp, Florida.
- 56) Judith A. Fouts. April 25, 2000. Selecting parameters and taxonomic level of biotic indices for pH and trophic state in acidic Florida lakes.
- 57) Mark D. Fowlkes. April 26, 2000. Non-thesis Project. Effects of the herbicide imazapyr on benthic macroinvertebrates in a logged pond cypress dome.
- 58) Cara Stallman. April 27, 2000. Non-thesis Project. The paleolimnology of two tropical coastal freshwater ponds at Macae, RJ, Brazil.
- 59) Jennifer Hayworth. April 28, 2000. Non-thesis Project. The response of wetland benthic macroinvertebrates to short-term drawdown.
- 60) Kathlene Butler. June 21, 2000. Non-thesis Project. Lost Lake, IN phosphorus and water level trends for the past century.
- 61) Todd Z. Osborne. July 14, 2000. Fine particulate and dissolved organic carbon dynamics of a tropical watershed.
- 62) Karen L. Rogers. August 14, 2000. Non-thesis Project. Individual plant traits influencing macrophytic succession of mitigation marshes in central Florida.
- 63) James Patterson. August 18, 2000. Non-thesis Project. Assessment of water quality improvement measures within Lake Maxinkuckee, Indiana.
- 64) Laura Line. August 18, 2000. Non-thesis Project. Tumblin Creek water quality assessment.

- 65) Kerry J. McWalter. October 18, 2000. Non-thesis Project. Aerial canopy architecture and plant diversity of a valley papyrus (*Cyperus papyrus*) swamp in western Uganda.
- 66) Shannon P. Ludwig. May 4, 2001. Long-term community dynamics and composition of five South Florida plant communities.
- 67) Steven B. Eakin. August 15, 2001. Non-thesis Project. Zooplankton community structure and abundance in Florida Bay.
- 68) Robin L. Johnson. April 26, 2002. Non-thesis Project. Effects of dissolved oxygen substrate and macrophyte density on the abundance of benthos in Lake Conway, Florida.
- 69) Chrysoula Mitraki. February 25, 2003. Non-thesis Project. Effects of cultural eutrophication and hydrological alterations in Lake Koronia, Greece.
- 70) Joshua J. Muller. August 20, 2003. CNRE Non-thesis Project. Characterization of vegetation within the Northwest Eighth Avenue Floodplain of Hogtown Creek.
- 71) Tonya M. Clauss. January 5, 2004. Non-thesis Project. Progressive hypoxia tolerance of eleven species of native freshwater fishes in Florida.
- 72) James L. Myles. January 5, 2004. Non-thesis Project. Assessment of tree mortality in the Hogtown Creek floodplain in Gainesville, Florida.
- 73) Stacie Greco. July 1, 2004. Biogeochemical comparison of wetlands within the southeastern United States.
- 74) Rebecca T. Winn. November 30, 2004. Aquatic macroinvertebrate assemblages in southwest Georgia headwater streams.
- 75) Brandon Tidwell. December 9, 2004. SNRE Non-thesis Project. A summer survey of anurans utilizing constructed stormwater detention ponds in north-central Florida.
- 76) Brooke Talley. April 20, 2005. Non-thesis Project. Dipnet and litterbag sampling techniques for larval *Eurycea cirrigera*: capture and size-class analyses.
- 77) Danny Coenen. June 20, 2005. SNRE. Interannual lake temperature trends as indicators for climatic change in Florida.
- 78) Brian Abrams. August 17, 2006. Non-thesis Project. Use of a constructed wetland for trapping sediment at a canine recreational facility.
- 79) Suzanne Moellendorf. March 9, 2007. Non-thesis Project. Ecohydrology of tropical dry forest streams in Costa Rica: Impact of altered stream hydrology on stream biota in the dry to wet season transition.
- 80) Elizabeth Salisbury. April 13, 2007. Non-thesis Project. Impacts of exotic riparian plants on the structure and function of a stream in southern Florida.
- 81) William Eckman. April 24, 2007. SNRE Non-thesis Project. Relationship of *Pediastrum* distribution to water chemistry and trophic state in Minnesota lakes.

- 82) Cody R. McNeeley. October 29, 2007. Role of beaver impoundments on the structure and function of southern Georgia streams.
- 83) Diane Bennett. December 6, 2007. Amphibian response to forest management practices in southwestern Georgia.
- 84) Shannon McMorrow. December 7, 2007. Impacts of road crossings on headwater streams.
- 85) Christopher Haggerty. April 5, 2010. Annuran and tree community structure of cypress domes in Tampa, Florida relative to time since incorporation within the urban landscape.
- 86) Nataniel L. Goddard. April 13, 2010. Bird communities of isolated cypress wetlands along an urban gradient in Hillsborough County, Florida.

COMPLETED Ph.D. STUDENTS FOR WHICH I WAS CHAIRMAN

- 1) Jeffery A. Foran. November 16, 1983. An analysis of competition on daphnid species diversity, or why are there so few species of *Daphnia* in the subtropics and tropics?
- 2) John W. Caldwell. November 22, 1985. The response of seagrass community metabolism to natural and man-made turbidity.
- 3) Raymond W. Bienert, Jr. April 10, 1987. Zooplankton dynamics in an acidic, subtropical lake.
- 4) Anne E. Keller. October 18, 1989. Toxicity testing with fish, zooplankton and mussels: A comparison of sensitivities.
- 5) John R. Beaver. February 23, 1990. Importance of organic color, bacterioplankton and planktivore grazing in structuring ciliated protozoan communities in subtropical lakes.
- 6) Johan F. Gottgens. July 24, 1992. Quantitative impacts of lake level stabilization on nutrient and sediment dynamics: Coupling limnology with modeling.
- 7) Carlos A. Fernandes. January 24, 1994. Replacement of gizzard shad (*Dorosoma cepedianum*) by blue tilapia (*Tilapia aurea*) as a potential biomanipulation agent in eutrophic Florida lakes.
- 8) William J. Streever. January 5, 1995. A comparison of dipteran communities from natural and created wetlands in central Florida.
- 9) David L. Evans. August 22, 1996. Aquatic macroinvertebrate communities of constructed and natural freshwater marshes in central Florida.
- 10) Adrienne Cooper. July 24, 1998. Solar photochemical technology for potable water treatment: disinfection and detoxification.
- 11) Sherry Brandt-Williams. November 12, 1999. Evaluation of watershed control of two central Florida lakes: Newnans Lake and Lake Weir.
- 12) Robert Brock. August 15, 2000. Assessment of aquatic food web alterations in the presence

of the exotic clam, Corbicula fluminea, and cichlid, Oreochromis aureus.

- 13) Christopher R. Roberts. November 16, 2001. Riparian tree associations and storage, transport, and processing of particulate organic matter in a subtropical stream.
- 14) Wanda Fred Masifwa. April 7, 2003. Resurgence potential of water hyacinth (*Eichhornia crassipes* (Mart.) Solms) in Lake Victoria.
- 15) Ima Calzada Bujak. July 18, 2003. Effects of water-level fluctuations on phosphorus dynamics of two subtropical wetlands in Donana National Park, Spain and the Everglades, Florida, USA.
- 16) Byron C. Shumate. June 21, 2004. Cycling of organic matter in three soft-water subtropical lakes.
- 17) Marcus Griswold. June 16, 2008. Riparian zone management in coastal plain streams: multi-scale effects of habitat fragmentation.
- 18) Natalie Boodram. January 13, 2009. (Co-Chair with D. Zarin). The structure and composition of riparian vegetation in Trinidad: a baseline for conservation and restoration.
- 19) Suzanne M. Moellendorf. June 15, 2009. Effects of irrigation canals on stream ecosystems in a tropical dry forest region of Costa Rica.
- 20) Danny Coenen. July 21, 2010. Projecting regional climate change in Florida via GIS-based downscaling of a general circulation model.

RESEARCH ADVISOR FOR UNDERGRADUATE B.S. STUDENTS

- 1) Dario J. Medina. 1984. Effect of artificial total water column aeration on bottom sediments and sediment pigments in a eutrophic Florida lake. (Undergraduate thesis, Interdisciplinary Studies, UF).
- 2) Diane Bennett. 2006. Effects of survey protocol on detection probability for summer breeding anurans of North-Central Florida (Undergraduate thesis, University Scholars Program, UF).
- 3) Brittany Harrison. 2009. Effects of urbanization on temperature and conductivity of streams in northeast Hillsborough County, Florida. (Undergraduate thesis, Honors College, USF).

POSTDOCTORAL RESEARCH ASSOCIATES

1. Michael W. Binford. 1984. 210-Pb analysis of sediment cores from seven acidic Florida lakes. Funded by Electric Power Research Institute (EPRI).

CURRENT GRADUATE STUDENTS FOR WHICH I AM CHAIRMAN

Ph.D.:

- 1) Aaron Brown. Conservation value of isolated wetlands embedded within highly agricultural landscapes.
- 2) Hank Custin. Exotic clams and mussel gradients along tidal rivers of the Florida west coast.
- 3) Nate Goddard. Interactions between regional hydrology and migratory birds in the Tampa Bay region.
- 4) Chris Haggerty. Amphibian populations of freshwater marshes relative to a temporal gradient of urbanization.
- 5) Michelle Hoffman. Microtopography as a control over the structure and function of wetland invertebrate communities.
- 6) Chrysoula Mitraki. Evaluation of littoral zone structure and function in lakes created on phosphate mined lands.
- 7) Paul Thurman. Long-term trends in vegetation responses to groundwater pumping for domestic water supply in the metropolitan area.
- 8) William R. White. Impact of source type on the structure and function of headwater streams of northern Florida.

M.S. (Thesis):

- 1) Lauren van Maurik. Responses of crayfish in wetlands to excessive groundwater pumping.

Stephen M. Deban

Curriculum vitae

Current Position

Assistant Professor, Department of Biology, **University of South Florida**, Aug 2005-present

Current Address and Contact Information

Department of Integrative Biology, 4202 East Fowler Avenue, SCA 110, University of South Florida, Tampa, FL 33620, USA, sdeban@usf.edu, <http://debanlab.org>
Office Phone: 813-974-2242. Cell Phone: 813-454-8024

Research Focus

Evolution of the physiology and biomechanics of movement in animals.

Education

University of California Berkeley, Ph.D., Integrative Biology, 1991-1997, David B. Wake, advisor. Development and evolution of feeding behavior and functional morphology of salamanders of the family Plethodontidae, dissertation research topic.

Northern Arizona University, B.S., Biology, 1988-1991 *Summa cum laude*, Kiisa Nishkawa, mentor. Feeding function in the green tree frog, *Hyla cinerea*, thesis topic.

Previous Positions

Research Assistant Professor, Department of Biology, **University of Utah**, Oct 2004 – July 2005.

Postdoctoral Researcher, Department of Biology, **University of Utah**, Nov 1999 - Sept 2004. David Carrier, mentor. Locomotor and ventilatory biomechanics and functional morphology of vertebrates.

Visiting Postdoctoral Researcher, Department of Experimental Zoology, **University of Wageningen, Netherlands**, Sept – Dec 2002. Johan van Leeuwen, mentor. Salamander tongue projection mechanics.

Visiting Postdoctoral Researcher, Department of Biology, **University of Miami**, Sept – Dec 2001. James O'Reilly, mentor. Amphibian functional morphology.

Postdoctoral Researcher, Brain Research Institute, **University of Bremen, Germany**, Apr – Nov 1999. Gerhard Roth, mentor. Salamander feeding motor control.

Fellow, **Hanse Institute for Advanced Study, Germany**, Jan – Dec 1998. Gerhard Roth, mentor. Salamander feeding motor control.

Grants and Fellowships

NSF Grant Award, “Extreme performance at low temperature: ballistic tongue projection in salamanders and chameleons.” **Awarded \$237,728 + \$6,000 REU**, February, 2009.

Updated January 9, 2012

NSF Grant Proposal, “Integration of Biomechanics and Physiology in Human Throwing,” submitted July, 2006. ~\$250,000, submitted. Declined December, 2006.

NSF Grant Proposal, “Integration of Biomechanics and Physiology in Human Throwing,” submitted January, 2005. \$254,625, submitted. Declined June, 2005.
NIH NRSA, 2001, not funded.

Hanse Institute for Advanced Study Fellowship, Germany, 1998
NSF Postdoctoral Fellowship, 1997, not funded

Annie Alexander Fellowship, Museum of Vertebrate Zoology, U.C. Berkeley, 1996
Regents Fellowship, U.C. Berkeley, 1995

Junea W. Kelly Fellowship, Dept. of Integrative Biology, U.C. Berkeley, 1994
U.C. Berkeley Vice Chancellor Research Fund Award, 1994

Sigma Xi Grant-in-Aid of Research, 1994

Kellogg Research Grant-in-Aid, Museum of Vertebrate Zoology, 1993

Regents Fellowship, U.C. Berkeley, 1991-92

Honors

Outstanding Graduate Student Instructor, U.C. Berkeley, 1995-96
NSF Pre-doctoral Fellowship Competition, Honorable Mention, 1991, 1992

Scholarships and Awards

Outstanding Senior Award, College of Arts and Sciences, Northern Arizona Univ., 1991
McDonald-Rolle Scholarship, Northern Ariz. Univ., 1990-91
Eugene & Marjory Bayless Award, Northern Ariz. Univ., 1990-91
Business Office Comptroller's Scholarship, Northern Ariz. Univ., 1989-90
Kenneth E. Derifield Memorial Scholarship, Northern Ariz. Univ., 1989-90

Peer-Reviewed Publications

†undergraduate student, *graduate student, reprints at Debanlab.org

1. Deban, S.M., N. Schilling and D.R. Carrier. 2012. Activity of extrinsic limb muscles in dogsat walk, trot and gallop. ***Journal of Experimental Biology*** 215: 287-300.
2. Deban, S.M. and J.C. Richardson†. 2011. Cold-blooded snipers: thermal independence of ballistic tongue projection in the salamander *Hydromantes platycephalus*. ***Journal of Experimental Zoology*** 315: 618-630.
3. Deban, S.M. and A.K. Lappin. Thermal effects on the dynamics and motor control of ballistic prey capture in toads: maintaining high performance at low temperature. ***Journal of Experimental Biology*** 214, 1333-1346.
4. Habegger, M.L*, P.J. Motta, D.R. Huber and S.M. Deban. 2010. Feeding biomechanics in the Great Barracuda during ontogeny. ***Journal of Zoology*** 283, 63-72.
5. Ryerson, W.G.* and S.M. Deban 2010. Buccal pumping mechanics of *Xenopus laevis* tadpoles: effects of biotic and abiotic factors. ***Journal of Experimental Biology*** 213, 2444-2452.
6. Anderson, C.V.* and Deban, S.M. 2010. Ballistic tongue projection in chameleons maintains high performance at low temperature. ***Proceedings of the National Academy of Sciences***.107: 5495-5499.
7. Schilling, N. and Deban, S. M. 2010. Fiber-type distribution of the perivertebral musculature in *Ambystoma*. ***Journal of Morphology*** 271, 200-214.
8. Deban, S. M. and Schilling, N. 2009. Activity of trunk muscles during aquatic and terrestrial locomotion in *Ambystoma maculatum*. ***Journal of Experimental Biology*** 212, 2949-2959.
9. Herrel, A., Deban, S. M., Schaerlaeken, V., Timmermans, J. P. and Adriaens, D. 2009. Are morphological specializations of the hyolingual system in chameleons and salamanders tuned to demands on performance? ***Physiological and Biochemical Zoology*** 82, 29-39.
10. Carrier, D.R., S.M. Deban and T. Fischbein†. 2008. Locomotor function of forelimb protractor and retractor muscles of dogs: evidence of strut-like behavior at the shoulder. ***Journal of Experimental Biology*** 211: 150-162.
11. Deban, S. M., O'Reilly, J. C., Dicke, U. and van Leeuwen, J. L. 2007. Extremely high-power tongue projection in plethodontid salamanders. ***Journal of Experimental Biology*** 210: 655-667.

12. Carrier, D.R., S.M. Deban and T. Fischbein†. 2006. Locomotor function of the pectoral girdle 'muscular sling' in trotting dogs. ***Journal of Experimental Biology*** 209: 2224-2237.
13. Deban, S.M. and O'Reilly, J.C. 2005. The ontogeny of feeding kinematics in a giant salamander, *Cryptobranchus alleganiensis*: does current function or phylogenetic relatedness predict the scaling patterns of movement? ***Zoology*** 108: 155-167.
14. Deban, S.M. and U. Dicke. 2004. Activation patterns of the tongue-projector muscle during feeding in the imperial cave salamander, *Hydromantes imperialis*. ***Journal of Experimental Biology*** 207: 2071-2081.
15. Deban, S.M. 2003. Constraint and convergence in the evolution of salamander feeding. In: ***Vertebrate Biomechanics and Evolution***, J.-P. Gasc, A. Casinos, and V.L. Bels, eds., BIOS Scientific Publishers, Oxford. 163-180.
16. Deban, S.M. and W.M. Olson. 2002. Suction feeding by a tiny predatory tadpole. ***Nature*** 420: 41-42.
17. O'Reilly, J.C., S.M. Deban and K.C. Nishikawa. 2002. Derived life history characteristics constrain the evolution of aquatic feeding behavior in adult amphibians. In: ***Topics in Functional and Ecological Vertebrate Morphology: A Tribute to Frits de Vree***. P. Aerts, K. D'Août, A. Herrel & R. van Damme, eds., Shaker Publishing, Maastricht, The Netherlands. pp. 153-190.
18. Deban, S.M. and D.R. Carrier. 2002. Hypaxial muscle activity during running and breathing in dogs. ***Journal of Experimental Biology*** 205: 1953-1967.
19. Carrier, D.R., S.M. Deban and J. Otterstrom†. 2002. The face that sank the *Essex*: potential function of the spermaceti organ in aggression. ***Journal of Experimental Biology*** 205: 1755-1763.
20. Snelderwaard, P., J. De Groot and S.M. Deban. 2002. Digital video combined with conventional radiography creates an excellent high-speed X-ray video system. ***Journal of Biomechanics***: 35: 1007-1009.
21. Deban, S.M. and S. B. Marks. 2002. Metamorphosis and evolution of feeding behavior in salamanders of the family Plethodontidae. ***Zoological Journal of the Linnean Society***. 134: 375-400.
22. Deban, S.M., J.C. O'Reilly and K.C. Nishikawa. 2001. The evolution of the motor control of feeding in amphibians. ***American Zoologist*** 41: 1280-1298.
23. Lee, D.V.*, R.M. Walter*, S.M. Deban and D.R. Carrier. 2001. Influence of increased rotational inertia on the turning performance of humans. ***Journal of Experimental Biology***, 204: 3927-3934.

24. Deban, S.M. and D.B. Wake 2000. Aquatic Feeding in Salamanders, In: ***Feeding: form, function and evolution in tetrapod vertebrates***. K. Schwenk, ed., Academic Press, San Diego. 65-94.
25. Wake, D.B. and S.M. Deban 2000. Terrestrial Feeding in Salamanders, In: ***Feeding: form, function and evolution in tetrapod vertebrates***. K. Schwenk, ed., Academic Press, San Diego. 95-116.
26. Deban, S.M. and U. Dicke. 1999. Motor control of tongue movement during prey capture in plethodontid salamanders. ***Journal of Experimental Biology*** 202: 3699-3714.
27. Deban, S.M., D.B. Wake, and G. Roth. 1997. Salamander with a ballistic tongue. ***Nature*** 389: 27-28.
28. Deban, S.M. 1997. Modulation of prey-capture behavior in the plethodontid salamander *Ensatina eschscholtzii*. ***Journal of Experimental Biology*** 200: 1951-1964.
29. García-París, M. and S.M. Deban. 1995. A novel antipredator mechanism in salamanders: rolling escape in *Hydromantes platycephalus*. ***Journal of Herpetology*** 29: 149-151.
30. Deban, S.M., J.C. O'Reilly, and T.C. Theimer. 1994. Mechanism of defensive inflation in the chuckwalla, *Sauromalus obesus*. ***Journal of Experimental Zoology*** 270: 451-459.
31. Nishikawa, K.C., C.W. Anderson, S.M. Deban, and J.C. O'Reilly. 1992. The evolution of neural circuits controlling feeding behavior in frogs. ***Brain, Behavior and Evolution*** 40: 125-140.
32. Deban, S.M. and K.C. Nishikawa. 1992. The kinematics of prey capture and the mechanism of tongue protrusion in the green tree frog *Hyla cinerea*. ***Journal of Experimental Biology*** 170: 235-256.

Published Abstracts

1. Deban, S.M. and N. Schilling. (2007). Axial muscle function in the salamander *Ambystoma*. *Journal of Morphology*.
2. Deban, S.M. (2007). Feeding functional morphology of extant amphibians. *Journal of Morphology*.
3. Herrel, A, J.J. Meyers, S.M. Deban, N. Muchala, and J.P. Timmermans. (2007). Lick, shoot and flick: the evolution of highly specialised tongue protrusion systems in vertebrates. *Journal of Morphology*.

4. Deban, S.M. (2006). Evolution of amphibian feeding mechanics. In: Evolution of feeding mechanisms in vertebrates. *Integrative and Comparative Biology*.
5. O'Reilly, J.C., C.R. Infante, D.B. Fenolio, and S.M Deban. (2005). Prey capture in macrophagous tadpoles. *Integrative and Comparative Biology* 45:1052
6. Deban, S.M, T. Fischbein†, E. Stakebake* and D. Carrier. (2005). Function of the forelimb extrinsic appendicular muscles in trotting dogs. *Integrative and Comparative Biology* 44: 688.
7. Deban, S.M., J.C. O'Reilly, U. Dicke and J. van Leeuwen. (2004). Tongue projection in plethodontid salamanders: a high-power ballistic system. *Journal of Morphology* 260.
8. Deban, S.M., J.C. O'Reilly, U. Dicke and J. van Leeuwen. (2003). Extremely high-power tongue projection in plethodontid salamanders. *Integrative and Comparative Biology* 43: 980.
9. O'Reilly, J.C., A. Herrel, S.M. Deban, J.J. Meyers, K.C. Nishikawa and S.L. Lindstedt. (2002). Ontogenetic scaling of speed and force in the feeding systems of ectothermic vertebrates. *Faseb Journal* 16: A47-A47.
10. Deban, S.M., J. Otterstrom and D.R. Carrier. 2001. The face that sunk the Essex. *American Zoologist* 41: 1425.
11. Deban, S.M. 2001. Functional morphology of tongue projection in salamanders. *Journal of Morphology* 248: 222.
12. Deban, S.M. 2001. Novelties in the evolution of amphibian feeding. *Journal of Morphology* 248: 223.
13. Snelderwaard P.C., J.H. De Groot and S.M. Deban. 2001. Digital video combined with conventional radiography creates an excellent high speed X-ray video system. *Journal of Morphology* 248: 286.
14. Deban, S.M. , J.C. O'Reilly, K.C. Nishikawa. 2001. The evolution of the motor control of feeding in amphibians. *American Zoologist* 40: 994.
15. Deban, S.M. 1999. Motor control of feeding in plethodontid salamanders. *American Zoologist* 38: 200A.
16. Deban, S.M. 1998. Ballistic tongue projection in bolitoglossine salamanders (Caudata: Plethodontidae). *American Zoologist* 37: 136A.
17. Deban, S.M. and J.C. O'Reilly 1997. Scaling of the kinematics and motor control of prey capture in salamanders and toads. *Journal of Morphology* 232: 246.

18. Deban, S.M. and J.C. O'Reilly 1996. Kinematic isometry and allometry of prey capture in the hellbender, *Cryptobranchus alleganiensis*. *American Zoologist* 36: 84A. Updated January 9, 2012
19. Deban, S.M. 1995. Modulation of prey-capture behavior in plethodontid salamanders. *American Zoologist* 35: 104A.
20. Deban, S.M. 1994. The metamorphosis of prey-capture functional morphology in plethodontid salamanders. *Journal of Morphology* 220: 339.
21. Deban, S.M. and S.B. Marks 1992. Aquatic prey capture in plethodontid salamanders. *American Zoologist* 32: 140A.
22. O'Reilly, J.C. and S.M. Deban 1991. The evolution of aquatic prey capture in amphibians: phylogenetic constraints and exaptations. *American Zoologist* 31: 17A.
23. Deban, S.M. and T. Theimer 1991. The mechanism of defensive inflation in the chuckwalla. *American Zoologist* 31: 18A.
24. Deban, S.M. and K.C. Nishikawa 1990. The mechanism of tongue protrusion in *Hyla cinerea* and its evolutionary implications. *American Zoologist* 30: 141A.

Contributed Papers

*graduate student, †undergraduate student

1. Thermal effects on the performance, motor control, and muscle dynamics of tongue projection in a plethodontid salamander. C.V. Anderson*, N. Larghi*, S. Creemers†, and S.M. Deban. Society for Integrative and Comparative Biology 2012 Annual Meeting.
1. Evolution of elastic mechanisms in salamander tongues. S. Deban, C.V. Anderson*, N. Larghi*, P. Sandusky*. Society for Integrative and Comparative Biology 2012 Annual Meeting.
2. Activity of extrinsic forelimb and hindlimb muscles in dogs while walking, trotting and galloping. S.M. Deban, N. Schilling, and D.R. Carrier. Society for Integrative and Comparative Biology 2011 Annual Meeting.
3. Temperature insensitivity of prey-capture dynamics in *Rana pipiens* reveals an elastic recoil mechanism. P.E. Sandusky* and S.M. Deban. Society for Integrative and Comparative Biology 2011 Annual Meeting.
4. Effects of temperature on in vitro muscle dynamics of chameleon feeding muscles. C.V. Anderson* and S.M. Deban. Society for Integrative and Comparative Biology 2011 Annual Meeting.
5. Thermal effects on the performance, motor control, and muscle dynamics of tongue

- projection in chameleons. C.V. Anderson* and S.M. Deban. 9th International Congress of Vertebrate Morphology, 2010.
6. Cold-blooded snipers: amphibians circumvent physiological constraints to launch ballistic tongues. S.M. Deban and A.K. Lappin. 9th International Congress of Vertebrate Morphology, 2010.
 7. Evolution of the epaxial muscle function in tetrapods. N. Schilling, D. R. Carrier, S. M. Deban, S. Moritz. 9th International Congress of Vertebrate Morphology, 2010.
 8. Scaling relationships of the tongue apparatus in the Family Chamaeleonidae. T.A. Sheridan†, C.V. Anderson* and S.M. Deban. Society for Integrative and Comparative Biology 2010 Annual Meeting. *Updated January 9, 2012*
 9. Effects of temperature on the motor control of chameleon feeding. C.V. Anderson* and S.M. Deban. Society for Integrative and Comparative Biology 2010 Annual Meeting.
 10. Temperature effects on the motor control of ballistic prey capture in toads. S.M. Deban and A.K. Lappin. Society for Integrative and Comparative Biology 2010 Annual Meeting.
 11. Low thermal dependence of elastically-powered movement in salamanders. S.M. Deban. Society for Integrative and Comparative Biology 2009 Annual Meeting.
 12. Scaling of suspension feeding in tadpoles. W.G. Ryerson*, and S.M. Deban. Society for Integrative and Comparative Biology 2009 Annual Meeting.
 13. Chameleons maintain high-performance tongue projection at low temperature. C.V. Anderson* and S.M. Deban. Society for Integrative and Comparative Biology 2009 Annual Meeting.
 14. Axial muscle function in the salamander *Ambystoma*. 8th International Congress of Vertebrate Morphology, 2007. Abstract listed above.
 15. High power tongue projection in salamanders. 12th Benelux Congress of Zoology, 2005.
 16. Tongue projection in plethodontid salamanders: a high-power ballistic system. 7th International Congress of Vertebrate Morphology, 2004. Abstract listed above.
 17. Extremely high-power tongue projection in plethodontid salamanders. Society for Integrative and Comparative Biology 2004 Annual Meeting. Abstract listed above.
 18. Influence of increased rotational inertia on human turning performance. 2002 World Congress of Biomechanics.

19. The face that sunk the *Essex*. Society for Integrative and Comparative Biology 2002 Annual Meeting. Abstract listed above.
20. The evolution of the motor control of feeding in amphibians. Society for Integrative and Comparative Biology 2001 Annual Meeting. Abstract listed above.
21. Functional morphology of tongue projection in salamanders. 6th International Congress of Vertebrate Morphology, 2001. Abstract listed above.
22. Novelties in the evolution of amphibian feeding. 6th International Congress of Vertebrate Morphology, 2001. Abstract listed above.
23. The radically divergent feeding mechanism of *Hymenochirus tadpoles*. American Society of Ichthyologists and Herpetologists. 80th Annual Meeting. June 2000.
24. Motor control of feeding in plethodontid salamanders. Society for Integrative and Comparative Biology 1999 Annual Meeting. Abstract listed above.
25. Functional morphology of plethodontid feeding: evolution and development. Fourth Highlands Conference on the Biology of Plethodontid Salamanders. June 1998.
26. Ballistic tongue projection in bolitoglossine salamanders (Caudata: Plethodontidae). Society for Integrative and Comparative Biology 1998 Annual Meeting. Abstract listed above.
27. Scaling of the kinematics and motor control of prey capture in salamanders and toads. 5th International Congress of Vertebrate Morphology, Bristol, UK, 1997. Abstract listed above. *Updated January 9, 2012*
28. Kinematic isometry and allometry of prey capture in the hellbender, *Cryptobranchus alleganiensis*. Society for Integrative and Comparative Biology 1996 Annual Meeting. Abstract listed above.
29. Lateral tongue aiming in *Salamandrella keyserlingi* (Caudata: Hynobiidae). American Society of Ichthyologists and Herpetologists 1996 Annual Meeting.
30. **Symposium Organizer:** Evolutionary patterns of amphibian development. Presentation: Evolution and development of prey capture morphology and behavior in salamanders. Society for the Study of Amphibians and Reptiles, 1995 Meeting.
31. Modulation of prey-capture behavior in plethodontid salamanders. American Society of Zoologists 1995 Annual Meeting. Abstract listed above.
32. The metamorphosis of prey-capture functional morphology in plethodontid salamanders. 4th International Congress of Vertebrate Morphology, Chicago, 1994. Abstract listed above.

33. Aquatic prey capture in plethodontid salamanders. American Society of Zoologists 1992 Annual Meeting. Abstract listed above.
34. The mechanism of defensive inflation in the chuckwalla. American Society of Zoologists 1991 Annual Meeting. Abstract listed above.
35. The mechanism of tongue protrusion in *Hyla cinerea* and its evolutionary implications. American Society of Zoologists 1990 Annual Meeting. Abstract listed above.

Symposium Presentations

1. Convergent evolution of high power tongue projection in plethodontid salamanders. Fifth Conference of the Biology of Plethodontid Salamanders, Chiapas, Mexico, August 2007.
2. Feeding functional morphology of extant amphibians. In: The ancestry of modern amphibians. 8th International Congress of Vertebrate Morphology, Paris, 2007. Abstract listed above.
3. Evolution of amphibian feeding mechanics. In: Evolution of feeding mechanisms in vertebrates. Annual Meeting of Society for Integrative and Comparative Biology. 2007.
4. Derived life history characteristics constrain the evolution of aquatic feeding behavior in adult amphibians. In: Topics in Functional and Ecological Vertebrate Morphology: A Tribute to Frits de Vree. Antwerp, Belgium. 2002.
5. Functional morphology of tongue projection in salamanders. Symposium: Biomechanics of feeding. 6th International Congress of Vertebrate Morphology. Jena, Germany. 2001.
6. Novelties in the evolution of amphibian feeding. In: The emergence of novelties in morphological evolution. 6th International Congress of Vertebrate Morphology. Jena, Germany. 2001.
7. Constraint and convergence in the evolution of salamander feeding. In: Biomechanics and evolution. Annual Meeting of the Society for Experimental Biology. Canterbury, United Kingdom. 2001.
8. The evolution of the motor control of feeding in amphibians. In: Motor control of vertebrate feeding: function and evolution. Annual Meeting of Society for Integrative and Comparative Biology. 2001. *Updated January 9, 2012*

Invited Seminars

1. Cold-blooded snipers: ectotherms circumvent physiological constraints to launch ballistic tongues. **Brown University**. November, 2010.
2. Launching a ballistic tongue: muscles and springs in animal movement. **University of Florida**. October, 2009.
3. Circumventing a physiological constraint: high performance at low temperature in springloaded musculoskeletal systems. **University of Chicago**. November, 2009.
4. High power tongue projection in salamanders. **Lehigh University**. November, 2007
5. Prey capture in salamanders: biomechanics and motor control of tongue projection. Institut für Spezielle Zoologie und Evolutionsbiologie mit Phyletischem Museum, **Friedrich-Schiller-Universität**, Jena, Germany. July, 2007.
6. High power tongue projection in salamanders. **Northern Arizona University**. November, 2005.
7. Physiology and biomechanics of movement in vertebrates: examples from humans to salamanders. Department of Biology. **University of South Florida**. February, 2005.
8. Evolution and physiology of salamander feeding behavior. Department of Biology. **University of Louisiana at Monroe**. February, 2004.
9. The evolution of amphibian feeding: biomechanics, development, and motor control. Department of Organismal Biology and Anatomy, **University of Chicago**. April, 2003.
10. Evolutionary morphology of amphibian feeding systems. Department of Biology, **Utah State University**. February, 2003.
11. Tongue form and function in salamanders. Department of Experiment Zoology, **University of Wageningen, The Netherlands**. October 2002.
12. Biomechanics and evolution of feeding in salamanders. Department of Biology, **University of Miami**. September 2001.
13. Coordination and plasticity of feeding movements in salamanders. Institute of Evolutionary and Ecological Sciences, **University of Leiden, The Netherlands**. December 1998.

14. Motor control of feeding in salamanders. Hanse Institute for Advanced Study, Delmenhorst, Germany. November 1998.
15. Development and evolution of feeding behavior and functional morphology in salamanders of the family Plethodontidae. Department of Integrative Biology, **University of California, Berkeley**. March 1998.
16. Evolution and development of feeding functional morphology in salamanders. Section of Ecology and Systematics, **Cornell University**. March 1997.

Service

Professional Societies:

SICB Student Support Committee - Member 2007-2010

SICB Division of Comparative Biomechanics - Program Officer 2010-2012

Professional Journals:

Journal of Experimental Zoology A - Guest Associate Editor 2010

Updated January 9, 2012

Frontiers in Aquatic Physiology - Review Editorial Board 2009-present

Referee for journals:

Anatomical Record, Animal Biology, Belgian Journal of Zoology, Biological Bulletin, Evolution, Functional Ecology, Journal of Morphology, Journal of Herpetology, Journal of Experimental Biology, Herpetologica, Journal of Comparative Physiology A, Journal of Experimental Zoology, Nature, Zoology, Physiological and Biochemical Zoology, Royal Society Interface

Reviewer or panelist for granting agencies:

National Science Foundation (Sept 2009, Spring, Fall 2010, Spring 2011).

Professional Memberships

International Society of Vertebrate Morphologists, Society for Integrative and Comparative Biology, American Society of Ichthyologists and Herpetologists

Teaching

University of South Florida, Department of Biology

Physiology of Movement, Spring 2008, Fall 2009, Fall 2010.

General Physiology, Spring 2006, Fall 2006, 2007, 2008, Spring 2009, 2010, 2011.

Comparative Approaches in Evolutionary Biology, Spring 2007.

U.C. Berkeley, Graduate Student Instructor, Department of Integrative Biology

Evolution, 1996, '95, '94; **Natural History of the Vertebrates**, 1993, 1996;

Herpetology, 1994;

Introductory Biology, 1992

Museum Curation

U.C. Berkeley, Museum Scientist, **Computer support**, Museum of Vertebrate Zoology, 1996,97

U.C. Berkeley, Museum Scientist, **Herpetology**, Museum of Vertebrate Zoology, 1992,
'93,'94 *Updated January 9, 2012*

Gordon A. Fox - Curriculum Vitae

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Education

- University of California, Davis, 1989-92. *NSF Postdoctoral Fellow, 1991-92.* Experimental quantitative genetics with desert annual plants. *Postdoctoral Research Associate 1989-90.* Theoretical ecology and population genetics, with [Alan Hastings](#).
- University of Arizona, 1983-89. Ph.D., Ecology and Evolutionary Biology, 1989. Major professor: [W. M. Schaffer](#). Dissertation title: Adaptation, history, and development in the evolution of a desert annual life history.
- Johns Hopkins University, 1980-83. Coursework in biology and mathematics.
- University of California, Berkeley, 1972-75. B.A. in History, 1975.
- Case Western Reserve University, 1970-71. History.

Experience

Professional appointments

- University of South Florida. Associate Professor, 2005-present. Assistant Professor, Department of Biology, 1999-2005. *Courses taught:* Principles of Ecology, Conservation Biology, Introduction to Environmental Science, Ecology of Plants.
- San Diego State University. Research Assistant Professor, 1997-9; Lecturer and Research Associate, 1994-96. *Courses taught:* Conservation of wildlife, Ecology and human impacts on the environment, Genetics and evolution, Plant ecology.
- University of California, San Diego. Lecturer, 1994-9. *Courses taught:* Plant science, Introduction to plant sciences, Ecology field laboratory, Introduction to organismal and evolutionary biology.
- University of the South. Visiting Assistant Professor, 1993-94. *Courses taught:* Botany; Plant Ecology; Conservation Biology; Principles of Biology. Supervised independent studies in ecology, botany, dynamical systems.

Predoctoral teaching positions

- University of Arizona. Graduate teaching associate, 1983-88. *Lecturer:* Plant ecology, Introduction to ecology and evolution, Environmental biology. *Coordinator of teaching labs:* Introduction to ecology and evolution. *Lab assistant in:* Population interactions, Plant ecology, Genetics, Environmental biology, Organismic biology, Introduction to ecology and evolution.
- Baltimore Experimental High School. Teacher, 1979-80. History and English.
- Baltimore County Public Schools. Teacher, 1977-79. History.

Predocctoral research positions

- University of Arizona. Research assistant. Bacterial genetics (with Conrad Istock), 1988-89. Herbarium, 1987.
- Johns Hopkins University School of Hygiene and Public Health. Research assistant. *Department of Population Dynamics, 1980-83.* Public health applications of reproductive medicine. *Department of Pathobiology, 1981-83.* Population biology of tiger salamanders (with C. J. Stine).

Funding

- NSF Grant No. DEB-1120330, 2011-2014. \$400,000 to B. E. Kendall and G. A. Fox. Project title: "Collaborative research: Demographic heterogeneity in landscapes and communities."
- NSF Grant No. DUE-0756847, 2008-2013. \$1,991,163 to K. Ramachandran, C. A. Beneteau, S. W. Campbell, G. A. Fox, A. Z. Grinshpan. Project title: "A STEP to grow in Science-Engineering-Mathematics undergraduate degrees."
- NSF Grant No. DEB-0713866, 2007-2009. \$25,000 to G. A. Fox and C. K. Kelly. Project title: "SGER: Seeing the forest and the trees."
- NSF Grant No. DEB-0614468, 2006-2009. \$207,418 to G. A. Fox for 3 yrs. Project title: "Collaborative research: Demographic heterogeneity and its consequences."
- Pinellas County Environmental Foundation. 2003-2005. \$26,650 to G. A. Fox. Project title: "Fire and the population dynamics of Catesby's Lily".
- EPA STAR program, 2002-2005. \$135,276 to G. A. Fox for 3 yrs. Project title: "Individual variability, environmental stressors, and sampling uncertainty in wildlife risk assessment."
- US Fish and Wildlife Service/Joint Fire Sciences Program, 2001-2003. Contract No. 14481018101J011. \$81,709 to G. A. Fox for 2 yrs. Project title: "Consequences and correlates of fire in wetlands."
- NSF Grant No. DEB-0107465, 2001-2. Project title: "Dispersal and local population dynamics following large-scale wildfire." \$36,952 to G. A. Fox.
- NSF Grant No. DEB-9806923, 1998-2003. Project title: "Demography and population dynamics of a fire-adapted tree species, *Pinus rigida*," J. Gurevitch and G. A. Fox, co-PI's. \$250,000 + 3 \$5,000 REU supplements.
- University of South Florida Research and Creative Scholarship Award 1999, \$6,000.
- NSF Grant No. DEB-9810414, 1998. Project title: "SGER: Comparative demography of desert plants following an unusual rainfall event," T. A. Ebert, G. A. Fox, and W. C. Oechel, co-PIs. \$18,000.
- San Diego State University Research, Scholarship, and Creativity Award 1997 & 1998 to G. A. Fox, \$3,000 each.
- NSF Grant No. BSR-9002330, 1990-92. Project title: "Quantitative genetics of adaptation and apparent 'constraint' in a desert annual," G. A. Fox, P.I. \$58,800.

Professional Societies

American Association for the Advancement of Science; American Society of Naturalists; Botanical Society of America; Ecological Society of America; Ecological Society of Australia;

Sigma Xi; Society for Conservation Biology; Society for the Study of Evolution

Papers presented

Botanical Society of America: 1989, 1987; California Population and Evolutionary Genetics Group, 1998, 1994-5, 1991; Ecological Society of America: 2008-10, 2003-6, 1996-2000, 1993-4, 1986-90; Ecological Society of Australia: 2007; Florida Ecological & Evolutionary Symposium, 2000; Guild of Rocky Mountain Population Biologists: 1988; Society for Conservation Biology 2001-2; Society for the Study of Evolution: 2010, 2000, 1997-8, 1991-5, 1988; Southwest Association of Biologists: 1988.

Invited seminars

2008: University of Montana; **2003:** Archbold Biological Station; Joseph W. Jones Ecological Research Center; **2002:** Florida State University; **2001:** University of Florida; Florida International University; **1999:** San Francisco State University; **1998:** University of New Mexico, UC Irvine; **1997:** San Francisco State University, SUNY Stony Brook; **1995:** Arizona State University; **1994:** University of Sydney; **1993:** Emory University, University of Oregon, University of Pittsburgh; **1992:** Australian National University, University of New Orleans, University of Houston, University of Montana, Clemson University, Utah State University; **1991:** UC San Diego; **1990:** University of Chicago, University of Wisconsin - Milwaukee, California State University, San Bernardino; **1989:** Imperial College at Silwood Park, UK, University of Nevada, Las Vegas; **1987:** UC Davis.

Invited panels and working groups

- National Evolutionary Synthesis Center (NESCent), group on "Toward a general theory of biological invasions," 2009.
- National Center for Ecological Analysis and Synthesis (NCEAS), working group on "A new synthesis of demography and dispersal," 2001-2002.
- National Science Foundation: Advisory panel member: Population & Evolutionary Ecology 2004; Population Biology, 1998.
- US Department of Agriculture: Advisory panel member: Biology of Weedy & Invasive Plants, 2000, 2001, 2005.

Professional service

University of Queensland:

External Ph.D. examiner, 2011.

Evolutionary Ecology Research:

Editor, 2004-.

Ecological Society of America:

Plant Population Biology section, Chair, 2000-1, vice-chair, 1999-2000, secretary-treasurer, 1996-9, webmaster 1996-2009.

Reviewer for scientific journals:

Acta Oecol.: 1996; *Am. J. Bot.*: 2011, 2010, 2006, 1997; *Amer. Midl. Nat.*: 2006, 2001,

1990; *Amer. Nat.*: 2011, 2008, 2000, 1999(2), 1998 (3), 1997, 1996 (2), 1995 (2), 1994 (2), 1993 (2), 1992 (2), 1991, 1990; *Animal Conserv.*: 2005; *Arct. Antarct. Alp. Res.*: 2011; *Biol. Invas.*: 2005, 2007; *Biol. J. Linn. Soc.*: 1993; *Can. J. Bot.*: 2001; *Cons. Ecol.*: 1998; *Ecol.*: 2010; 2008 (2); 2006 (2), 2004, 2002 (2), 2001, 1999 (2), 1997, 1996, 1995 (2), 1994 (2), 1993 (2), 1992, 1990; *Ecol. Applic.*: 1998; *Ecol. Lett.*: 2010; 2009; 2007; 2006 (2); 2005; 2003 (2); 2001; *Ecol. Modeling*: 2003; *Ecol. Monogr.*: 2005; *Evolution*: 2003, 1998, 1997, 1996 1995, 1994, 1993 (2), 1992 (3); *Evol. Ecol. / Evol. Ecol. Res.*: 1999, 1996, 1994; *Florida Sci.*: 2000; *Genetics*: 1994, 1991; *Int. J. Plant Sci.*: 2005; *J. Ecol.*: 2010, 2009, 2006 (2); 1997, 1992; *J. Evol. Biol.*: 2006, 1993; *J. Math. Biol.*: 2001(2), 1999, 1995; *J. Theor. Biol.*: 2011, 2001, 1988; *J. Torr. Bot. Soc.*: 2006; *J. Veg. Sci./Plant Ecol.*: 2001, 1997, 1996; *Madroño*: 2001; *Math. and Comp. Modelling*: 2002; *Math. Biosci.*: 1996, 1994, 1990; *New Phytol.*: 2006, 2003; *Oecol.*: 2003, 1997; *Oikos*: 2011, 2009, 1998; *Phil. Trans. R. Soc. B.*: 1997; *Phytopathol.*: 2004; *Plant Ecol.*: 2010, 1998; *Plant and Soil*: 2009; *Plant Syst. Evol.*: 2007; *PNAS*: 2008; *Proc. R. Soc. B.*: 2004; *Theor. Pop. Biol.*: 2005, 2002, 2001, 1996, 1995(2), 1992, 1991, 1990; *Trends Ecol. Evol.*: 2000.

Reviewer for granting agencies:

Australian Research Council: 1997; NSF: 2010, 2009, 2008(2), 2006 (2), 2004, 2003, 2002 (2), 2000, 1999 (3), 1998 (2), 1997 (3), 1996 (2), 1993, 1992 (2), 1991; Norwegian Research Council: 2006 (4), 2005 (4); USDA: 2006.

Reviewer for publishing houses:

Academic Press: 2004, 1998, 1996, 1995; Chapman and Hall: 1994, 1993; CRC Press: 1994; Princeton University Press: 2005; Sinauer Press: 1992; Wadsworth Press: 1999.

Symposium organized:

Ecological Society of America, 2008 annual meeting, entitled "Environmental fluctuation, temporal dynamics, and ecological processes," coorganized with C. K. Kelly.

Symposium organized:

Ecological Society of America, 1996 annual meeting, entitled "Timing is everything: new perspectives on the ecology and evolution of flowering phenology," co-organized with E. Lyons.

Awards and Honors

- NSF postdoctoral fellowship, awarded 1990.
- William G. McGinnies Graduate Scholarship in Arid Lands Studies, awarded 1988.
- B.A. degree with honors, University of California at Berkeley, 1975.

Public service

- Faculty advisor for Adventures in Supercomputing program, Grundy County High School, TN, 1993-4.
- Faculty advisor for Scientific Sewanee (student poster session sponsored by Sigma Xi), University of the South, 1993-4.

Current graduate students and committees

- Kerry Bohl (Ph.D. student)
- Eva Chase (Ph.D. student)
- Tammy Foster (Ph.D. student), Major professor
- Jamie Gluvna (Ph.D. student), Major professor
- Bill Hentges (M.S. student)
- Monica Hamberg (M.S. student), Major professor
- Anna Hathaway (M.S. student)
- David Jennings (Ph.D. student)
- Heather Jezorek (Ph.D. student)
- Jennifer Peterson (Ph.D. student)
- Maria del Pilar Lopera Blair (Ph.D. student), Major professor
- Pauline Wanjugi (Ph.D. student)

Past students and committees

- Shannon Ansley. M.S. 2006. Major professor
- Brian Badgley. Ph.D. 2009.
- Amanda Baker. M.S. 2007.
- Mark Barrett. Ph.D. 2005.
- Sarah Barry, M.S. 2011. Major professor
- Celina Bellanceau. M.S. 2007.
- Robbin Capers. M.S. 2010.
- Tammy Foster. M.S. 2002. Co-major professor.
- Gwen Gregory (Ph.D. student), Major professor
- Brian Halstead. Ph.D. 2008.
- Brad Hauch M.S. 2011.
- Ken Hayes. M.S. 2003.
- Gabe Herrick. Ph.D. 2011. Major professor
- Phoebe Koch. M.S. 2008.
- Ralph Leighty. Ph.D. 2009.
- Alison Meyers. Ph.D. 2010.
- Robert Mrykalo. M.S. 2005, Department of Environmental Science & Policy.
- Teresa Piacenza. M.S. 2008. Major professor.
- Jennifer Rhora. M.S. 2005.
- Susan Riedl. M.S. 2006.
- Travis Robbins. Ph.D. 2010.
- Anne Schmidt. MS. 2005.

- Sarah Smiley. M.S. 2010.
- Kara Teague. M.S. 2003, Department of Environmental Science & Policy. Major professor.
- Pamela Tingiris (ESP Ph.D. program)

Bibliography

Book:

- Kelly, C. K., M. J. Bowler, and G. A. Fox, eds. 2012. *Environmental fluctuation, temporal dynamics and ecological process*. Cambridge University Press.
- Gurevitch, J., S. M. Scheiner, and G. A. Fox. 2006. [The Ecology of Plants](#), 2nd ed. Sinauer Press, Sunderland, MA.
- Gurevitch, J., S. M. Scheiner, and G. A. Fox. 2002. *The Ecology of Plants*. Sinauer Press, Sunderland, MA.

Papers:

- Weis, A. E., E. Nardone, and G. A. Fox. 2012. How strong is assortative mating for flowering date? An exploratory study of individual variation in flowering schedules of successional species. In review, *New Phytologist*.
- Haymes, K. L., and G. A. Fox. 2012. Ecological sources of variation among individuals in cone production in *Pinus palustris* Mill. (Pinaceae). In press, *American Journal of Botany*.
- Kendall, B. E., G. A. Fox, M. Fujiwara, and T. Nogeire. 2011. Demographic heterogeneity, cohort selection and population growth. *Ecology* 92:1985-1993. doi:10.1890/11-0079.1
- Stover, J., B. E. Kendall, and G. A. Fox. 2011. Demographic heterogeneity impacts density-dependent population dynamics. In press, *Theoretical Ecology*. [\(PDF\)](#) doi:10.1007/s12080-011-0129-x
- Fox, G. A., B. E. Kendall, and S. Schwinning. 2011. Environmental heterogeneity and plant biology. In A. M. Hastings and L. Gross, eds.: *Encyclopedia of Theoretical Ecology*. Berkeley, University of California Press.
- Kelly, C. K., S. J. Blundell, M. G. Bowler, G. A. Fox, P. A. Harvey, M. R. Lomas, and I. F. Woodward. 2011. The statistical mechanics of community assembly and species distribution. *New Phytologist* 191:819-827. [\(PDF\)](#) doi:10.1111/j.1469-8137.2011.03721.x
- Scheiner, S. M., A. Chiarucci, G. A. Fox, M. R. Helmus, D. J. McGlinn, and M. R. Willig. 2011. The underpinnings of the relationship of species richness with space and time. *Ecological Monographs* 81: 195-213. [\(PDF\)](#) doi: 10.1890/10-1426.1
- Sommers, K. P., M. Elswick, G. I. Herrick, and G. A. Fox. 2011. Inferring microhabitat preferences of *Lilium catesbaei* (Liliaceae). *American Journal of Botany* 98: 819-828. [\(PDF\)](#) doi:10.3732/ajb.1000250
- Scott, K. M., G. Fox, and P. R. Girguis. 2011. Measuring isotope fractionation by autotrophic microorganisms and enzymes. Pages 281-299 in A. C. Rosenzweig and S. W. Ragsdale, eds: *Methods in Enzymology*, Vol. 494. Academic Press, Burlington, MA. doi:10.1016/B978-0-12-385112-3.00014-7

- Gurevitch, J., G. A. Fox, G. Wardle, Inderjit, and D. Taub. 2011. Emergent insights from the synthesis of conceptual frameworks for biological invasions. *Ecology Letters* 14: 407-418. (PDF) doi:10.1111/j.1461-0248.2011.01594.x
- Fox, G.A., S. M. Scheiner, and M. Willig. 2010. Theory of ecological gradients. In S. M. Scheiner and M. Willig, eds.: *Theory of ecology*. University of Chicago Press.
- Ford, C. R., E. S. Minor, and G. A. Fox. 2010. Long-term effects of fire and fire-return interval on population structure and growth of longleaf pine (*Pinus palustris* Mill.) *Canadian Journal of Forest Research* 40:1410-1420. (PDF) doi:10.1139/X10-080
- Levine, A. D., G. Fox and V.J. Harwood. 2009. Collecting, Exploring, Interpreting, and Presenting Microbiological Data Associated with Reclaimed Water Systems. Report 04-012-01. Water Environment Research Foundation, Alexandria, VA. (PDF)
- Fox, G. A. 2008. Discrete analysis (matrix models). In *MacMillan Encyclopedia of the Life Sciences*. Online: <http://www.els.net> .
- Fang, W., D. L. Taub, G. A. Fox, R. M. Landis, and J. Gurevitch. 2006. Sources of variation in growth, form, and survival in dwarf and normal-stature pitch pines, *Pinus rigida* (Pinaceae) in long-term transplant experiments. *American Journal of Botany* 93: 1125-1133.(PDF) doi: 10.3732/ajb.93.8.1125
- Fox, G. A., B. E. Kendall, J. Fitzpatrick, and G. Woolfenden. 2006. Consequences of heterogeneity in survival in a population of Florida scrub-jays. *Journal of Animal Ecology* 75: 921-927.(PDF) doi: 10.1111/j.1365-2656.2006.01110.x
- Fox, G. A. 2005. Population viability and extinction risk of heterogeneous populations. *Ecology* 86: 1191-1198.(PDF)
- Landis, R. M., J. Gurevitch, F. Wei, D. Taub, and G. A. Fox. 2005. Pattern and variation in *Pinus rigida* demography after fire in the Long Island, NY pine barrens. *Journal of Ecology* 93: 607-617. (PDF) doi: 10.1111/j.1365-2745.2005.00996.x
- Kendall, B. E., and G. A. Fox. 2003. Unstructured individual variation and demographic stochasticity. *Conservation Biology* 17: 1170-1172. (PDF)
- Fox, G. A., and A. Hastings. 2003. Limiting relationships between selection and recombination. *Bulletin of Mathematical Biology* 65: 129-141. (PDF) doi:10.1006/bulm.2002.0324
- Fox, G. A. 2003. Assortative mating and plant phenology: evolutionary and practical consequences. *Evolutionary Ecology Research* 5: 1-18. (PDF)
- Kendall, B., and G. A. Fox. 2002. Individual variability reduces demographic stochasticity. *Conservation Biology* 16: 109-116. (PDF)
- Fox, G. A., and B. E. Kendall. 2002. Demographic stochasticity and the variance reduction effect. *Ecology* 83: 1928-1934. (PDF)
- Fox, G. A. 2001. Failure time analysis: studying times-to-events and rates at which events occur. Pages 253-289 in S. M. Scheiner and J. Gurevitch, eds.: [Design and analysis of ecological experiments](#), 2nd ed. Oxford University Press, Oxford, UK. (PDF - preprint)
- Fox, G. A., and J. Gurevitch. 2000. Population numbers count! Tools for near-term demographic analysis. *American Naturalist* 156: 242-256. (PDF)
- Fox, G. A. 1999. Reproductive strategies. In *MacMillan Encyclopedia of the Life Sciences*. Online: <http://www.els.net> .

- Kendall, B., and G. A. Fox. 1998. The impact of spatial structure on population dynamics: analysis of the coupled logistic map. *Theoretical Population Biology* 54:11-37. [\(PDF\)](#)
- Schwinning, S., and G. A. Fox. 1995. Competitive symmetry and its consequences for plant population dynamics. *Oikos* 72:422-432.
- Hastings, A., and G. A. Fox. 1995. Optimization as a technique of studying population genetic equations. Pages 18-26 in W. Banzhaf and F. H. Eeckman, eds. *Evolution and biocomputation: computational models of evolution*. Berlin: Springer-Verlag (Lecture Notes in Computer Science 899). [\(PDF\)](#)
- Ferrière, R., and G. A. Fox. 1995. Chaos and evolution. *Trends in Ecology and Evolution* 10:480-485. [\(PDF\)](#)
- Fox, G. A., A. S. Evans, and C. Keefer. 1995. Phenotypic consequences of forcing germination: a problem for experimental design. *American Journal of Botany* 82:1264-1270. [\(PDF\)](#)
- Fox, G. A. 1993. Failure time analysis: emergence, flowering, survivorship, and other waiting times. Pages 253-289 in S. M. Scheiner and J. Gurevitch, eds.: *Design and analysis of ecological experiments*. Chapman and Hall, London.
- Fox, G. A. 1993. Demographic stochasticity and life history evolution. *Evolutionary Ecology* 7: 1-14.
- Belsky, J. A., W. P. Carson, C. L. Jensen, and G. A. Fox. 1993. Overcompensation by plants: herbivore optimization or red herring? *Evolutionary Ecology* 7: 109-121.
- Fox, G. A., and C. K. Kelly. 1993. Plant phenology: selection and neutrality [letter]. *Trends in Ecology and Evolution* 8: 34-35.
- Fox, G. A., and A. M. Hastings. 1992. Inferring selective history from multilocus data sets: Wright meets the Hamiltonian. *Genetics* 132: 277-288. [\(PDF\)](#)
- Fox, G. A. 1992. Annual plant life histories and the paradigm of energy allocation. *Evolutionary Ecology* 6: 482-499.
- Fox, G. A. 1992. The effect of time-varying mortality and carbon assimilation on models of carbon allocation in annual plants. *Evolutionary Ecology* 6: 500-518.
- Fox, G. A. 1992. Life history traits in desert annuals: adaptation and constraint. *Evolutionary Trends in Plants* 6: 25-31.
- Fox, G. A. 1990. Perennation and the persistence of annual life histories. *American Naturalist* 135: 829-840. [\(PDF\)](#)
- Fox, G. A. 1990. Components of flowering time variation in a desert annual. *Evolution* 44: 1404-1423. [\(PDF\)](#)
- Fox, G. A. 1990. Drought and the evolution of flowering time in desert annuals. *American Journal of Botany* 77: 1508-1518. [\(PDF\)](#)
- Fox, G. A. 1989. Life tables and statistical inferences. *Bulletin of the Ecological Society of America* 70: 229-230.
- Fox, G. A. 1989. Consequences of flowering time in a desert annual: adaptation and history. *Ecology* 70: 1294-1306. [\(PDF\)](#)

Book reviews

- Fox, G. A. 2011. Biodiversity for nonscientists. Review: J. Silvertown, ed. *Fragile web: what next for nature?* *Ecology* 92:2318-2319.

- Fox, G. A. 2008. Playing to a tough crowd. Review: L.L. Rockwood. Introduction to Population Ecology. *Conservation Biology* 22: 225-226.
- Fox, G. A. 2003. Book review: *Monitoring plant and animal populations* (C. L. Elzinga, et al.). *Quarterly Review of Biology* 78:503-4.
- Fox, G. A. 1997. Book review: *Plant ecology* (M. Crawley, ed.) *Trends in Plant Sciences* 3:72. [\(PDF\)](#)
- Fox, G. A. 1996. Book review: *Plant allometry* (K. Niklas). *Bulletin of Mathematical Biology*.
- Fox, G. A. 1991. Book review: *Applied mathematical ecology* (S. A. Levin, T. G. Hallam, and L. J. Gross, eds.). *Bulletin of Mathematical Biology* 54: 687-689.
- Schaffer, W. M., and G. A. Fox. 1989. Book review: *Plant strategies and the dynamics and structure of plant communities* (D. Tilman). *Bulletin of Mathematical Biology* 53: 409-411.

VALERIE J. HARWOOD
CURRICULUM VITAE: 2011

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EDUCATION

1992 **Ph.D.** in Biomedical Sciences. Old Dominion University and Eastern Virginia Medical School.
1983 **B.A.** in Biology. State University of New York at Plattsburgh
1980 **B.A.** in French. Iowa State University

ACADEMIC POSITIONS

2010 - Professor, University of South Florida Department of Integrative Biology
2004- 2010 Associate Professor, University of South Florida Department of Biology
1998 - 2004 Assistant Professor, University of South Florida Department of Biology
1995 - 1998 Assistant Professor: University of North Florida Dept. Natural Sciences
1992 - 1995 Postdoctoral: University of Maryland Center of Marine Biotechnology

CONSULTING and INDUSTRY POSITIONS (Recent)

2010 - Microbiology Consultant: Reedy Creek Improvement District
2007 - 2010 Microbiology (MST) Consultant: Cawthron Institute, New Zealand
2004 – 2010 Microbiology (MST) Consultant: Motley-Rice, LLC

HONORS and AWARDS (Recent)

2009 Feeley Award for Excellence in Environmental Microbiology; Southeastern Branch American Society for Microbiology.
2009 USF Faculty Award for Research, Scholarly, and Creative Excellence
2005-06 President, Southeastern Branch American Society for Microbiology.
2006 Phi Kappa Phi Honor Society Scholar Award
2004 Phi Kappa Phi Honor Society Scholar Award
2003 Margaret Green Outstanding Teaching Award: Southeastern Branch American Society for Microbiology

PROFESSIONAL ORGANIZATIONS

2004- International Water Association
2004- Phi Sigma Iota Honor Society
1999 - American Water Resource Association
1995 - Council on Undergraduate Research
1989 - Sigma Xi Scientific Honor Society
1989 - American Society for Microbiology

FUNDING: AS PRINCIPLE INVESTIGATOR (since 2005)

2012. Fecal Indicator Bacteria Persistence. U.S. Environmental Protection Agency.
\$38,447

2010-2011. New River Fecal Coliform Source Identification Pasco County Stormwater.
\$60,000

2010-2011. Robert J. Strickland Beach Bacteria Source Assessment Phase II. Pasco
County Stormwater. **\$10,200.**

2009-2011 Determining the Relationship of Microbial Pollution and Associated Health
Risks at Freshwater and Saltwater Beaches of Florida. Florida Department of
Environmental Protection and the Water Environment Research Foundation.
\$403,000.

2007-2010. Validation and Field Testing of Microbial Source Tracking Methodologies in
the Gulf of Mexico US Environmental Protection Agency (Gulf of Mexico
Program). **\$444,000 to Harwood; \$875,907 total** with Co-PIs at UWF & USM

2008-2010. Assessing Sources of Indicator Bacteria and Pathogen Presence at Lake
Carroll, a Freshwater Beach. Environmental Protection Commission of
Hillsborough County. \$101,962.

2008-2009. Lower St. Johns River Tributary Assessment. Florida Department of
Environmental Protection.. **\$141,637.**

2007-2008. Rapid concentration and quantification of bacteria and viruses from marine
waters. NOAA-CICEET **\$68,974 to Harwood; \$145,893 total** with Co-PI D.V.
Lim at USF

2007-2008 Fecal BMAP Hillsborough River Phase II, Level 1. Florida Department of
Environmental Protection **\$111,000.**

2007-2008 Healthy & Safe Public Beaches: Tampa Bay. Florida Department of Health.
\$149,250.

2007-2008. Identification of Major Sources of Bacterial Loading to Deep Creek and the
Northern Coastal Basin. St. Johns River Water Management District. **\$40,000.**

2007. Further Investigation of the Sources of Fecal Indicator Bacteria in Wakulla County,
Florida. Florida Department of Health. **\$77,931**

2006-2007. Analysis of Sources of Fecal Indicator Bacteria Causing Beach Closures in

Hillsborough County, Florida. Environmental Protection Commission of Hillsborough County. \$125,000.

2006-2007. Identification of Major Sources of Bacterial Loading to the Shellfish Harvesting Waters in the Northern Coastal Basin. St. Johns River Water Management District. \$40,000.

2005-2006. JEA Tributary Pollution Assessment. Jacksonville Electrical Authority. **\$46,240.**

2004-2005. Identification of the Sources of Fecal Indicator Bacteria in Wakulla County, Florida: A Research Proposal. Florida Dept. Environmental Protection. **\$70,140.**

2004-2005. Microbial Source Tracking: Tools for Refining Total Maximum Daily Load Assessments. Florida Dept. Environmental Protection. **\$295,500 (\$156,000 to Harwood).**

2004-2005. Sarasota County, FL. Siesta Key Beach Water Quality Sampling to Determine Sources of Fecal Indicator Bacteria. **\$14,000.**

FUNDING: AS CO-PRINCIPLE INVESTIGATOR (since 2005)

(Only funds allocated to Harwood are listed.)

2008-2012. Predicting the effects of agricultural practices on waterborne human pathogens, livestock helminthes, and the health of rural water-bodies. USDA. Project role: co-P.I. with Jason Rohr. \$398,500.

2010-2012. Assessing Sources of Fecal Contamination in High Priority Creeks in the Hampton Roads Region. Hampton Roads (VA) Planning District Commission. Project role: co-PI. PI Rachel Noble, University of North Carolina. **\$80,100.**

2006-2007. P.I.: A.D. Levine. Development of a Guidance Document for Applying Sound Statistics for Exploring, Interpreting, and Presenting Microbiological Data Associated with Reclaimed Water Systems, Project role: co-PI with A.D. Levine, Civil & Environmental Engineering. \$43792 to Harwood.

2005-2006. PI: A.D. Levine. Development of Management Tools for Control of Deposits In Landfill Leachate Drainage Systems. Florida Center for Solid and Hazardous Waste Management. \$10,000 (and **1 Biology Ph.D.** student supported through Engineering)

2003-2005. PI: Anita Wright. Improved Methods for Molecular Detection of *Vibrio vulnificus*. National Sea Grant. **\$40,000.**

GRANT PROPOSALS PENDING FUNDING

A Prospective Epidemiological Study of Recreational Water Use at a Gulf of Mexico Beach Impacted by Nonpoint Source Pollution: Relationship between Fecal Indicator Bacteria Levels and Human Health. Project Role: PI. U.S. Environmental Protection Agency Gulf of Mexico Alliance. Requested

funding \$883,984. 3 years.

Collaborative Research: Quantifying and Correlating Pathogens and a Poultry Feces Marker Gene in Environmental Waters. Co-PI: J. Weidhass, West Virginia University. National Science Foundation Environmental Engineering. Requested Funding to Harwood \$266,676. 3 years.

Role of water quality and environment in the ecology and evolution of pathogenic Vibrio species in oysters and fish: implications for zoonotic transmission. Project role: co-PI; PI is A.C. Wright (University of Florida). NSF Ecology & Evolution of Infectious Disease. Requested Funding to Harwood \$356,250. 3 years.

Using molecular microbial source tracking and a community-municipality partnership to help achieve targeted reductions in stormwater nutrient and bacteria loadings. Project role: co-PI; PI is E.J. Schott (University of Maryland). U.S. Environmental Protection Agency STAR. Requested Funding to Harwood \$103,425. 3 years.

Persistence and Correlation of Fecal Indicators and Pathogens in Coastal Waters. U.S. Environmental Protection Agency Gulf of Mexico Alliance. Co-PI; PI S. Wang, University Southern Mississippi. Requested funding to Harwood \$371,552. 3 years.

REFEREED PUBLICATIONS (selected; out of 53 total)

(Students and postdocs supervised by Harwood are bolded; ^a denotes corresponding author)

2011. **Z.R. Staley**, J.R. Rohr and V. J. Harwood^a. A test of direct and indirect effects of agrochemicals on the survival of fecal indicator bacteria. Appl. Environ. Microbiol. 77:8765-74.
2011. **B.S. Nayak**, **B. Badgley** and V.J. Harwood^a. Comparison of genotypic and phylogenetic relationships of environmental *Enterococcus* isolates by BOX-PCR typing and 16S rRNA gene sequencing. Appl Environ Microbiol. 77:5050-5.
2011. **E. Chase** and V.J. Harwood^a. Comparison of the effects of environmental parameters on growth rates of *Vibrio vulnificus* biotypes I, II and III by culture and quantitative PCR. Appl Environ Microbiol. 77:4200-4207.
2011. **C. Staley**, A.C. Wright, M.K. Jones and V.J. Harwood^a. Genetic and quantitative assessment of *Vibrio vulnificus* populations in oyster (*Crassostrea virginica*) tissues. Environ. Microbiol. Reports 3:543-549.
2011. Shanks OC, Sivaganesan M, Peed L, Kelty C, Blackwood AD, Greene MR, Noble R, Bushon R, Stelzer EA, Kinzelman J, Anna'eva T, Sinigalliano C, Wanless D, Griffith JF, Cao Y, Weisberg S, Harwood VJ, **Staley C**, Oshima K, Varma M, Haugland RA. Inter-laboratory comparison of real-time PCR protocols for

- quantification of general fecal indicator bacteria. Environ Sci Technol. 2011 Dec 1. [Epub ahead of print]
2011. C.D. Cornelisen, P.A. Gillespie, M. Kirs, R.G. Young, R.W. Forrest, P.J. Barte, B.R. Knight and V.J. Harwood. Motueka River plume facilitates transport of ruminant faecal contaminants into shellfish growing waters, Tasman Bay, New Zealand. New Zealand J Mar Freshwater Res, 45: 477-495
2011. AH Shah, Abdelzاهر AM, Phillips M, Hernandez R, Solo-Gabriele HM, Kish J, Scorzetti G, Fell JW, Diaz MR, Scott TM, Lukasik J, Harwood VJ, **McQuaig S**, Sinigalliano CD, Gidley ML, Wanless D, Ager A, Lui J, Stewart JR, Plano LR, Fleming LE. Indicator microbes correlate with pathogenic bacteria, yeasts and helminthes in sand at a subtropical recreational beach site. J Appl Microbiol. 110(6):1571-1583.
2011. J.L. Weidhaas, T.W. MacBeth, R.L. Olsen, and V.J. Harwood^a. Correlation of quantitative PCR for a poultry-specific *Brevibacterium* marker gene with bacterial and chemical indicators of water pollution in a watershed impacted by land application of poultry litter. Appl. Env. Microbiol. 77:2094-2102.
2011. **B.D. Badgley**, F.I.M. Thomas and V.J. Harwood^a. Quantifying environmental reservoirs of fecal indicator bacteria associated with sediment and submerged aquatic vegetation, Env. Microbiol. 13:932-942.
2011. **A. Korajkic**, M.J. Brownell and V.J. Harwood^a. Investigation of human sewage pollution and pathogen analysis at Florida Gulf Coast beaches. J Appl. Microbiol. 110:174-183.
2010. **B.D. Badgley**, **B. Nayak** and V.J. Harwood^a. The importance of sediment and submerged aquatic vegetation as potential habitats for persistent strains of enterococci in a subtropical watershed. Water Research. 44:5857-5866.
2010. **Z.R. STALEY**, **J.R. ROHR** AND **V.J. HARWOOD**. THE EFFECT OF AGROCHEMICALS ON INDICATOR BACTERIA DENSITIES IN OUTDOOR MESOCOSMS. ENVIRON MICROBIOL. 12:3150-3158
2010. **C. Staley** and V.J. Harwood^a. A review of genetic typing studies of *Vibrio cholerae*, *V. parahaemolyticus* and *V. vulnificus*. Journal of AOAC International. 93:1553-1569
2010. **B.D. Badgley**, F.I.M. Thomas and V.J. Harwood^a. The effects of submerged aquatic vegetation on the persistence of environmental populations of *Enterococcus* spp. in outdoor mesocosms. Environmental Microbiology 12:1271-1281.
2010. J.L. Weidhaas, T. W. Macbeth, R. L. Olsen, M. J. Sadowsky, D.Norat and V. J. Harwooda. Identification of a poultry litter-specific DNA marker gene and development of a 16S rRNA-based quantitative PCR assay. J. Appl. Microbiol. 109:334-347.
2010. S.D. Leskinen, M. Brownell, D.V. Lim and V.J. Harwood^a. Hollow-fiber ultrafiltration and PCR detection of human-associated genetic markers from various types of surface water in Florida. Appl. Environ. Microbiol. 76:4116-4117.
2010. Abdelzاهر A, Wright M, Ortega C, Solo-Gabriele H, Miller G, Elmir S, Newman

- X, Shih P, Bonilla JA, Bonilla TD, Palmer CJ, Scott T, Lukasik J, Harwood VJ, McQuaig S, Sinigalliano C, Gidley M, Plano L, Zhu X, Wang JD, Fleming L. Presence of pathogens and indicator microbes at a non-point source subtropical recreational marine beach. *Appl. Environ. Microbiol.* 76:724-732.
2009. V. J. Harwood^a, M. Brownell, S. Wang, J. Lepo, R.D. Ellender, A. Ajidahun, K. N. Hellein, E. Kennedy, X. Ye and C. Flood. Validation and field testing of library-independent microbial source tracking methods in the Gulf of Mexico. *Water Research.* 43:4812-4819.
2009. T.M. Scott, V.J. Harwood, W. Ahmed, Y. Masago, and J.B. Rose. Comment on “Environmental occurrence of the enterococcal surface protein (*esp*) gene is an unreliable indicator of human fecal contamination. *Env. Sci. Technol.* 43:6434-6435.
2009. **A. Korajkic**, B.D. Badgley, M. Brownell, V.J. Harwood^a. Application of microbial source tracking methods in a Gulf of Mexico field setting. *J. Appl. Microbiol.* 107:1518-1527.
2009. **S.M. McQuaig**, T.M. Scott, J.O. Lukasik and V.J. Harwood^a. Development and validation of a sensitive Taqman® quantitative PCR assay for the specific detection and quantification of two human polyomaviruses (JCV and BKV) in fecal waste. *Appl. Environ Microbiol.* 75:3379-3388.
2009. **B. Nayak**, A.D. Levine, A. Cardoso and V.J. Harwood^a. Microbial population dynamics in solid waste bioreactors. *J. Appl. Microbiol.* 107:1330-1339.
2009. S. Leskinen, V.J. Harwood and D.V. Lim. Rapid dead-end ultrafiltration concentration and biosensor detection of enterococci from beach waters of Southern California. *J. Water Health.* 7:674-684
2009. A. Tatavarthy, K. Peak, W. Veguilla, T. Cutting, V.J. Harwood, J. Roberts, P. Amuso, J. Cattani, and A. Cannons. An accelerated method for isolation of *Salmonella enterica* serotype Typhimurium from artificially contaminated foods, using a short preenrichment, immunomagnetic separation, and xylose-lysine-desoxycholate agar (6IX Method). *J. Food Protect.* 72:583-590.
2008. **K. V. Gordon**, M. C. Vickery, A. DePaola, **C. Staley** and Valerie J. Harwood^a. Real-time PCR assays for quantification and differentiation of *V. vulnificus* strains in oysters and water. *Appl. Env. Microbiol.* 74:1704-1709
2008. A.D. Levine, V.J. Harwood, S. Farrah, T.M. Scott, and J.B. Rose. Pathogen and indicator organism reduction through secondary effluent filtration: Implications for reclaimed water production. *Water Environment Research.* 80:596-608.
2007. **Brownell, M.B.**, V.J. Harwood^a, R.C. Kurz, **S.M. McQuaig**, J. Lukasik, and T.M. Scott. Confirmation of putative stormwater impact on water quality at a Florida beach by microbial source tracking methods and structure of indicator organism populations. *Water Research.* 41:3747-3757.
2007. Stoeckel, D.M. and V.J. Harwood^a. Performance, design, and analysis in microbial source tracking studies. *Appl. Environ. Microbiol.* 73:2405-2415.
2006. **S. M. McQuaig**, T. M. Scott, V. J. Harwood^a, S. R. Farrah and J. O. Lukasik.

- Novel method for the detection of human derived fecal pollution in environmental waters using a PCR based human polyomavirus assay. *App. Environ. Microbiol.* 72: 7567-7574.
2006. **M. A. Anderson**, J.E. Whitlock and V.J. Harwood^a. Diversity and Distribution of *Escherichia coli* Genotypes and Antibiotic-Resistant Phenotypes in Feces of Humans, Cattle and Horses *Appl. Environ Microbiol.* 72: 6914-6922.
2006. M. Chatzidaki-Livanis, M. A. Hubbard, **K.V. Gordon**, V. J. Harwood, and A.C. Wright. Genetic distinctions among clinical and environmental strains of *Vibrio vulnificus*. *Appl. Environ. Microbiol.* 72:6136-6141.
2006. A Cardoso, A.D. Levine, **B.S. Nayak** and V.J. Harwood. Lysimeter comparison of the role of waste characteristics in the formation of mineral deposits in leachate drainage systems. *Waste Management Res.* 24:560-572.
2005. **K.L. (Hood) Anderson**, J.E. Whitlock and V.J. Harwood^a. Persistence and differential survival of fecal indicator bacteria in subtropical waters and sediments. *Appl. Environ. Microbiol.* 71: 3041-3048.
2005. V. J. Harwood^a, A. D. Levine, T. M. Scott, **V. Chivukula**, J. Lukasik, S.R. Farrah and J.B. Rose. Validity of the indicator organism paradigm: pathogen reduction and public health protection in reclaimed water. *Appl. Environ. Microbiol.* 71: 3163-3170.
- 2000 V. J. Harwood^a, J. Whitlock and **V. H. Withington**. Classification of the antibiotic resistance patterns of indicator bacteria by discriminant analysis: use in predicting the source of fecal contamination in subtropical Florida waters. *Appl. Environ Microbiol.* 66: 3698-3704.

BOOK CHAPTERS

2011. V.J. Harwood and D.M. Stoeckel. Performance Criteria. *In* Microbial Source Tracking: Methods, Applications, and Case Studies. Springer-U.S., New York, NY.
2011. C. Teaf and V.J. Harwood. Legal Challenges. *In* Microbial Source Tracking: Methods, Applications, and Case Studies. Springer-U.S., New York, NY.
2011. C.M. Wapnick and V.J. Harwood. Urban and Suburban Watersheds. *In* Microbial Source Tracking: Methods, Applications, and Case Studies. Springer-U.S., New York, NY.
2011. J. Santo Domingo, H. Ryu and V.J. Harwood^a. Microbial Source Tracking. *In* The Fecal Indicator Bacteria. M.J. Sadowsky and R. Whitman, Eds. ASM Press. (Submitted)
2007. V.J. Harwood. Assumptions and limitations of microbial source tracking methods. *In*: J. Santo-Domingo and M. Sadowsky. Microbial Source Tracking. ASM Press, Washington, D.C.
2004. A.D. Levine, V.J. Harwood, T.M. Scott and J.B. Rose. Factors influencing removal

of bacteria, viruses and protozoan pathogens from wastewater for water reuse applications. *In*: HH. Hahn, E. Hoffmann, H. Odegaard. Chemical Water and Wastewater Treatment VII. IWA Publishing.

BOOK EDITED

2011. C. Hagedorn, A.R. Blanch and V. J. Harwood, Eds. Microbial Source Tracking: Methods, Applications, and Case Studies. Springer-U.S., New York, NY. 642pp.

PEER-REVIEWED, PUBLISHED REPORTS

2011. V.J. Harwood. Validation of Rapid Methods for Enumeration of Markers for Human Sewage Contamination in Recreational Waters. WERF Report PATH3C09. Water Environment Research Foundation.
2009. V.J. Harwood, A.D. Levine and G.A. Fox. Collecting, Exploring, and Interpreting Microbiological Data Associated with Reclaimed Water Systems. Report WRF-04-012. The Water Reuse Foundation, Alexandria, VA.
2005. J.B. Rose, S.R. Farrah, V.J. Harwood, A.D. Levine, J. Lukasik, P. Menendez and T.M. Scott. Reduction of pathogens, indicator bacteria and alternative indicators by wastewater treatment and reclamation processes. Report 00-PUM-2T. Water Environment Research Foundation, Alexandria, VA.
2004. A.C. Cannons and V.J. Harwood. Sensor technology for water quality monitoring: fiber optic biosensor. Report 2004-07-31. Water Environment Research Foundation, Alexandria, VA.

NON-REFEREED PUBLICATIONS INCLUDING PROCEEDINGS AND PUBLISHED REPORTS (since 2003)

2009. **Zachery R. Staley, Chris Staley**, Cheryl Wapnick, Valerie J. Harwood. A weight of evidence approach allows more accurate assessment of sources of fecal indicator bacteria in surface waters.
2009. Cheryl M. Wapnick, Valerie J. Harwood, Tom Singleton, Gerold Morrison, **Christopher Staley, and Zachery R. Staley**. Application of the Bacteria Decision-Support Tool in the Hillsborough River Watershed. Water Environment Federation TMDL Conference Aug 9-12, 2009 Minneapolis, Minn. <http://208.88.129.72/Publications/page.aspx?id=5751>
2008. Cheryl M. Wapnick, Valerie J. Harwood, **Chris Staley**, and Thomas Singleton. A Cost-Effective Method for Assessing Fecal Contamination in Florida Tributaries. Stormcon '08 Conference, Aug 3-8 2008, Orlando FL. Forester Press, Santa Barbara, CA.
2007. C.M. Wapnick, **A. Korajkic** and V.J. Harwood. Application of Microbial Source Tracking (MST) Methods in Assessment of the Sources of Fecal Pollution in

Tributaries 9th Biennial Conference on Stormwater Research and Watershed Management, May 2-3, 2007 Orlando, FL. Published online:
<http://www.stormwater.ucf.edu/conferences/9thstormwaterCD/documents/ApplicationsandDevelopment.pdf>

2007. T. Younos, J. Falkinham and V.J. Harwood. Pathogens in Natural and Engineered Water Systems: Emerging Issues. *Water Resources IMPACT* 9:11-14.
2005. V.J. Harwood, T. Edge, D. Stoeckel, M. Molina and M. Jenkins. Assumptions and limitations of MST methods. *In* USEPA Guide Document on Microbial Source Tracking. United States Environmental Protection Agency, Cincinnati, OH. EPA/600/R-05/064
2005. V.J. Harwood and D.V. Lim. Real-Time Detection of Human Pathogens in the Guana-Tolamato-Matanzas National Estuarine Research Reserve. NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET).
2003. A.D. Levine, T.M. Scott, V.J. Harwood and J.B. Rose. Keeping the bugs at bay. *Water Environ. Technol.* 15:63-66.

ABSTRACTS and RESEARCH PRESENTATIONS SINCE 2007

(Students and postdocs supervised by Harwood are bolded; ^a denotes award winner)

2011. **E. Chase, C. Staley, J. Hunting** and V.J. Harwood. Microbial source tracking methods identify human and ruminant sources of fecal pollution in an ephemeral Florida river. Southeastern Branch ASM Annual Meeting, Gainesville, FL Oct 20-22
2011. **Z. R. Staley, J. R. Rohr, and V. J. Harwood.** Direct effects of agrochemicals on pathogens and fecal indicator bacteria. Southeastern Branch ASM Annual Meeting, Gainesville, FL, Oct 20-22.
2011. **J. K. Senkbeil, Z. R. Staley, J. R. Rohr, and V. J. Harwood.** Effects of agrochemicals on the growth rates of bacterial pathogens and fecal indicator bacteria. Southeastern Branch ASM Annual Meeting, Gainesville, FL, Oct 20-22.
2011. **K.V. Gordon^a, C. Staley** and V. J. Harwood. Persistence of Human-Associated Microbial Markers on a Simulated Tidally Influenced Estuarine Beach. Southeastern Branch ASM Annual Meeting, Gainesville, FL Oct 20-22.
2011. **C. Staley** and V. J. Harwood. Characterization of *Vibrio sinaloensis* and Differentiation from *Vibrio vulnificus*. Southeastern Branch ASM Annual Meeting, Gainesville, FL Oct 20-22.
2011. **C. Staley^a** and V.J. Harwood. Differential Expression of a Sodium-Phosphate Symporter Gene among *Vibrio vulnificus* Strains. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.
2011. **K.V. Gordon, C. Staley** and V.J. Harwood. Persistence of human-associated microbial markers on a simulated tidally-influenced estuarine beach. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.

2011. **A. Korajkic** and V.J. Harwood. Factors influencing *Escherichia coli* survival in aquatic habitats. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.
2011. **Z.R. Staley**, J.R. Rohr and V.J. Harwood. Direct Effects of Agrochemicals on Pathogens and Fecal Indicator Bacteria. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.
2011. O. M. Lindsey, R. D. Sealy, V. J. Harwood, **K. V. Gordon**, G. W. Buck, and J. B. Mott. Comparison of Four Molecular Assays for Human Fecal Contamination in Texas Coastal Waters. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.
2011. **Z. R. Staley**, **E. Chase**, C. Mitraki, **J. K. Senkbeil**, T. L. Crisman, V. J. Harwood. The Effects of Land Use on Fecal Microbial Levels in Artificial Phosphate Mine Lakes. American Society for Microbiology General Meeting, New Orleans, LA May 22-25.
2011. V.J. Harwood, **K.V. Gordon** and **C. Staley**. Performance Criteria and Field Testing of QPCR Methods for Human-Associated Microbial Source Tracking Markers and Fecal Indicator Bacteria in Fresh and Salt Surface Waters. U.S. Environmental Protection Agency National Beaches Conference. Miami, FL, March 15-17.
2010. **C. Staley** and V.J. Harwood. Analysis of the relationship of water quality and physical parameters to *Vibrio vulnificus* abundance and virulence factor distribution. Vibrios in the Environment, Biloxi MS, Nov 6-8.
2010. **E. Chase** and V.J. Harwood. Influence of temperature, salinity, and pH on logistic growth rate of *Vibrio vulnificus* biotypes as determined by culture-based and real-time PCR methods. Vibrios in the Environment, Biloxi MS, Nov 6-8.
2010. M. J. Brownell, V. J. Harwood, J. E. Lepo, S. Y. Wang, K. N. Hellein, E. M. Kennedy and X. Ye. Field Testing of Library-Independent Microbial Source Tracking Methods in the Gulf of Mexico. American Society for Microbiology General Meeting, San Diego, CA, May 23-27.
2010. **C. Staley**, K. Reckhow, J. Lukasik, V. J. Harwood. Assessment of Sources of Human Pathogens and Fecal Contamination in a Florida Freshwater Lake. American Society for Microbiology General Meeting, San Diego, CA, May 23-27.
2010. **Z.R. Staley**, J.R. Rohr and V.J. Harwood. Investigation of Direct and Indirect Effects of Agrochemicals on Fecal Indicator Bacteria. American Society for Microbiology General Meeting, San Diego, CA, May 23-27.
2010. **M. Penugonda^a**, **Z. Nisbeth**, C. Mitraki, **Z. Staley**, **P. Wanjugi**, M. Brownell, **B. Badgley**, and V. J. Harwood. 2010. Using Replicate Phosphate Lakes to Investigate the Effects of Land Use on the Contamination of Water by Fecal Indicator Bacteria. National Conference on Undergraduate Research, Missoula, MT, April 15-17.

2010. **Z. Staley**, J. Rohr, and V. J. Harwood. The Effects of Agrochemicals on the Fate of Fecal Indicator Bacteria in Surface Waters. Land Grant & Sea Grant National Conference, Hilton Head, SC, Feb 21-25.
2009. **Z. Staley**, J. Rohr, and V. J. Harwood. Direct effects of agrochemicals on indicator bacteria. Southeastern Branch ASM Annual Meeting, Savannah GA Nov 6-7.
2009. **Z. Nisbeth**, A. Korajkic, V.J. Harwood. *E.coli* Survival in Fresh and Saltwater. Southeastern Branch ASM Annual Meeting, Savannah GA Nov 6-7.
2009. **M. Penugonda**, Z. Nisbeth, C. Mitraki, M. Brownell, B. D. Badgley, and V. J. Harwood. Using Replicate Phosphate Lakes to Investigate the Effects of Land Use on the Concentration of Fecal Indicator Bacteria in Lake Water and Sediments. Southeastern Branch ASM Annual Meeting, Savannah GA Nov 5-7.
2009. **M. Penugonda**, Z. Nisbeth, C. Mitraki, M. Brownell, B. D. Badgley, and V. J. Harwood. Using Replicate Phosphate Lakes to Investigate the Effects of Land Use on the Concentration of Fecal Indicator Bacteria in Lake Water and Sediments, National Conferences on Undergraduate Research, April 15-17, Missoula, Montana.
2009. **A. Korajkic** and V.J. Harwood. Pathogen Analysis and Microbial Source Tracking at Tampa Bay Beaches. American Society for Microbiology General Meeting, May 17-21, Philadelphia, PA.
2009. **B.D. Badgley** and V.J. Harwood. Investigating the Importance of Sediment and Submerged Aquatic Vegetation as Environmental Reservoirs for Water Quality Indicator Bacteria. American Society for Microbiology General Meeting, May 17-21, Philadelphia, PA.
2009. **C. Staley, J. Fowler** and V.J. Harwood. Analysis of the Distribution of Putative Virulence Markers and Virulence Factors in *Vibrio vulnificus* Strains. American Society for Microbiology General Meeting, May 17-21, Philadelphia, PA.
2008. **S. M. McQuaig**, T. M. Scott, J. O. Lukasik and V. J. Harwood. Development and validation of a sensitive Taqman® real time PCR assay for the quantification of two human polyomaviruses (JCV and BKV) in human-associated waste samples. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. **C. Staley** and V. J. Harwood. A conserved hypothetical protein may aid in typing *Vibrio vulnificus*. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. **A. Korajkic** and V.J. Harwood. Pathogen Analysis and Microbial Source Tracking at Tampa Bay Beaches. Southeastern Branch meeting of the American Society for Microbiology, Nov 6-8, Jacksonville, FL
2008. **A. Korajkic, B. Badgley**, P. Lazaraevitch and V.J. Harwood. Application of library-independent microbial source tracking in a Gulf of Mexico field setting. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. **P. Koch** and V.J. Harwood. Determination of differential survival of *Escherichia coli* and *Enterococcus* spp. strains under hydrodynamically active conditions

- using BOX-PCR typing. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. **B.D. Badgley** and V.J. Harwood. The importance of submerged aquatic vegetation as a potential habitat for persistent *Enterococcus spp.* in a subtropical watershed. American Society for Microbiology General Meeting, Boston Mass. June 1-5.
2008. M. Kirs, V.J. Harwood, A.E. Fidler, C.D. Cornelisen, P.A. Gillespie and W.R. Fyfe. Evaluation of library independent microbial source tracking markers in New Zealand. American Society for Microbiology General Meeting, Boston Mass. June 1-5.
2008. A. Abdelzaher, M. Wright, H. Solo-Gabriele, S. Elmir, P. Shih, X. Newman, G. Miller, C. Sinigalliano, M. Gidley, D. Wanless, T. Scott, G. Lucasik, V. Harwood, S. McQuaig, T. Bonilla, F. Bonilla, C. Palmer, L. Plano, L. Fleming. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. T.W. Macbeth, J.L. Weidhaas, R.L. Olsen, K.S. Sorenson, and V.J. Harwood. Identification and Validation of a Novel Poultry Litter Biomarker for Tracking Fecal Pollution. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. M.J. Brownell, Cindy Morris, and V. J. Harwood. Determination of Sources of Fecal Indicator Bacteria Causing Beach Advisories in Hillsborough County, Florida. First Annual Monitoring Forum, Gulf of Mexico Alliance. St. Petersburg, FL, June 3-5.
2008. M. Kirs, V. J. Harwood, P. A. Gillespie, A. E. Fidler and C. D. Cornelisen. Application of microbial source tracking (MST) technologies for identifying the source of microbial contamination in the lower Maitai River (Nelson City) and Little Sydney Stream (Tasman District) New Zealand Water and Wastes Association, Christchurch, New Zealand Sept 24-26, 2008.
2007. **S. McQuaig**, T.M. Scott and V.J. Harwood. Blinded Evaluation of Alternative Indicator Methods for use in an Epidemiology Study at Doheny Beach, California. Southeastern Branch ASM Annual Meeting, Auburn AL Nov 8-10.
2007. **P. Koch** and V.J. Harwood. Comparison of DNA Purification Methods for Differentiation of *Escherichia coli* Strains Using rep-PCR Southeastern Branch ASM Annual Meeting, Auburn AL Nov 8-10.
2007. **B. Badgley** and V.J. Harwood. The effects of submerged aquatic vegetation and temperature on the survival of enterocci bacteria in controlled mesocosms. Southeastern Branch ASM Annual Meeting, Auburn AL Nov 8-10.
2007. C. Staley, C.M. Wapnick and V.J. Harwood. Use of Indicator Organisms and Microbial Source Tracking to Identify Sources of Water Contamination. Southeast Stormwater Association Annual Fall Conference, Oct 24-26, Nashville TN.
2007. **C. Staley** and V.J. Harwood. Characterization of a Putative Virulence Marker in *Vibrio vulnificus* Unique to Clinically-Associated Strains. American Society for Microbiology General Meeting, May 20-24, Toronto, Canada.

2007. **P.W. Koch** and V.J. Harwood. Decay Rates of Indicator Organisms in a Hydrodynamically Active Flume System. American Society for Microbiology General Meeting, May 20-24, Toronto, Canada.
2007. A. Korajkic and V.J. Harwood. Survival of the Fittest: Proliferation of *Escherichia coli* Strains in Secondary Habitats. American Society for Microbiology General Meeting, May 20-24, Toronto, Canada.
2007. S.M. McQuaig, M.B. Brownell and V.J. Harwood. Application of Microbial Source Tracking Methods for Human-Associated Sewage at Sites Suspected of Contamination by Compromised Wastewater Handling Systems. American Society for Microbiology General Meeting, May 20-24, Toronto, Canada.
2007. Cheryl M. Wapnick, Valerie J. Harwood, Asja Korajkic and Donald R. Deis. A Guide for Assessing Fecal Contamination in Northeast Florida Tributaries. Southeast Stormwater Association Fall Meeting, Oct 24-26, Nashville, TN

INVITED SPEAKER (Since 2007)

2012. A Darwinian Tale of Microbial Source Tracking – or, Be Careful Where You Step. University of South Florida Dept. Civil & Environmental Engineering. January 23, Tampa, FL.
2012. A Darwinian Tale of Microbial Source Tracking. West Virginia University. Department of Crop & Soil Science; Dept. Civil & Environmental Engineering. January 17, Tampa, FL.
2011. Human Polyomaviruses Analysis. State of California Source Identification Pilot Project (SIPP) Method Evaluation Study Meeting. December 13-14, Costa Mesa, CA.
2011. Case Studies and Caveats: Microbial Source Tracking in Coastal Waters. Coastal and Estuarine Research Federation Meeting, November 6-11, Daytona Beach, FL (session co-convenor).
2011. Critical Performance Measures and Strategies for Standardization of Microbial Source Tracking Methods. U.S. Environmental Protection Agency Region 10 Microbial Source Tracking Meeting. September 7, Tacoma, WA.
2011. Microbiology and Microbial Source Tracking. Venice Beach, FL Public Works Department, June 24.
2011. Microbial Pathogens and Fecal Indicator Bacteria in Reuse Water and other Venues: Caveats and Emerging Detection Technologies. Idaho Water Reuse Meeting, Boise, ID. May 24-25.
2011. What's in Your Water? Tracking Intruders and the Link to *Vibrio vulnificus*. Emerging Pathogens Institute, University of Florida, Gainesville, FL Jan 19.
2011. What's in Your Water? Tracking Intruders and the Link to *Vibrio vulnificus*. Department of Food Safety and Nutrition, University of Florida, Gainesville, FL Jan 18.

2010. The Pathogenic *Vibrio* species: Implications for Recreational and Drinking Water Quality in Florida. Florida Environmental Health Association, St. Petersburg, FL Dec 8
2010. New Faces: Emerging Indicators of Fecal Pollution. American Society for Microbiology General Meeting, San Diego, CA, May 23-27.
2009. Just When You Thought It Was Safe to Go Back In the Water...University of South Florida Department of Integrative Biology, Tampa FL Sept 3, 2009
2009. Water Quality in the 21st Century. Hillsborough Community College Seminar Series. April 21
2009. Beyond “Fecals:” Water Quality Assessment in the 21st Century. Florida Department of Health, Tampa FL April 1, 2009
2009. Year 1 of the Collaborative Gulf of Mexico Microbial Source Tracking Study (USF, USM, UWF). Gulf of Mexico Alliance Pathogen Workshop. St.Pete Beach, FL, Feb 11
2008. Microbial Source Tracking: The Science. U.S. Environmental Protection Agency Region IV, Atlanta, GA, September 18, 2008.
2008. Establishing Performance Criteria for Microbial Source Tracking Methods. American Society for Microbiology General Meeting, June 1-5, Boston, Mass.
2008. Microbial Source Tracking: TMDL and BMPAP Applications. Hampton Roads Sanitation District, Norfolk, VA, April 10.
2008. Microbial Source Tracking: Toolbox or Pandora’s Box for Determining Sources of Fecal Pollution in Florida Waters? NSF-NIEHS Oceans & Human Health Center, University of Miami Rosenstiel School of Marine and Atmospheric Sciences, Miami FL Jan 18.
2007. Practical Strategies for Microbial Source Tracking. Florida Stormwater Association Fall Meeting, Dec 5-7, Orlando FL.
2007. Method Validation and Practical Strategies for Microbial Source Tracking. ASA-CSSA-SSSA International Meeting, New Orleans LA, Nov 5.
2007. Adventures in Microbial Source Tracking. Florida Environmental Health Association, Jacksonville, FL June 28.
2007. A Decade of Water Quality Research in Florida. Department of Biology, University of North Florida, Jacksonville FL. April 13.
2007. Microbial Source Tracking: Promise, Reality, and Potential. Cawthron Institute, Nelson, New Zealand March 15, 2007
2007. Validation of Performance in Library-Dependent Microbial Source Tracking Methods. USDA-CSREES National Water Conference, Savannah GA, Jan 28 – Feb 1.

SCIENTIFIC SERVICE

Current:

- 2011 - Young Faculty Mentor, West Virginia University, Dept. Civil & Environmental Engineering (J. Weidhaas)
- 2011-2012 Gulf of Mexico Alliance Microbial Source Tracking Workshop Steering Committee
- 2009 - Gulf of Mexico Alliance Pathogens Workgroup
- 2009 - University of New England Center for Land-Sea Interactions External Advisory Board
- 2006 – Editorial Board: Applied and Environmental Microbiology

Previous:

- 2011 Session Co-convenor, Microbial Source Tracking: Fecal Pollution Sources in Coastal Waters. Coastal and Estuarine Research Federation Meeting Nov 6-11.
2011. Experts Scientific Workshop on Avian Wildlife and Human Health Risks. Atlanta, GA, November 15-17.
- 2011 Florida American Water Works Association Biological Contaminants Committee Webinar. “*Campylobacter*: It’s Not Just for Dinner Any More. July 6.
2010. Florida American Water Works Association Biological Contaminants Committee Webinar. The Pathogenic *Vibrio* species and their Potential as Drinking Water contaminants. Nov. 3
- 2009 U.S. Environmental Protection Agency Recreational Waters Research Forum (invited). Costa Mesa, CA April 23
- 2009 Water Environment Research Foundation Panel on Sources of Fecal Pollution in Inland Waters (invited). Dallas TX Feb 18-20.
- 2007 USEPA International Experts Meeting for Microbial Source Tracking (invited). Cincinnati, OH July 9 – 11
- 2007 - 2011 Florida Stormwater Association Research Advisory Council
- 2004-2005 President, Southeastern Branch American Society for Microbiology
- 2004 Participation in workshops and lead writer on USEPA Guide Document for Microbial Source Tracking (invited).
- 2003 President-elect, Southeastern Branch American Society for Microbiology.
- 2002-2004. Policy Committee, Southeastern Branch American Society for Microbiology.
- 2001, 2002, 2004. Convener, Environmental Microbiology Session, Southeastern Branch American Society for Microbiology.

- 2001 – 2003 Pinellas County Water Technology Advisory Group
 1996 - 2000 Guana, Tolomato, Matanzas Shellfish and Water Quality Task Force

Ad Hoc Manuscript Reviews for Letters in Applied Microbiology, Journal of Applied Microbiology, Environmental Science and Technology, Water Research, Journal of Environmental Quality, Journal of Virology, Environmental Microbiology

Grant reviews for: Austrian Academy of Sciences, Australian Antarctic Program, South Africa Medical Research Council, U.S. Environmental Protection Agency, U.S. Department of Agriculture, National Science Foundation

SERVICE ON GRANT PANELS

- 2005 US Department of Agriculture Small Business Innovative Research (SBIR) **panel manager**
 2004 US Department of Agriculture Small Business Innovative Research (SBIR)
 2003 New York Sea Grant
 2003 US Department of Agriculture Small Business Innovative Research (SBIR)
 2002 Cooperative Institute for Coastal and Estuarine Environmental Technology (NOAA/UNH).

GRADUATE STUDENTS (completed degree)

- 2010 Asja Korajkic, Ph.D. Currently employed as postdoctoral research associate at U.S. Environmental Protection Agency, Cincinnati, OH.
 2009 Brian Badgley, Ph.D. Currently employed as postdoctoral research associate at University of Minnesota
 2009 Bina Nayak, Ph.D. Currently employed as a postdoctoral research associate at USF
 2009 Shannon McQuaig, Ph.D. Currently employed as faculty member at USF St. Petersburg
 2008 Katrina V. Gordon. Ph.D. Currently employed as postdoctoral research associate at USF.
 2008. Phoebe Koch. Master's degree in Microbiology. Currently employed as secondary school teacher, Hillsborough County, FL.
 2006 Miriam Brownell. Master's degree in Microbiology. Currently employed as laboratory manager at City of St. Petersburg Water
 2005 Vasanta Chivukula Ph.D. in Biology. Currently employed as a faculty member at Atlanta Metropolitan Community College.
 2004 Robert Ulrich. Masters degree in Microbiology. Currently Ph.D. graduate student at USF Marine Science.

- 2003 Matthew Anderson. Masters degree in Microbiology. Currently employed as research associate at Algenol Biofuels, Bonita Springs, FL.
- 2003 Kimberly L. Hood. Masters degree in Microbiology. Completed Ph.D. at University of Maryland in 2009. Currently employed as scientist at Algenol Biofuels, Bonita Springs, FL.
- 2001 John M. Pisciotto. Masters degree in Biology. Ph.D. from Johns Hopkins University, Baltimore, MD; employed as postdoctoral research associate at Penn State University.
- 2001 Michael Harris (co-Major Professor) Ph.D. in Chemistry. Currently research scientist at Los Alamos National Laboratories.

GRADUATE STUDENTS (current)

	Degree	Began	Scheduled	Completion
Chris Staley	Ph.D.	2007		May 2012
Zachary Staley	Ph.D.	2008		2013
Pauline Wanjugi	Ph.D.	2009		2014
Eva Chase	Ph.D.	2010		2015
Kamal Aljohani	Masters	2012		2014

Marc J. Lajeunesse

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PROFESSIONAL APPOINTMENTS

Assistant Professor. Department of Integrative Biology, *University of South Florida*,
Tampa FL, USA (Sept. 2010 – ongoing)
Post Doctoral Fellow. National Evolutionary Synthesis Center (NESCent), *Duke*
University, Durham NC, USA. (Oct. 2008 – Sept. 2010)

EDUCATION.....

Ph.D. (Ecology) 2008, *Cornell University*, Ithaca NY, USA.
M.Sc. (w/ Distinction, Biology) 2002, *Carleton University*, Ottawa ON, Canada.
B.Sc. (Honours, Biology) 2000, *Carleton University*, Ottawa ON, Canada.

PUBLICATIONS.....

a) Articles

Lajeunesse, M.J. and Forbes, M.R. (2002) Host range and local parasite adaptation.
Proceedings of the Royal Society of London, Series B. **269**, 703–710.

Lajeunesse, M.J. and Forbes, M.R. (2003) Variable reporting and quantitative
reviews: a comparison of three meta-analytical techniques. *Ecology Letters* **6**,
448–454.

Lajeunesse, M.J. and Forbes, M.R. (2003) A comparison of structural size and
condition in two female morphs of the damselfly *Nehalennia irene* (Hagen)
(Zygoptera : Coenagrionidae). *Odonatologica* **32**, 281–287.

Lajeunesse, M.J., Forbes, M.R. and Smith, B.P. (2004) Species and sex biases in
ectoparasitism of dragonflies by mites. *Oikos* **106**, 501–508.

Johnson, M.T.J., **Lajeunesse, M.J.** and Agrawal, A.A. (2006) Additive and
interactive effects of plant genotypic diversity on arthropod communities and
plant fitness. *Ecology Letters* **9**, 24–34. [ranked ‘Exceptional’ by the Faculty of

1000]

- Beirinckx, K., Van Gossum, H., **Lajeunesse, M.J.** and Forbes, M.R. (2006) Sex biases in dispersal and philopatry: insights from a meta-analysis based on capture–mark–recapture studies of damselflies. *Oikos* **113**, 539–547.
- Lajeunesse, M.J.** (2007) Ectoparasitism of damselflies by water mites in Central Florida. *Florida Entomologist* **90**, 643–649.
- Agrawal, A.A., **Lajeunesse, M.J.** and Fishbein, M. (2008) Evolution of latex and its constituent defensive chemistry in milkweeds (*Asclepias*): a phylogenetic test of plant defense escalation. *Entomologia Experimentalis et Applicata* **128**, 126–138.
- Lajeunesse, M.J.** (2009) Meta-analysis and the comparative phylogenetic method. *American Naturalist* **174**, 369–381.
- Garamszegi, L.Z., Calhim, S., Doctermann, N., Hegyi, G., Hurd, P.L., Jørgensen, C., Kutsukake, N., **Lajeunesse, M.J.**, Pollard, K.A., Schielzeth, H., Symonds, M.R.E. and Nakagawa, S. (2009) Changing philosophies and tools for statistical inferences in behavioral ecology. *Behavioral Ecology* **20**, 1363–1375.
- Lajeunesse, M.J.** (2010) Achieving synthesis with meta-analysis by combining and comparing all available studies. *Ecology* **91**, 2561–2564.
- Carmona, D., **Lajeunesse, M.J.** and Johnson, M.T.J. (2011) Plant traits that predict resistance to herbivores. *Functional Ecology* **25**, 358–367.
- Lajeunesse, M.J.** (2011) *phyloMeta*: a program for phylogenetic comparative analyses with meta-analysis. *Bioinformatics* **27**, 2603–2604.
- Lajeunesse, M.J.** (2011) On the meta-analysis of response ratios for studies with correlated and multi-group designs. *Ecology* **92**, 2049–2055.
- Paker, J.D., Burkepile, D.E., **Lajeunesse, M.J.**, and Lind, E.M. (2012) Phylogenetic isolation increases plant success despite increasing susceptibility to generalist herbivores. *Diversity and Distributions* **18**, 1–9.
- Parachnowitsh, A.L. and **Lajeunesse, M.J.** (2012) Adapting with the enemy: local adaptation in plant–herbivore interactions. *New Phytologist* **193**, 294–296.

b) *Book Chapters*

- Lajeunesse, M.J.** (in press) Power statistics for meta-analysis: test for mean effects and homogeneity. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.
- Lajeunesse, M.J.** (in press) Recovering missing or partial data from studies: a survey of conversions and imputations for meta-analysis. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.
- Lajeunesse, M.J.**, Jennions, M.D. and Rosenberg, M.S. (in press) Phylogenetically-

independent meta-analysis. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.

Curtis, P., Mengersen, K., **Lajeunesse, M.J.**, Rothstein, H. and Stewart, G. (in press) Extraction and critical appraisal of data for meta-analysis. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.

Lortie, C.J., Lau, J. and **Lajeunesse, M.J.** (in press) Graphical presentation of meta-analytical results. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.

Schmid, C.H., Stewart, G., Rothstein, H.R., **Lajeunesse, M.J.** and Gurevitch, J. (in press) Software for statistical meta-analysis. In J. Koricheva, J. Gurevitch, and K. Mengersen, editors. *Handbook of meta-analysis in ecology and evolution*. Princeton University Press, Princeton, New Jersey, USA.

c) *Submitted Manuscripts*

Robinson, S.A., **Lajeunesse, M.J.**, and M.R. Forbes. A meta-analysis of sex differences in mercury contamination of birds challenges conventional wisdom. *Frontiers in Ecology and the Environment* (submitted 10/02/2011; ref. #11FRN0208)

Chamberlain, S.A., Hovick, S.M., Dibble, C.J., Rasmussen, N.L., Van Allen, B.G., Maitner, B.S., Ahern, J.R., Bell-Dereske, L.P., Roy, C.L., Meza-Lopez, M., Carrillo, J., Siemann E., **Lajeunesse, M.J.**, and Whitney K.D. Does phylogeny matter? Assessing the impact of phylogenetic information in ecological meta-analysis. *Ecology Letters* (submitted: 11/10/2011; ref # ELE-01120-2011).

SOFTWARE

Lajeunesse, M.J. (2011) phyloMeta. Windows version 1.3 beta. Released 05/12/11. (freely available at <http://lajeunesse.myweb.usf.edu>)

GRANTS, FELLOWSHIPS & AWARDS

a) *Grants*

- NSF Grant proposal (#1146858), “Collaborative Research: ABI Development: New Statistical Software for the Advancement of Qualitative Research Synthesis in Ecology and Evolutionary Biology”. Submitted July 2011. PI’s: Marc J. Lajeunesse and Jessica Gurevitch (with subcontracts to Christopher H. Schmid and Thomas A. Trikalinos at the Tufts Medical Center, Institute for Clinical Research and Health Policy Studies). Total requested: \$870,823 US (MJL:

\$167,616 and JG: \$703,207)

- National Evolutionary Synthesis Center Postdoctoral Research Grant – '08, '09, '10, \$5,000 US (total \$15,000; declined 3rd year of funding)
- Andrew W. Mellon Student Research Grant (College of Agriculture and Life Sciences, Cornell University) – '06, \$1,200 US
- Department of Ecology and Evolutionary Biology Summer Research Grant (Cornell University) – '06, \$618 US
- NSF IGERT Small Research Grant in Biogeochemistry and Environmental Biocomplexity – '05, \$2,000 US
- Sigma XI (Cornell Chapter) Research Support Grant – '05, \$600 US
- Department of Ecology and Evolutionary Biology Summer Research Grant (Cornell University) – '05, \$500 US

b) *Fellowships*

- National Evolutionary Synthesis Center Postdoctoral Fellowship (Duke University, Durham NC) – '08 to '11, \$119,000 US (declined 3rd year of funding)
- National Sciences and Engineering Research Council of Canada (NSERC) Postdoctoral Scholarship – '08, \$80,000 CND (declined)
- Kathleen & Donald Strong Hull Fellowship (University of Toronto) – '03, \$5,900 CND
- Natural Sciences and Engineering Research Council of Canada (NSERC), University of Toronto Fellowship – '03, \$2,500 CND
- Natural Sciences and Engineering Research Council of Canada (NSERC), Postgraduate Scholarship B – '03 and '04, \$42,000 CND (declined 2nd year)
- Ontario Graduate Student Postgraduate Scholarship (OGS) – '03, \$30,000 CND (declined)

c) *Awards*

- American Society of Naturalists, Graduate Student Travel Award – '07, \$800 US
- School of Graduate Studies Travel Grant (Cornell University) – '07, \$600 US
- Teaching Award for “Persistent Dedication in Facilitating the Cornell University Teaching Assistant Development Workshops” (Centre for Learning and Teaching, Cornell University) – '06, \$100 US
- School of Graduate Studies Travel Grant (Cornell University) – '06, \$200 US
- University Medal for Outstanding Graduate Work, Master’s Level (given to one graduating Master’s degree among all fields; Carleton University) – '02
- Canadian Society of Zoologists Travel Award – '02, \$200 CND
- Award for best B.Sc. Honours Thesis poster in Dept. Biology undergraduate symposia (Carleton University) – '00, \$150 CND

INVITED WORKGROUPS, COMMITTEES, & SEMINARS

a) *Workgroup member*

- *National Evolutionary Synthesis Center* (NESCent) workgroup on “Working group to solve problems in model selection and phylogeny in mixed multi-factor meta-analysis” lead by J. Hoeksema (University of Mississippi) and J. Bever (Indiana University). Durham, NC, Jan. 2012–ongoing.
- *National Center for Ecological Analysis and Synthesis* (NCEAS) workgroup on “Meta-analysis in Ecology: Lessons, Challenges and Future” lead by J. Koricheva (Royal Holloway University of London) and J. Gurevitch (SUNY, Stony Brook). Santa Barbara, CA, 2006–2008. See our website: <http://www.nceas.ucsb.edu/meta>
- *Collaboration for Environmental Evidence* (CEE), ecological methods workgroup on “Exploring new statistical approaches to data synthesis and methodological approaches to reducing bias in datasets”. 2006–2009. Currently, CEE is based at the *Centre for Evidence Based Conservation* (CEBC) in Bangor University, UK. See our website: <http://www.environmentalevidence.org/EMGPeople.html>

b) *Committees and grant reviews*

- Invited Grant Reviewer. NSF IGERT review committee member for Biogeochemistry and Environmental Biocomplexity research grants: reviewed proposals and allocated \$40,000 US among graduate student applicants (42 applicants, 16 funded). – Mar. '06.
- Committee leader and primary organiser of the 2007/2008, 2006/2007 and 2005/2006 Department of Ecology and Evolutionary Biology *Lunch Bunch* Seminar Series (total 50 seminars; Cornell University). – Sept. '05 to June '08.
- Undergraduate representative and committee member for interviewing applicants to new faculty positions (Biology Department, Carleton University). – Jan. '00 to Mar. '00.

c) *Departmental seminars and symposia talks (indicated with *)*

- Lajeunesse, M.J.** (March 2011) Rice University, Department of Ecology and Evolutionary Biology. Houston, TX.
- Lajeunesse, M.J.** (March 2010) University of South Florida, Department of Integrative Biology. Tampa, FL.
- Lajeunesse, M.J.** (Feb. 2010) *The National Evolutionary Synthesis Center*. Durham, NC.
- Lajeunesse, M.J.** (Nov. 2008) *The National Evolutionary Synthesis Center*. Durham, NC.
- Lajeunesse, M.J.** (Aug. 2008) *Cornell University, Department of Ecology and Evolutionary Biology*. Ithaca, NY.
- * **Lajeunesse, M.J.** (Aug. 2008) *International Society for Behavioral Ecology* (Ithaca, NY). Symposia: Advances in statistical philosophy and experimental design in behavioural ecology.
- * **Lajeunesse, M.J.** (May 2008) *Tree Thinking Symposia*, 2008. Ithaca, NY.
- Lajeunesse, M.J.** (Jan. 2006) *Laurentian University, Biology Department*. Sudbury,

ON

Lajeunesse, M.J. (Oct. 2005) *Laboratory of Ornithology*. Cornell University, Ithaca, NY

Lajeunesse, M.J. (Aug. 2002) *Carleton University, Department of Biology*. Ottawa, ON.

CONFERENCE PRESENTATIONS

Lajeunesse, M.J. (2011) *Evolution 2011*. Norman, OK, USA.

Lajeunesse, M.J. (2009) *Evolution 2009*. Moscow, ID, USA.

Lajeunesse, M.J. (2007) *Evolution 2007*. Christchurch, New Zealand.

Forbes M.R., Robb, T., **Lajeunesse, M.J.** and Smith, B.P. (2006). *XIIth International Congress of Acarology*. Amsterdam, Netherlands.

Lajeunesse, M.J. and Forbes, M.R. (2006) *XIth International Congress of Parasitology*. Glasgow, Scotland.

Lajeunesse, M.J. (2006) *Evolution 2006*. Stony Brook, LI, USA.

Lajeunesse, M.J. (2005) *ESA Ecology Conference*. Montreal, QC, Canada.

Lajeunesse, M.J. (2005) *29th Annual Ontario Ecology & Ethology Colloquium*. Ottawa, ON, Canada.

Lajeunesse, M.J. (2004) *ESA Ecology Conference*. Portland, OR, USA.

Lajeunesse, M.J. (2004) *28th Annual Ontario Ecology & Ethology Colloquium*. Missasauga, ON, Canada.

Lajeunesse, M.J. (2004) *Gordon research conference: plant–herbivore interactions*. Ventura, CA, USA. (poster)

Lajeunesse, M.J. and Forbes, M.R. (2002) *Canadian Society of Zoologists Annual Meeting*. Lethbridge, AB, Canada.

Lajeunesse, M.J. and Forbes, M.R. (2002) *26th Annual Ontario Ecology & Ethology Colloquium*. Kingston, ON, Canada.

TEACHING QUALIFICATIONS

a) Course Instruction

- *Medical and Applied Entomology* (BSC4933), University of South Florida, Tampa, FL. (students: 48 undergraduates). Jan 9– ongoing, '12.
- *Parasitology* (BSC4933), University of South Florida, Tampa, FL. (students: 70 undergraduates). Aug 22–Dec. 2, '11.
- *Parasitology Laboratory* (BSC4933), University of South Florida, Tampa, FL. (students: 17 undergraduates). Aug 22–Dec. 2, '11.
- *Introductory Biology II – Biological Diversity* (BSC2011), University of South Florida. Tampa, FL. (students: 120 undergraduates). Jan 10–April 29, '11.
- *An Introduction to Meta-analysis in Ecology and Evolutionary Biology: NESCent Summer Course 2009*. Durham, NC. Co-Instructor with Jessica Gurrevitch (SUNY Stony Brook) and Kerrie Mengersen (University of Queensland).

(students: 15 graduate students, 5 postdocs, 4 profs). June 5–10, '09.

- *Evolutionary Biology, Writing in the Majors* (2nd year course, Cornell University). I had 12 students in 2008 and 17 in 2006 for which had the responsibility to develop the course curriculum, mentor individual student projects, and assign finals course grades. Spring '08 and Spring '06.

b) *Teaching Workshops Lead*

- *Meta-analysis: a primer. Odonatology workshop*. Seili, Finland. Sponsored by University of Turku and Academy of Finland. Co-Instructor with Mark Forbes (Carleton University). May 4–9, '09.
- *Graduate Student Professional Development Workshop* (College of Agriculture and Life Sciences, Cornell University). – Aug. '06, Jan. '07, Sept. '07, Feb. '07. Co-ordinating microteaching scenarios (filming teaching assistants during class) and analysis of teaching for new TA's across all biology related departments.
- *Teaching Assistant Development Workshop* (Centre for Learning and Teaching, Cornell University). Workshop entitled: “Dealing with students during office hours” – Mar. '07
- *Teaching Assistant Development Workshop* (Centre for Learning and Teaching, Cornell University). Workshop entitled: “Facilitating learning in the laboratory”. – Sept. '07.
- *Graduate Student Development Workshop* (Centre for Learning and Teaching, Cornell University). Workshop entitled: “Managing stress and achieving balance”. – Sept. '06.
- *C++ for Biology, Programming Workshop* (University of Toronto). Taught and mentored 7 graduate students in the Departments of Zoology and Botany on C++ and individual research projects. Apr. to Aug. '04.

c) *Skill Development in Undergraduate Education*

- *Internship in Education* (EDUC 620, Dept. of Education, Cornell University). A fifteen-week course on learning and applying constructivist models for teaching undergraduates (supervised by David Way). – '06.
- *Writing in the Majors Seminar* (WRIT 701, John S. Knight Institute for Writing in the Disciplines, Cornell University). A six-week course on teaching strategies in advanced writing instruction of undergraduates (supervised by Keith Hjortshoj). – '06.
- *Graduate Student Professional Development Workshop* (College of Agriculture and Life Sciences, Cornell University). A five day workshop on microteaching analysis and criticism. – '05.

d) *Teaching Assistantships*

- **Teaching assistant.** *Evolutionary Biology* (2nd year course; Fall '07 and Fall '05), Cornell University.
- **Lab demonstrator.** *Introductory Biology* (1st year course; Fall/Spring '03/'04),

University of Toronto.

- **Lab co-ordinator and demonstrator.** *Animal Behaviour* (3rd year course; Fall '02), Carleton University. I assisted 23 students in conceiving, designing, analysing, and writing individual research projects on behaviour.
- **Teaching assistant.** *Animal Physiology* (3rd year course; Spring '00 and Fall '01) Carleton University.
- **Teaching assistant.** *Introductory Biology* (1st year course; Spring '01), Carleton University.

OUTREACH

- Member of the organizational committee for *Darwin Day 2010* public open house. Co-sponsored by NESCent and the N.C. Museum of Natural Sciences. (Raleigh, NC).
- Society for the Study of Evolution and the Society of Systematic Biologists *Undergraduate Diversity Mentorship* of two undergraduates attending the *Evolution 2009* conference. Moscow, ID. July 4–9, '09.
- Organized a three-week outreach course on insect diversity for a first-grade class in Fall Creek Elementary as part of the *Graduate Student School Outreach Project* (GSSOP, *Cornell University*) – April to May '07.
- Presenter of plant-insect interactions display during the 3rd Annual Insectapalooza (*Department of Entomology* public open house, *Cornell University*) – Oct. '06.
- Presenter of parasitism and entomology research during the '00, '01, '02 and '03 *Queen's University Biological Station* public open house (Chaffey's Locks, ON).

Curriculum Vitae
February 2012

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Profile:

Education

PhD University of Wisconsin-Madison, Limnology and Marine Science, 2000
MS University of Wisconsin-Madison, Oceanography and Limnology, 1996
BA University of Kansas, Biology, 1994

Positions

Assistant Professor Department of Integrative Biology, University of South
Florida, 2009-present
Post-doctoral Researcher Department of Crop and Soil Sciences, The Pennsylvania
State University, 2005-2009
Post-doctoral Researcher Global Institute of Sustainability and School of Life
Sciences, Arizona State University, 2000-2005

Research Interests

Ecology of freshwater and intertidal systems; Land-water nutrient coupling;
Ecohydrology; Urban ecology; Interdisciplinary social-ecological research

Service and Professional Activities

University of South Florida—department, college, and university level

- Reviewer, USF Institutional Review Board (2011-study on student learning outcomes of course redesign in introductory biology)
- Member, USF Ecological Research Area steering committee (2011-present)
- Research Affiliate, USF Office of Sustainability (2010-present)
- Member, Groundwater Geochemist Faculty Search Committee, Dept of Geology (2010)
- Member, Governance Document ad hoc committee, Dept of Integrative Biology (2010)
- Member, Course Curriculum Committee, Dept of Integrative Biology (2009-2011)

- Member, Learning Assessment Plan Committee, to assess undergraduate knowledge and skills in biology, pursuant to SACS (Southern Assoc. of Colleges and Schools) accreditation, Dept of Integrative Biology (2010-present)
- Member, Steering Committee for USF's proposal to host the International Geosphere-Biosphere Programme's 2012 Conference in Lake Buena Vista, Florida. (2009-2010)

Professional activities for other organizations (2009-present)

- Institutional representative (one of three from USF) to CUASHI (Consortium of Universities for the Advancement of Hydrologic Science, Inc.)
- Panelist, U.S. National Science Foundation, Ecosystem Studies (BIO-DEB) proposal review panel (2010)
- Ad hoc reviewer of proposals to the U.S. National Science Foundation, BIO-Division of Environmental Biology (2011) and GEO-Division of Earth Sciences (2011)
- Ad hoc reviewer of preliminary and full proposals to Maryland Sea Grant (2010)
- Member, Ecological Society of America
- Ad hoc manuscript reviews for indexed refereed journals (2009-present): *Biogeochemistry, Biogeosciences, Ecosystems, Journal of the American Water Resources Association, Journal of Environmental Quality, Journal of the North American Benthological Society, Landscape Ecology, Plant and Soil, Wetlands*
- Textbook review for "SimUText Ecology," SimBiotic Software for Teaching and Research, Inc. (2010)

Workshop participation

- "Developing a network of urban research on climate vulnerability." U.S. Environmental Protection Agency, 11-12 April 2011, Seattle.
- "Urbanization Interactions with Biogeochemistry and Climate." 2nd Workshop of the Young Scientist Network, 09-10 September 2006, Mexico City. Sponsored by the U.S. National Center for Atmospheric Research and Analysis, Integration and Modeling the Earth System.
- "Discharged Urban Waters: Resource of Risk?" 1st World Wide Workshop for Junior Environmental Scientists, 21-24 May 2002, Domaine de Chérioux, Vitry sur Seine, France. With the support of UNESCO.
- "Land-Water Linkages." Long-Term Ecological Research (LTER) project Coordinating Committee meeting, 18-20 April 2002, UNM Sevilleta Field Station, Socorro, NM
- "Integrating Social Science into LTER Programs: Ecosystem Function in Coupled Systems." LTER Biocomplexity Workshop, 29 April–01 May 2002, Baltimore, MD.
- "International Young Researchers' Workshop on Long-Term Ecological Research." US-Japan LTER workshop, 11-19 June 1999, Otsu, and Tomakomai Experimental Forest, Japan.

Mentoring

Current graduate students

- Sharon J. Feit, M.S. candidate, Biology-Ecology and Evolution (2010-present)
- Ralph B. Perkerson, Ph.D. candidate, Biology-Ecology and Evolution (2010-present)

Undergraduate students writing full theses (honors theses, etc.)

- Jewel A. Brown, USF Honors College and Biology Major (2011-present),
“Interactive effects of simulated sea-level rise and warming on microbial carbon and nitrogen cycling in mangrove and salt marsh soils.”
- TaShae Harrison, REU (Langston University) (2010), “Variability of soil organic matter along a toposequence from sand hill scrub to cypress swamp wetland habitat.”

Other advisory committee service (2009-present)

On Ph.D. and M.S. advisory committees for 9 other current and graduated students

Teaching program

Current courses at the University of South Florida

Ecosystem Ecology	Graduate-level course. Emphasizes newly discovered mechanisms in nutrient cycling research, juxtaposing terrestrial and aquatic studies. Traces a proverbial “atom X” from the atmosphere through soil profiles to aquatic systems.
Landscape Ecology	Graduate-level course. Introduces landscape ecology concepts and tools. Gives students a research opportunity by providing them a real set of spatially-explicit data and computing resources for its analysis.
Principles of Ecology	Upper-level undergraduate course. Pairs theory with empirical examples from long-term, comparative, experimental, and modeling studies. Covers all ecological levels, the scientific method, and natural selection.
Ecology Laboratory	Upper-level undergraduate course (separate from lecture). Projects on diverse topics require data collection and analysis, and papers written in IMRD format that exhibit hypothesis development and testing.
Environment	Non-majors course. Emphasizes the science behind environmental change issues (climate change, biodiversity loss, pollution), with complementary focus on socio-political aspects of environmental change. Introduces the role of theory in the scientific method, and how it pertains to understanding evolution and climate change.

Principles of Biology Non-majors course. A comprehensive introduction to living systems, including the scientific basis of biology, cell structure and function, genetic mechanisms, human anatomy and physiology, and ecological and evolutionary processes.

Funded grants (2009-present)

- 1) Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay urban ecosystem, PI: DB Lewis. Co-PIs: FA Akiwumi, TL Crisman, MC Rains, and RK Zarger. National Science Foundation & USDA Forest Service—Urban Long-Term Research Area-Exploratory award. \$289,352; December 2009-June 2012.
- 2) RAPID-Plant species effects on rapid stabilization of nitrogen in soil organic matter of mangrove ecosystems at risk from oil deposition, PI: DB Lewis. Co-PI: A Abd-Elrahman. National Science Foundation RAPID awards, Ecosystem Sciences. \$159,976; 09/01/2010 – 08/30/2012.
- 3) Toward an understanding of coupled biogeochemical cycles in freshwater wetlands, PI: DB Lewis. University of South Florida Office of Research & Innovation, New Researcher Grant. \$20,000; May 2011-May2012.
- 4) Toward a more general definition of biological regulation of soil organic carbon, PI: DB Lewis. University of South Florida Office of Research & Innovation, Proposal Enhancement Grant. \$25,000; 01 Nov 2011-31 Oct 2012.

Bibliography

Peer-reviewed articles in indexed, refereed journals

- 1) Lewis DB and Kaye JP. 2011. Inorganic nitrogen immobilization in live and sterile soil of old-growth conifer and hardwood forests: implications for ecosystem nitrogen retention. *Biogeochemistry* DOI: 10.1007/s10533-011-9627-6.
- 2) Lewis DB, Kaye JP, Jabbour R, and Barbercheck ME. 2011. Labile carbon and other soil quality indicators in two tillage systems during transition to organic agriculture. *Renewable Agriculture and Food Systems* 26:342-353.
- 3) Lewis DB and Grimm NB. 2007. Hierarchical regulation of nitrogen export from urban catchments: interactions of storms and landscapes. *Ecological Applications* 17:2347-2364.
- 4) Lewis DB, Grimm NB, Harms TK, and Schade JD. 2007. Subsystems, flowpaths, and the spatial variability of nitrogen in a fluvial ecosystem. *Landscape Ecology* 22:911-924.
- 5) Lewis DB, Kaye JP, Gries C, Kinzig AP, and Redman CL. 2006. Agrarian legacy in soil nutrient pools of urbanizing arid lands. *Global Change Biology* 12:703-709.
- 6) Lewis DB, Schade JD, Huth AK, and Grimm NB. 2006. The spatial structure of variability in a semi-arid, fluvial ecosystem. *Ecosystems* 9:386-397.

- 7) Schade JD and Lewis DB. 2006. Plasticity in resource allocation and nitrogen use efficiency in riparian vegetation: implications for nitrogen retention. *Ecosystems* 9:740-755.
- 8) Hrabik TR, Greenfield BK, Lewis DB, Pollard AI, Wilson KA, and Kratz TK. 2005. Landscape-scale variation in taxonomic diversity in four groups of aquatic organisms: the influence of physical, chemical, and biological properties. *Ecosystems* 8:301-317.
- 9) Shochat E, Lerman SB, Katti M, and Lewis DB. 2004. Linking optimal foraging behavior to bird community structure in an urban-desert landscape: field experiments with artificial food patches. *The American Naturalist* 164:232-243.
- 10) Greenfield BK, Lewis DB, and Hinke JT. 2002. Shell damage in salt marsh periwinkles (*Littoraria irrorata* [Say, 1822]) and resistance to future attacks by blue crabs (*Callinectes sapidus* [Rathbun, 1896]). *American Malacological Bulletin* 17:141-146.
- 11) Lewis DB and Eby LA. 2002. Spatially heterogeneous refugia and predation risk in intertidal salt marshes. *Oikos* 96:119-129.
- 12) Lewis DB. 2001. Trade-offs between growth and survival: responses of freshwater snails to predacious crayfish. *Ecology* 82:758-765.
- 13) Lewis DB and Magnuson JJ. 2000. Landscape spatial patterns in freshwater snail assemblages across Northern Highland catchments. *Freshwater Biology* 43:409-420.
- 14) Reed-Andersen T, Bennett EM, Jorgensen BS, Lauster G, Lewis DB, Nowacek D, Riera JL, Sanderson BL, Stedman R. 2000. Distribution of recreational boating across lakes: do landscape variables affect recreational use? *Freshwater Biology* 43:439-448.
- 15) Lewis DB and Magnuson JJ. 1999. Intraspecific gastropod shell strength variation among north temperate lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 56:1687-1695.

Book chapters (underwent anonymous peer review)

- 16) Castellano MJ, Andrews DM, Kaye JP, Lewis DB, and McDaniel MD. 2012. Coupling biogeochemistry and hydrogeology: effects of soil structure and hydrology on carbon and nitrogen cycling. In "Hydrogeology: Integration of Soil Science and Hydrology," editor H Lin. Elsevier. (*forthcoming*)
- 17) Lewis DB, Harms TK, Schade JD, and Grimm NB. 2009. Biogeochemical function and heterogeneity in arid-region riparian zones. Pp. 323-341 in "Ecology and Conservation of the San Pedro River," editors JC Stromberg and B Tellman. University of Arizona Press, Tucson.
- 18) Armstrong DE, Lauster GH, Sanderson BL, Lewis DB, and Frost TM. 2006. Jumping in: within-lake processes and dynamics. Pp. 187-213 in "Long Term Dynamics of Lakes in the Landscape," editors JJ Magnuson et al. Oxford University Press, New York.

- 19) Kratz TK, Webster KE, Riera JL, Lewis DB, and Pollard AI. 2006. Making sense of the landscape: geomorphic legacies and the landscape position of lakes. Pp. 49-66 in "Long-term Dynamics of Lakes in the Landscape," editors JJ Magnuson et al. Oxford University Press, New York.
- 20) Grimm NB, Arrowsmith JR, Eisinger C, Heffernan J, MacLeod A, Lewis DB, Prashad L, Rychener T, Roach WJ, and Sheibley RW. 2004. Effects of urbanization on nutrient biogeochemistry of aridland streams. Pp. 129-146 in "Ecosystem Interactions with Land Use Change," Geophysical Monograph Series, Vol. 153, editors R DeFries et al. American Geophysical Union, Washington, D.C.

Technical reports, proceedings, and unrefereed publications

- 21) Lewis DB. 2002. Stoichiometry and load of nutrients and metals discharged from urban catchments by storms. Pp. 49-55 in "Discharged urban waters: Ressource [sic] or Risk? Proceedings Volume 1." Proceedings of the First World Wide Workshop for Junior Environmental Scientists. Domaine de Chérioux, Vitry sur Seine, France, 21-24 May 2002.
- 22) Scheele CEH, Lathrop RC, Marshall DW, Decker EL, Lewis DB, and Snyder SD. 1999. A survey of swimmer's itch-causing cercariae and their intermediate snail host species in Devil's Lake Wisconsin. Prepared for the Wisconsin Department of Natural Resources and the Friends of Devil's Lake State Park

Honors and Awards

Graduate school (1994-2000, University of Wisconsin, Madison)

- 1) U.S. Environmental Protection Agency STAR fellow—\$58,068 (1998-2000)
- 2) U.S. National Science Foundation graduate student fellow—\$48,000 (1994-1997)
- 3) Univ. of Wisconsin, John Jefferson Davis research grant—\$1,500 (1998)
- 4) Conchologists of America research grant—\$450 (1997)
- 5) University of Wisconsin Anna Grant Birge Memorial Award—\$1,400 (1996)
- 6) Univ. of Wisc. Alumni Research Foundation Grad Student Fellowship —\$16,000 (1994)

Undergraduate period (1990-1994, University of Kansas)

- 7) Elected to Phi Beta Kappa national honors society (1994)
- 8) Elected to Omicron Delta Kappa national leadership honor society (1993)
- 9) Graduated with Honors, Biology Dept. (based on independent research, 1994)
- 10) Graduated with Honors, University-level (based on course curriculum, 1994)
- 11) Graduated with Distinction, University-level (based on grade point average, 1994)
- 12) Outstanding Student in Biology, Biology Dept—\$750 (1993)
- 13) University Merit Scholarship—\$500 (1993)
- 14) Outstanding Student in Japanese, Dept. of East Asian Languages & Cultures (1992)
- 15) University Merit Scholarship—\$500 (1992)
- 16) University Scholar grant recipient—\$250 (1992)
- 17) Academic All Big 8 Conference (men's swimming)—all semesters Fall 1990-Spring 1994

Presentations

Lead or sole author

- 1) Gastropod community ecology and lake chemistry, lessons for diversity and species interactions. Spring 1996, University of Notre Dame Biology Department, ecology seminar series, Notre Dame, IN, USA. Invited
- 2) The effects of lake chemistry and crushing predator abundance on snail shell strength. 10-14 August 1996, Ecological Society of America, 81st annual meeting, Providence, RI, USA.
- 3) An assessment of the scale at which snail communities are structured. August 1997, Ecological Society of America, 82nd annual meeting, Albuquerque, NM, USA.
- 4) Hydrology, habitat, and species interactions: important factors in the conservation of communities in Wisconsin lakes and wetlands. 02 May 1998, Aldo Leopold Chapter of the Society for Conservation Biology, Madison, WI, USA. Invited
- 5) Hierarchy in the composition of snail assemblages: implications for lake district organization. June 1998, North American Benthological Society, annual meeting, Charlottetown, PEI, Canada.
- 6) Snail spatial gradients and landscape position. Fall 1998, Duke University Marine Lab Mini-Symposium, Beaufort, NC, USA.
- 7) Hierarchy in the composition of snail assemblages: implications for lake district organization. 19 March 1999, Madison Ecology Group, annual symposium, Madison, WI, USA. Invited
- 8) Assessing the scale at which snail assemblages are structured. June 1999, Japan-U.S. Long-Term Ecological Research, joint graduate student conference, Tomakomai Experimental Forest, Hokkaido, Japan. Invited
- 9) Trading off growth for survival: responses of freshwater snails to predacious crayfish. 8-12 August 1999, Ecological Society of America, 84th annual meeting, Spokane, WA, USA.
- 10) Spatially heterogeneous refugia and predation risk in intertidal salt marshes. Fall 1999, Duke University Marine Lab, seminar series, Beaufort, NC, USA.
- 11) Predation gradients in intertidal communities: the interactive roles of habitat and elevation. 09 August 2000, Ecological Society of America, 85th annual meeting, Snowbird, UT, USA.
- 12) Nutrient dynamics in subsurface flowpaths of an arid watershed. 09 August 2001, Ecological Society of America, 86th annual meeting, Madison, WI, USA.
- 13) Material transport in storm runoff from urban catchments. 17 January 2002, annual symposium, Central Arizona-Phoenix Long-Term Ecological Research project, Tempe, AZ.
- 14) Effects of human modification of hydrology and nutrient balance on biogeochemical pattern and process in urban landscapes. 19 April 2002, Coordinating Committee Meeting, US Long-Term Ecological Research Network, Sevilleta, NM, USA. Invited
- 15) Stoichiometry and loads of nutrients exported from urban catchments by storms. April 2002, "Human Dominated Ecosystems," US Long-Term Ecological Research Network Biocomplexity Workshop, Baltimore, MD, USA. Invited
- 16) Stoichiometry and load of nutrients and metals discharged from urban catchments by storms. 21-24 May 2002, World Wide Workshop for Junior Environmental

- Scientists annual meeting, CEREVE-University of Paris XII-Val de Marne, Domaine de Chérioux, Vitry sur Seine, France. Invited
- 17) Nutrient and metal loads exported from hydrologic catchments by storm runoff. 08 August 2002, Ecological Society of America, 87th annual meeting, Tucson, AZ, USA.
 - 18) Ecological stoichiometry of horticulture: consequences of pruning and irrigation for plant and soil chemistry. 19 February 2003, annual symposium, Central Arizona-Phoenix Long-Term Ecological Research project, Tempe, AZ, USA.
 - 19) Mechanisms of nutrient export in storm water runoff from catchments. 08 April 2003, European Geophysical Society - American Geophysical Union - European Union of Geosciences, joint assembly, Nice, France.
 - 20) Ecological stoichiometry of horticulture: consequences of pruning and water for plant nutrient use efficiency. 05 August 2003, Ecological Society of America, 88th annual meeting, Savannah, GA, USA.
 - 21) Hydrological drivers of nutrient cycles in arid fluvial ecosystems. 27 October 2003, US Dept of Agriculture, Water Conservation Laboratory, seminar series, Phoenix, AZ, USA. Invited
 - 22) Hierarchical regulation of ecosystem function: material export from urban catchments. 23 February 2004, annual symposium, Central Arizona-Phoenix Long-Term Ecological Research project, Tempe, AZ, USA.
 - 23) Resistance and resilience in a fluvial ecosystem: variability compared among patch types. 03 August 2004, Ecological Society of America, 89th annual meeting, Portland, OR, USA.
 - 24) Legacies of agriculture in carbon and nutrient pools of arid urban soils. 15 July 2006, International Union of Soil Sciences, 18th World Congress of Soil Science, Philadelphia, PA, USA.
 - 25) Importance of historical and present-day land use for the lability of soil C and N. 15 July 2006, International Union of Soil Sciences, 18th World Congress of Soil Science, Philadelphia, PA, USA.
 - 26) Response of soil carbon pools and fractions to a century of land use change. 07 August 2006, Ecological Society of America, 91st annual meeting, Memphis, TN, USA.
 - 27) Carbon stabilization in urban and urbanizing soils: the effects historical land use. 06 September 2006, Global Carbon Project, First International Conference on Carbon Management at Urban and Regional Levels, Mexico City.
 - 28) Biogeochemical response of Sonoran soils to the 20th-Century history of land use change. 25 September 2006, Pennsylvania State University Ecology Program seminar series, University Park, PA, USA. Invited
 - 29) Land-water interactions in arid cities. 10 October 2007, Instituto Potosino de Investigación Científica y Tecnológica, Div. Ciencias Ambientales symposium, San Luis Potosí, Mexico. Invited
 - 30) The long now and the very long now: the importance of legacies in ecology. 10 March 2008, Wichita State University, Department of Biological Sciences Spring 2008 seminar series, Wichita, KS, USA. Invited

- 31) Water, forests, and urban ecology: a way forward for sustainability science. 31 March 2008, Auburn University School of Forestry and Wildlife Sciences seminar series, Auburn, AL, USA. Invited
- 32) Using catchments and history to understand global environmental change. 21 October 2008, University of Maryland CES-Appalachian Laboratory seminar series, Frostburg, MD, USA. Invited
- 33) Land-water interactions in arid cities. 20 January 2009, University of South Florida, Department of Integrative Biology seminar series, Tampa. Invited
- 34) Testing a new model of the terrestrial nitrogen cycle: rapid nitrogen stabilization in soil organic matter from forests of different age and composition. 14 April 2010, Florida International University - Southeast Environmental Research Center Seminar Series, Miami. Invited
- 35) Ecosystem responses to global environmental change. 23 April 2010, University of South Florida, Department of Geography colloquium, Tampa. Invited
- 36) Urban development, social relationships, and water policy as drivers of wetland change in the Tampa Bay Region. 19 May 2010, Northern Tampa Bay Local Technical Peer Review Group Meeting, Southwest Florida Water Management District, Tampa. Invited
- 37) Ecosystem ecology and biogeochemical cycles: understanding environmental change. 10 June 2010, University of South Florida Research Experience for Undergraduates - Tampa Interdisciplinary Environmental Research seminar series, Tampa. Invited
- 38) Rapid immobilization of inorganic nitrogen in stable soil organic matter of forest ecosystems: reviving the successional N retention hypothesis. 03 August 2010, 95th Annual Meeting of the Ecological Society of America, Pittsburgh, PA, USA.
- 39) Ecohydrology and urbanization: understanding social drivers of change in aquatic ecosystems. 28 March 2011, University of South Florida Environmental and Water Resources Engineering seminar series, Tampa. Invited
- 40) Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. 04 April 2011, US Regional Assoc. of the International Assoc. for Landscape Ecology, 2011 Symposium, Portland, OR, USA. Invited
- 41) Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. 11 April 2011, US EPA workshop - Developing a network of urban research on climate vulnerability, Seattle. Invited
- 42) Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. 10 August 2011, 96th Annual Meeting of the Ecological Society of America, Austin, TX, USA.

Co-authored presentations (lead author listed)

- 43) Hrabik TR, et al. Variability in species richness among four taxonomic groups in north temperate lakes with varying chemical characteristics and stream connectivity. 10 August 2000, Ecological Society of America, 85th annual meeting, Snowbird, UT, USA.

- 44) Hrabik TR, et al. Sources of spatial and temporal variability in fish body condition: analyses of communities through time and across lakes. August 2000, American Fisheries Society, annual meeting, St. Louis, MO, USA.
- 45) Grimm NB, et al. Biogeochemical processes in an urban ecosystem, metropolitan Phoenix, Arizona. 19 January 2001, Annual Symposium, Central Arizona-Phoenix Long-Term Ecological Research project, Tempe, AZ.
- 46) Hamblen J, et al. Characterizing stream nitrogen load as a result of geomorphological and hydrologic changes in the San Pedro River. 21 February 2001, 1st annual meeting, Sustainability of semi-Arid Hydrology and Riparian Areas, US NSF Science and Technology Center, Tucson, AZ, USA.
- 47) Schade JD, et al. Hydrologic exchange and nutrient retention in the riparian zone of the San Pedro River. 21 February 2001, 1st annual meeting, Sustainability of semi-Arid Hydrology and Riparian Areas, US NSF Science and Technology Center, Tucson, AZ, USA.
- 48) Grimm NB, et al. Learning from cities: potential contributions of urban research to stream and watershed ecology theory. 05 June 2001, North American Benthological Society, annual meeting, LaCrosse, WI, USA.
- 49) Conklin M, et al. Nitrogen and sediment inputs to San Pedro River riparian area. 28-31 May 2002, American Geophysical Union, Spring Meeting, Washington, D.C., USA. Invited
- 50) Schade JD, et al. Nutrient dynamics in subsurface flowpaths of an arid watershed. 30 May 2002, North American Benthological Society, annual meeting, Pittsburg, PA, USA.
- 51) Grimm NB, et al. Nitrogen retention in arid-land stream and riparian zones. 10-14 June 2002, American Society of Limnology and Oceanography, summer meeting, Victoria, BC, Canada.
- 52) Grimm NB, et al. Nutrient retention in stream channel and riparian hotspots of semi-arid catchments. 10 September 2002, Chapman Conference, "Ecohydrology of Semiarid Landscapes: Interactions and Processes," American Geophysical Union, Taos, NM, USA. Invited
- 53) Schade JD, et al. Understanding riparian ecosystem function: linking biogeochemistry and hydrology at multiple scales. December 2002, American Geophysical Union, annual fall meeting, San Francisco, CA, USA. Invited
- 54) Grimm NB, et al. Nutrient retention in stream-channel and riparian hotspots of semi-arid catchments. 09 April 2003, European Geophysical Society - American Geophysical Union - European Union of Geosciences, joint assembly, Nice, France.
- 55) Grimm NB, et al. Effects of land-use change from urbanization on nutrient dynamics in arid-land streams. 15 June 2003, Chapman Conference "Ecosystem Interactions with Land Use Change," American Geophysical Union, Sante Fe, NM, USA. Invited
- 56) Schade JD, et al. Plasticity in resource allocation and nitrogen use efficiency in riparian vegetation: implications for nitrogen retention. 09 June 2004, North American Benthological Society, annual meeting, Vancouver, BC, Canada.
- 57) Grimm NB, et al. A distinct urban biogeochemistry? 02 August 2004, Ecological Society of America, 89th annual meeting, Portland, OR, USA. Invited

- 58) Schade JD, et al. Plasticity in resource allocation and nitrogen use efficiency in riparian vegetation: implications for nitrogen retention. 03 August 2004, Ecological Society of America, 89th annual meeting, Portland, OR, USA.
- 59) Grimm NB, et al. A distinct urban biogeochemistry? 19 January 2005, annual symposium, Central Arizona-Phoenix Long-Term Ecological Research project, Tempe, AZ, USA.
- 60) Hall SJ, et al. Ecosystem Responses to Urbanization Across the Central Arizona-Phoenix (CAP) LTER Site. 24 May 2006, American Geophysical Union, Joint Assembly, San Francisco. Invited
- 61) Kaye JP and Lewis DB. Ghosts of agriculture past in the soils of Phoenix, AZ. March 2007, Cornell University seminar series in biogeochemistry, Ithaca, NY, USA. Invited
- 62) Akiwumi FA, et al. Power relations and public perceptions of water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. 3 February 2010, University of South Florida Department of Integrative Biology special seminar, Tampa. Invited
- 63) Perkerson RB, et al. Exploring wetland algae: preliminary data for an assessment of algal communities in freshwater wetland habitats. October 2010, USF ResearchOne Graduate Research Symposium, University of South Florida, Tampa, FL, USA.
- 64) Feit SJ and Lewis DB. Hydrological and vegetative influences on soil organic carbon and nitrogen pools in isolated wetlands of West-central Florida. 12 August 2011, 96th Annual Meeting of the Ecological Society of America, Austin, TX, USA.
- 65) Akiwumi FA, et al. Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. 14 September 2011, University of South Florida Environmental Research Interdisciplinary Colloquium, Tampa.
- 66) Perkerson RB, et al. Exploring wetland algae: preliminary data for an assessment of algal communities in freshwater wetland habitats. October 2011, Southeastern Phycological Colloquy, Florida International University, Miami.
- 67) Akiwumi FA, et al. Urban development, power relations, and water redistribution as drivers of wetland change in the Tampa Bay Region Socioecosystem. February 2012, Annual Meeting of the Association of American Geographers, New York.

LYNN BLOXOM (MARTY) MARTIN II

Current position

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Education and training

- 1996 B.S. Biology, Virginia Commonwealth University
Supervisor: Dr. Charles Blem (emeritus)
- 1999 M.S. Biology, Virginia Commonwealth University
Supervisor: Dr. Charles Blem (emeritus)
- 2001 M.A. Ecology and Evolutionary Biology, Princeton University
Supervisor: Dr. Martin Wikelski
- 2004 Ph.D. Ecology and Evolutionary Biology, Princeton University
Supervisor: Dr. Martin Wikelski
- 2007 Post-doctoral Researcher, Psychology, Ohio State University
Supervisor: Dr. Randy J. Nelson

Honors and awards

- 2010 University of South Florida, University Outstanding Research Award
- 2009 George A. Bartholomew Young Investigator Award, Society for Integrative and Comparative Biology
- 2009 Elective Member, American Ornithologist's Union
- 2007 Ned K. Johnson Young Investigator Award, American Ornithologists Union
- 2007 Young Investigator Award, Society for Behavioral Neuroendocrinology

RESEARCH (h-index: 20, as of 2/14/12) Peer-reviewed publications (*undergraduate collaborator; **graduate collaborator):

In review or revision:

- 71. **Liebl, AL and **LB Martin**. Glucocorticoid manipulation does not affect neophobia in house sparrows, *Passer domesticus*.
- 70. **Martin, LB**, **MO King, and CAC Coon. Functional consequences of immune variation in a wild bird: when more is better.
- 69. **Martin, LB**, and CAC Coon. Seasonal variation in an allergic response is independent of allergen exposure.
- 68. **Martin, LB**, **AL Liebl, LK Butler, B Faivre, T Imboma, **JR Kuhlman, KA Lee, LM Romero, G Sorci, IRK Stewart, and D Westneat. Global variation in house sparrow inflammatory responses: a physiological mechanism of range expansion
- 67. **Martin, LB**, *A Urban, **CAC Coon, and ** AL Liebl. Does immune suppression occur to free resources for other physiological processes?
- 66. McCoy, MW, **LB Martin**, and JR Rohr. Decomposing resistance and tolerance to natural enemies.

65. Owen, JC, **A. Nakamura, **CAC Coon, and **LB Martin**. Stress hormones elevate mortality risk to West Nile virus in a wild bird.
64. Rivers, JW, **LB Martin**, **AL Liebl, and MG Betts. Stress hormone levels are not associated with breeding habitat quality in the Swainson's Thrush.

In press

63. Rivers, JW, **AL Liebl, JC Owen, **LB Martin**, and MG Betts. Baseline corticosterone in nestlings predicts juvenile survival in a migrant songbird. *Functional Ecology*
62. Cohen, AA, **LB Martin**, SR McWilliams, and JC Wingfield. Physiological regulatory networks: ecological roles and evolutionary constraints. *Trends in Ecology and Evolution*
61. Ledon-Retting, C, CL Richards, and **LB Martin**. Behavioral epigenetics for ecologists. *Behavioral Ecology*
60. Previtali, MA, RS Ostfeld, F Keesing, AE Jolles, R Hanselmann, and **LB Martin**. Relationship between pace of life and immune response in wild rodents. *Oikos*
59. Rohr, JR and **LB Martin**. Reduce, reuse, recycle scientific reviews. *Trends in Ecology and Evolution*.

2012

58. Schrey, AW, **CAC Coon, *MT Grispo, *M Awad, T Imboma, ED McCoy, CL Richards, HR Mushinsky, and **LB Martin**. 2012. Epigenetic variation may compensate for decreased genetic variation with introductions: a case study using house sparrows (*Passer domesticus*) on two continents. *Genetic Research International*, Article ID 979751.

2011

57. **Coon, CA, RW Warne, and **LB Martin**. Acute phase responses vary with pathogen identity in house sparrows. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology* 300: R1418-R1425.
56. **Martin, LB**, *L Kidd, **AL Liebl, and **CAC Coon. 2011. Captivity induces hyperinflammation in house sparrows. *Journal of Experimental Biology* 214: 2579-2585.
55. **Martin, LB**, DM Hawley, and DR Ardia. 2011. An introduction to ecoimmunology. *Functional Ecology* 25: 1-4. (times cited: 4)
54. **Martin, LB**, **AL Liebl, **JH Trotter, CL Richards, K McCoy, and MW McCoy. 2011. Integrator networks: illuminating the black box linking genotype and phenotype. *Integrative and Comparative Biology* 51: 514-527.
53. **Martin, LB**, *E Andreassi, *W Watson, **CAC Coon. Stress and animal health: physiological mechanisms and ecological consequences. *Nature Education Knowledge* 2:11.
52. Marzal, A, RE Ricklefs, G Valkiūnas, T Albayrak, E Arriero, C Bonneaud, GA Cziráj, J Ewen, O Hellgren, TA Iezhova, H Jensen, A Križanauskienė, MR Lima, F de Lope, E Magnussen, **LB Martin**, AP Møller, P Munclinger, V Palinauskas, PL Pap, J Pérez-Tris, R Sehgal, M Soler, E Szöllösi, H Westerdahl, P Zetindjiev, and S Bensch. 2011. Diversity, loss and gain of malarial parasites in a globally invasive bird. *PLOS One* 6 (7) e21905.
51. **McMahon, T, **N Halstead, S Johnson, TR Raffel, JM Romansic, PW Crumrine, RK Boughton, **LB Martin**, and JR Rohr. 2011. The fungicide chlorothalonil is nonlinearly associated with corticosterone levels, immunity and mortality in amphibians.

- Environmental Health Perspectives* 119: 1098-1103. (times cited: 2)
50. Rivers, JW, **LB Martin**, **AL Liebl, and MG Betts. Parental alarm calls of the white-crowned sparrow fail to stimulate corticosterone production in their nest-bound offspring. *Ethology* 117: 374-384. (times cited: 1)
 49. Schrey, AW, *M Grispo, *M Awad, *MB Cook, ED McCoy, HR Mushinsky, T Albayrak, S Bensch, L Butler, HB Fokidis, H Jensen, T Imboma, MM Kessler-Rios, A Marzal, IRK Stewart, H Westerdahl, DF Westneat, P Zehtindjiev, and **LB Martin**. Broad scale latitudinal patterns of genetic diversity among native European and introduced house sparrow (*Passer domesticus*) populations. *Molecular Ecology* 20: 1133-1143.
 48. **Sears, BF, JR Rohr, JE Allen, and **LB Martin**. The economy of inflammation: when is less more? *Trends in Parasitology* 27: 382-387. (times cited: 1)
 47. **Trotter, JH, **AL Liebl, and ED Weeber, **LB Martin**. 2011. Linking ecological immunology and evolutionary medicine: the case for apolipoprotein E. *Functional Ecology* 25: 40-47. (times cited: 1)

2010

46. **Adelman, JS and **LB Martin**. 2010. Behavioral Endocrinology: immune systems and sickness behaviour. *Encyclopedia of Animal Behavior*. Chapter 263, Elsevier. (invited)
45. **Adelman, JS, GE Bentley, JC Wingfield, **LB Martin**, and M Hau. 2010. Population differences in fever and sickness behavior in a wild vertebrate: a role for cytokines. *Journal of Experimental Biology* 213: 4099-4109. (times cited: 3)
44. Cox, RM, EU Parker, DM Cheney, **AL Liebl, **LB Martin**, and R Calsbeek. 2010. Experimental evidence for physiological costs underlying the trade-off between reproduction and survival. *Functional Ecology* 24: 1262-1269. (times cited: 4)
43. **Kuhlman, JR, and **LB Martin**. 2010. Captivity affects immune redistribution to skin in a wild bird. *Functional Ecology* 24: 830-837. (times cited: 6)
42. **Martin, LB**, *JL Alam, T Imboma, and **AL Liebl. 2010. Variation in inflammation as a mediator of range expansion in Kenyan house sparrows. *Oecologia* 164:339-347. (times cited: 3)
41. **Martin, LB**, WA Hopkins, LD Mydlarz, and JR Rohr. 2010. The effects of anthropogenic global changes on immune functions and disease resistance. *Annals of the New York Academy of Sciences. The Year in Ecology and Conservation Biology* 1195: 129-148. (times cited: 10)
40. **Martin, LB** and CAC Coon. 2010. Infection protection and natural selection. *Science* 330: 602-603

2009

39. **Adelman, JS and **LB Martin**. 2009. Vertebrate sickness behavior: an adaptive and integrated neuroendocrine immune response. *Integrative and Comparative Biology* 49: 202-214. (invited, times cited: 16)
38. **Liebl, AL and **LB Martin**. 2009. Simple quantification of antimicrobial capacity of blood using spectrophotometry. *Functional Ecology* 23: 1091-1096. (times cited: 7)
37. **Martin, LB**. 2009. Stress and immunity in wild vertebrates: timing is everything. *General and Comparative Endocrinology* 163: 70-76. (invited: times cited: 35)
36. **Workman, JL, *E Johnson, **LB Martin**, and RJ Nelson. 2009. Butyric acid suppresses palatable food consumption in Siberian hamsters (*Phodopus sungorus*) housed in winter-, but not summer-like, conditions. *Canadian Journal of Zoology* 86: 749-754.

2008

35. **Martin, LB**, KJ Navara, MT Bailey, *CR Hutch, ND Powell, JF Sheridan, and RJ Nelson. 2008. Food restriction compromises immune memory in deer mice (*Peromyscus maniculatus*) by decreasing antibody-secreting splenic B-cells. *Physiological and Biochemical Zoology* 81: 366-372. (times cited: 12)
34. **Martin, LB**, **ZM Weil, SL Bowers, and RJ Nelson. 2008. Sex-specific effects of glucose deprivation on cell-mediated immunity and reproduction in Siberian hamsters (*Phodopus sungorus*). *Journal of Comparative Physiology B* 178: 623-628. (times cited: 3)
33. **Martin, LB**, and DR Rubenstein. 2008. Stress hormones in tropical birds: patterns and predictions. *Ornithologia Neotropical* 19: 207-218. (invited; times cited: 1)
32. **Martin, LB**, **ZM Weil, and RJ Nelson. 2008. Fever and sickness behavior vary among congeneric rodents. *Functional Ecology* 22: 68-77. (times cited: 19)
31. **Martin, LB**, **ZM Weil, and RJ Nelson. 2008. Seasonal changes in vertebrate immune activity: mediation by physiological trade-offs. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 363: 321-339. (invited; (times cited: 101))
30. **Martin, LB**, *EM Johnson, *CR Hutch, and RJ Nelson. 2008. 6MBOA affects reproductive tissue, but not cutaneous immune activity, in white-footed mice (*Peromyscus leucopus*). *Comparative Biochemistry and Physiology A* 149: 181-187
29. Raffel, TR, **LB Martin**, and JR Rohr. 2008. Parasites as predators: unifying natural enemy ecology. *Trends in Ecology and Evolution* 23: 610-618. (invited; times cited: 36)
28. Rubenstein, DR, AF Parlow, *CR Hutch, and **LB Martin**. 2008. Environmental and hormonal correlates of immune activity in a cooperatively breeding tropical bird. *General and Comparative Endocrinology* 159: 10-15. (times cited: 10)
27. Wikelski, M, **LB Martin**, *MT Robinson, *ND Robinson, A Scheuerlein, M Hau, and E Gwinner. 2008. Avian circannual clocks: adaptive significance and possible proximate control by energy turnover. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 363: 411-423. (invited; times cited: 28)

2007

26. **Martin, LB**, **ZM Weil, and RJ Nelson. 2007. Immune defense and reproductive pace of life in *Peromyscus* mice. *Ecology* 88: 2516-2528. (times cited: 36)
25. **Martin, LB**, KJ Navara, **ZM Weil, and RJ Nelson. 2007. Immunological memory is compromised by food restriction in deer mice, *Peromyscus maniculatus*. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology* 292: R316-320. (times cited: 29)
Physiology 292: R316-320. (times cited: 29)
24. **Martin, LB**, *MI Pless, and M Wikelski. 2007. Greater seasonal variation in blood and ectoparasite infections in a temperate than a tropical population of House Sparrows in North America. *Ibis* 149: 419-423. (times cited: 7)
23. **Martin, LB**, BC Trainor, *MS Finy, and RJ Nelson. 2007. HPA activity and neotic and anxiety-like behavior vary among *Peromyscus* species. *General and Comparative Endocrinology* 141: 342-350. (times cited: 6)
22. Nelson, RJ and **LB Martin**. 2007. Seasonal changes in stress responses. In: *Encyclopedia of Stress*. Vol.3 Edited by George Fink. Academic Press: New York. (invited)

2006

21. **Lee, KA, **LB Martin**, D Hasselquist, RE Ricklefs, and M Wikelski. 2006. Contrasting adaptive immune defenses and blood parasite prevalence in closely related *Passer* sparrows. *Oecologia* 150: 383-392. (times cited: 24)
20. **Martin, LB**, *P Han, *J Kwong, and M. Hau. 2006. Cutaneous immune activity varies with physiological state in female house sparrows (*Passer domesticus*). *Physiological and Biochemical Zoology* 79: 775-783. (times cited: 9)
19. **Martin, LB**, **ZM Weil, *JR Kuhlman, and RJ Nelson. 2006. Trade-offs within the immune system of female white-footed mice (*Peromyscus leucopus*). *Functional Ecology* 20: 630-636. (times cited: 21)
18. **Martin, LB**, *P Han, *J Lewittes, *JR Kuhlman, KC Klasing, and M Wikelski. 2006. Phytohemagglutinin (PHA) induced skin swelling in birds: histological support for a classic immunoeological technique. *Functional Ecology* 20: 290-300. (times cited: 161)
17. **Martin, LB**, **ER Glasper, RJ Nelson, and AC DeVries. 2006. Prolonged separation delays wound healing in monogamous California mice, *Peromyscus californicus*, but not in polygynous white-footed mice, *P. leucopus*. *Physiology and Behavior* 87: 836-841. (times cited: 7)
16. **Martin, LB**, D Hasselquist, and M Wikelski. 2006. Investment in immune defense is linked to pace of life in house sparrows. *Oecologia* 147: 565-575 (times cited: 45)
15. **Martin, LB**, **ZM Weil, and RJ Nelson. 2006. Refining approaches and diversifying directions in ecoimmunology. *Integrative and Comparative Biology* 46: 1030-1039. (invited; times cited: 51)
14. Trainor, BC, **LB Martin**, *KM Greiwe, *JR Kuhlman, and RJ Nelson. 2006. Social and photoperiod effects on reproduction in 5 *Peromyscus* species. *General and Comparative Endocrinology* 148: 252-259. (times cited: 13)
13. **Weil, ZM, **LM Pyter, **LB Martin**, and RJ Nelson. 2006. Perinatal photoperiod organizes adult immune responses in Siberian hamsters (*Phodopus sungorus*). *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 290: R1714-1719. (times cited: 21)
12. **Weil, ZM, **LB Martin**, and RJ Nelson. 2006. Photoperiod differentially affects immune function and reproduction in collared lemmings (*Dicrostonyx groenlandicus*). *Journal of Biological Rhythms* 21: 384-393. (times cited: 11)
11. **Weil, ZM, **LB Martin**, **JL Workman, and RJ Nelson. 2006. Immune challenge retards seasonal reproductive regression: evidence for terminal investment. *Biology Letters* 2: 393-396. (times cited: 19)
10. **Weil, ZM, **LB Martin**, and RJ Nelson. 2006. Interactions among immune, endocrine, and brain in response to infection. In: *Macroparasites and Micromammals: from Evolutionary Ecology to Management*. Edited by Serge Morand, Boris Krasnov, and Robert Poulin. Springer-Verlag: New York. (invited)

2005

9. **Berger, S, **LB Martin**, M Wikelski, LM Romero, EKV Kalko, **MN Vitousek, and T. Rödl. 2005. Corticosterone, but not testosterone, suppresses immune activity in territorial Galápagos marine iguanas. *Hormones and Behavior* 47: 419-429. (times cited: 37)
8. *Greenman, CG, **LB Martin**, and M Hau. 2005. Reproductive state but not testosterone reduces immune function in male house sparrows (*Passer domesticus*). *Physiological and Biochemical Zoology* 78: 60-68. (times cited: 56)
7. **Lee, KA, **LB Martin**, and M. Wikelski. 2005. Responding to inflammatory

challenges is less costly for a successful avian invader, the house sparrow (*Passer domesticus*), than its less invasive congener. *Oecologia* 145: 244-251. (times cited: 43)

6. **Martin, LB.** 2005. Trade-offs between molt and immune activity in two populations of house sparrows (*Passer domesticus*). *Canadian Journal of Zoology* 83: 780-787. (times cited: 34)
5. **Martin, LB,** and *L. Fitzgerald. 2005. A taste for novelty in invading house sparrows. *Behavioral Ecology* 16: 702-707. (times cited: 46)
4. **Martin, LB,** *J Gilliam, *P Han, **KA Lee, and M Wikelski. 2005. Corticosterone suppresses immune function in temperate but not tropical house sparrows (*Passer domesticus*). *General and Comparative Endocrinology* 140: 126-135. (times cited: 66).

2004

3. **Martin, LB,** *MI Pless, *J Svoboda, and M Wikelski. 2004. Immune activity in temperate and tropical house sparrows: a common garden experiment. *Ecology* 85: 2323-2331. (times cited: 65)

2003

2. **Martin, LB,** A Scheuerlein, and M Wikelski. 2003. Immune activity elevates energy expenditure of House Sparrows: a link between direct and indirect costs. *Proceedings of the Royal Society of London B Biological Sciences* 270: 153-158. (times cited: 172)
1. Hayden, TJ, RH Melton, B Willis, **LB Martin,** and T Beaty. 2003. Assessment of maneuver training activities on Red-Cockaded Woodpecker populations on Fort Stewart, GA. Construction Engineering Research Laboratory, ERDC/CERL TR-02-17.

Invited book reviews

1. **Martin, LB.** 2007. Invited review of Biology of the Ubiquitous House Sparrow: from Genes to Populations by Ted R. Anderson. *Journal of Field Ornithology* 78: 225-226.

GRANTS

Fellowships

- | | |
|-------------|---|
| 2004 – 2001 | Pew Charitable Trusts, Training Program in Biocomplexity |
| 2004 – 2001 | US Environmental Protection Agency, Science to Achieve Results (STAR) |

Awarded

- | | |
|------|--|
| 2011 | USF-CAS seed grant (\$5000) |
| 2010 | NSF, Research Coordination Network, (\$493,341)
<i>Redefining and diversifying ecological immunology</i> |
| 2009 | NSF, Integrative Organismal Systems (\$434,059)
<i>Physiological mediation of vertebrate invasions</i> |
| 2008 | NSF, Integrative Organismal Systems (\$23,340)
<i>Psychoneuroimmunology meets Integrative Biology</i> , symposium
Scott's Company, <i>Project Blackbird</i> (\$2,000)
Scott's company, <i>Project Blackbird II</i> (\$10,000)
USF New Researcher Grant (\$3,120) |
| 2002 | Program in Latin American Studies, Princeton University (\$1000) |

2001 Animal Behavior Society (\$1000)
 American Ornithologist's Union (\$900)
 American Museum of Natural History (Frank Chapman grant; \$1500)
 Sigma Xi Society (Grant-in-Aid of Research; \$1200)

Submitted

2012 NSF- Integrative Organismal Systems, pre-proposal
 Stress hormone effects on resistance, tolerance, and Competency

2011 NSF-Ecology of Infectious Disease
 Trait-based disease ecology
 NSF, Integrative Organismal Systems (resubmission)
 CAREER: *Stress-immune interactions in wild songbirds*
 NESCent Working Group
 Development of an Integrated Curriculum for Evolutionary Medicine
 NSF-IOS, ROA supplement, with Sara O'Brien, Marian University
 Physiological mediation of vertebrate invasions
 NESCent Catalysis Meeting
 Physiological Regulatory Networks

2010 NSF-Ecology of Infectious Disease
 The mechanistic basis of the dilution effect
 Morris Animal Foundation, Established Researcher
 Captivity effects on wild animal immunity
 NSF, Integrative Organismal Systems (resubmission)
 CAREER: *Stress-immune interactions in wild songbirds*
 NIH, R01: National Institute of Environmental Health Sciences
 Do pesticides permanently reduce infectious disease resistance?

2009 NIH, Challenge grant, National Institute of Environmental Health Sciences
 Do pesticides permanently reduce infectious disease resistance?
 NIH, R15: National Institute of Environmental Health Sciences
 Do pesticides permanently reduce infectious disease resistance?
 NSF, Integrative Organismal Systems
 CAREER: *Stress-immune interactions in wild songbirds*
 NSF, Research Collaborative Networks program (resubmission)
 Redefining and diversifying ecological immunology
 Oregon State University (co-PI)
 How does increased temperature variability impact breeding birds and their offspring?
 USF Interdisciplinary Research Grant
 Development of novel immune assays for wild birds
 National Geographic Explorer's Program (co-PI)
 Population genetics of introduced house sparrows in Brazil

2008 Beckman Young Investigator's Program
 Urbanization and West Nile virus in house sparrows
 NSF, Research Collaborative Networks program
 Redefining and diversifying ecological immunology
 NSF, Integrative Organismal Systems
 The physiological basis of invasiveness in the House Sparrow
 National Geographic Explorer's Program (co-PI)

Stress endocrinology of African songbirds
American Association of Veterinarians Small Grants program

- 2007 National Geographic Explorer's Program
The physiological basis of invasiveness in the House Sparrow
USF Internal: New Researcher Award
The physiological basis of invasiveness in the House Sparrow

Travel awards

- 2007 University of South Florida, Patel Center
Society of Behavioral Neuroendocrinology
2004 Society of Integrative and Comparative Biology
2001 Princeton Association of Graduate Alumni
2000 Ecology and Evolutionary Biology, University of Illinois
Graduate College Conference, University of Illinois
Association of Field Ornithologists
1999 Virginia Society of Ornithology

Other awards

- 2000 Top 5% of Teaching Assistants university-wide, University of Illinois
Inductee, Alpha Phi Alpha Honor Society
Biology Graduate Student of the Year, VCU
Best Talk in Evolution, University of Illinois Graduate Student Symposium
1997 Governor's Fellowship, Office of Governor George Allen, Virginia

Press coverage

- 2011 *Frontiers in Ecology and the Environment* article on ecoimmunology
2010 *Faculty of 1000, Biology* [review](#) of article in *Functional Ecology*
The Scientist magazine, <http://www.the-scientist.com/news/display/57921/>
2008 "[Biologist Saves Sparrows for Study](#)," Tampa Bay's News 10, 4/2/2008
Physiological and Biochemical Zoology article (Vol. 81, pp. 366-372)
[AMP](#), [AOL](#), [Bio-medicine.org](#), [Biology News Net](#), [CBS 2](#), [Daily India](#), [Dr. Koop.com](#), [EurekAlert](#), [Florida Today](#), [Forbes](#), [GenNews](#), [Grand Junction Daily Sentinel](#), [Health Day News](#), [Health Central](#), [Health Scout](#), [Hulig](#), [IBNLive](#), [Innovations Report](#), [KAIT](#), [KATC](#), [KCAU](#), [KFVS-12](#), [KHNL](#), [KLFY](#), [KLKN](#), [KLTV](#), [KMPH Fox 26](#), [KNVA](#), [KOTA](#), [KPLC](#), [KRDO](#), [KRIS](#), [KRON4](#), [KTRV](#), [KVBC](#), [KVOA](#), [KXAN](#), [KXLY](#), [Labspaces.net](#), [LEX18](#), [Medical News Today](#), [MedicineNet.com](#), [MSN.com](#), [New Kerala](#), [NetIndia 123](#), [News-Medical-Net](#), [Phys Org](#), [Poughkeepsie Journal](#), [Red Orbit](#), [Salt Institute](#), [Scott and White](#), [Science Centric](#), [Science Daily](#), [Science Ticker](#), [Scientist Live](#), [Springfield News Sun](#), [SurfWax](#), [The Naked Scientists](#), [Times of India](#), [US News and World Report](#), [WAAY](#), [WALB](#), [WALD](#), [WAND](#), [WANE](#), [Washington Post](#), [WATE](#), [WAVE](#), [WECT](#), [WHBF](#), [WFIE](#), [WFLX](#), [WFLI](#), [WIS](#), [WKRN](#), [WMC](#), [WOI](#), [Women's Health.gov](#), [WRIC](#), [WTEN News](#), [Yahoo News](#)
2007 *Functional Ecology* article (Vol. 22, pp. 68-77)
[Nature Reviews Microbiology](#), [The Post Chronicle](#), [Spektrumdirekt](#), [Medi-Lexicon](#), [Innovations Report](#), [Medical News Today](#), [EurekAlert](#), [United Press International](#), [Earth Times](#), [News-Medical.Net](#), [Science Daily](#), [Science Now](#), [VetsCite.Org](#)
Functional Ecology article (Vol. 20, pp. 290-300)

- 2006 [Thomson Essential Science Indicators "hot-paper" in Ecology](#)
Research focus paper in *Trends in Ecology and Evolution* for Functional Ecology article (Vol. 20, pp. 290-300). Kennedy, MW, and RG Nager. 2006. The perils and prospects of using phytohemagglutinin in evolutionary ecology. *TREE* 21, pp. 653-655
- 2005 *Faculty of 1000, Biology* [review](#) of article in *General and Comparative Endocrinology* (Vol. 140, pp. 126-135)
Faculty of 1000, Biology [review](#) of article in *Physiological and Biochemical Zoology* (Vol. 78, pp. 60-68)
- 2004 [Spotlight on Science at the Smithsonian](#) for article in *Ecology* (Vol. 85, pp. 2323-2331)
- 2003 Lead article for home page of *Proc Roy Soc Lond B* (Vol. 270, Issue 1511)

Textbook highlights of research

- 2009 [Avian Invasions](#). Blackburn, Lockwood, and Cassey, eds. Highlight of Martin and Fitzgerald, 2005, Behavioral Ecology.
- 2008 [Avian immunology](#), Davison, Kaspers, and Schat, eds. Highlight of Martin et al., 2004, Ecology

Invited seminars

- 2012 Bucknell University (Darwin Day speaker)
International Society for Avian Endocrinology, Gifu, Japan
University of Florida, Animal Molecular and Cellular Biology Program
- 2011 University of Tartu (Estonia)
University of Georgia
Oregon State University
Penn State University (CIDD)
- 2010 University of Edinburgh (Scotland)
Tufts University (Graduate Student invited speaker)
University of North Carolina (Graduate Student invited speaker)
Wake Forest University
- 2009 Archbold Biological Station, Venus, FL
George A. Bartholomew Award lecture, Society for Integrative and Comparative Biology, Boston MA
University of Kentucky, Department of Biology
- 2008 Cary Institute for Ecosystems Studies, Millbrook NY
University of Central Florida, Department of Biology
NSF Research Collaborative Network: Integrating the Ecology and Evolution of Invasions, Prague, Czech Republic
University of South Florida, Department of Psychology
University of Tampa, Department of Biology
- 2007 Auburn University, Department of Biological Sciences
Society for Behavioral Neuroendocrinology, Pacific Grove, CA
VIII Neotropical Ornithological Conference, Maturín, Venezuela
UNC Wilmington, Department of Biology and Marine Biology
Oklahoma State University, Department of Zoology
Boise State University, Department of Biology
University of South Florida, Department of Biology
University at Albany, Department of Biological Sciences
University of South Carolina, Department of Biological Sciences

- 2006 Kansas State University, Division of Biology
University of Buffalo, Department of Biological Sciences
North American Ornithological Congress, Veracruz, Mexico
Constraints of the Evolutionary Diversification of the Life Histories of Temperate and Tropical Birds symposium
College of Wooster, Department of Biology
Society of Integrative and Comparative Biology, Orlando, FL.
Ecological Immunology: Recent Advances and Applications for Conservation and Public Health symposium
- 2005 University of Montana, Division of Biological Sciences
Eastern Michigan University, Department of Biology
Ohio State University, Behavioral Neuroscience Program
- 2003 121st meeting of the American Ornithologist's Union, Champaign, IL
S. Charles Kendeigh, Symposium

Conference symposia organized

- 2011 RCN Ecoimmunology, Edinburgh, Scotland
- 2010 RCN Ecoimmunology, Tampa, FL
- 2009 Society for Integrative and Comparative Biology, Boston, MA.
Psychoneuroimmunology Meets Integrative Biology.
- 2008 American Ornithologist's Union, Young Investigator Symposium
- 2006 XXIV International Ornithological Congress, Hamburg, Germany.
Comparative avian immunology: from poultry to passerine (with Dennis Hasselquist)

Professional presentations

2012

- 1) Boruta, M, and **LB Martin**. 2012. Does variation in host physiology occur in urban-rural habitat types? Society for Integrative and Comparative Biology, Charleston, SC.
- 2) Brace, AJ, M Boruta, AL Liebl and **LB Martin**. 2012. The effects of captivity on immune function and physical performance in house sparrows. Society for Integrative and Comparative Biology, Charleston, SC.
- 3) Coon, CAC and **LB Martin**. 2012. Do changes in parasite prevalence facilitate range expansion of Kenyan house sparrows (*Passer domesticus*)? Society for Integrative and Comparative Biology, Charleston, SC.
- 4) Ledon-Rettig, CC, H Kilvitis, AL Liebl, and **LB Martin**. 2012. Physiological correlates and experimental manipulation of epigenetic variation in adult house sparrows. Society for Integrative and Comparative Biology, Charleston, SC.
- 5) Liebl, AL, A Garringer, AS Sierra, D Wiley, and **LB Martin**. Variation in glucocorticoid stress response and behavior along a gradient of invasive house sparrows (*Passer domesticus*). Society for Integrative and Comparative Biology, Charleston, SC.
- 6) Liebl, AL, and **LB Martin**. Seasonal variation in glucocorticoid regulation in house sparrows (*Passer domesticus*). Society for Integrative and Comparative Biology, Charleston, SC.
- 7) **Martin, LB**, DR Ardia, and DM Hawley. A Research Coordination Network in Ecological Immunology. Society for Integrative and Comparative Biology, Charleston, SC.
- 8) Schrey, AW, AL Liebl, CL Richards, and **LB Martin**. The relative significance of genetic and epigenetic diversity for house sparrow colonization of Kenya. Society for Integrative and Comparative Biology, Charleston, SC.

2011

- 9) Coon, CAC, C Caruana, E Andreassi, S McLaughlin, AL Liebl, T Imboma, and **LB Martin**. Preliminary examination of parasites in invasive Kenyan house sparrow. 9th annual Ecology and evolution of infectious disease meeting, Santa Barbara, CA.
- 10) Coon, CAC, C Caruana, E Andreassi, S McLaughlin, AL Liebl, T Imboma, and **LB Martin**. Preliminary examination of parasites in invasive Kenyan house sparrow. MalariaRCN workshop, Shepherdstown, WV.
- 11) Kidd, L, CAC Coon, and **LB Martin**. Captivity affects acute phase responses in house sparrows. Society for Integrative and Comparative Biology, Salt Lake City, UT.
- 12) Liebl, AL, CAC Coon, CC Ledon-Rettig, and **LB Martin**. Variation in glucocorticoid regulation among invasive Kenyan house sparrows (*Passer domesticus*). North American Society of Comparative Endocrinology, Ann Arbor, MI.
- 13) **Martin, LB**, CAC Coon, A Brace, and AL Liebl. Variation in the regulation of inflammation along a house sparrow range expansion. North American Society of Comparative Endocrinology, Ann Arbor, MI.
- 14) **Martin, LB**, AL Liebl, CAC Coon, CL Richards, and AW Schrey. Physiological mechanisms of range expansion in Kenyan house sparrows. Society for Integrative and Comparative Biology, Salt Lake City, UT.
- 15) Rohr, JR, RK Boughton, NT Halstead, SA Johnson, TR Raffel, T McMahon, and **LB Martin**. Pesticide exposure during development increases mortality to infections in adulthood. Society for Integrative and Comparative Biology, Salt Lake City, UT.
- 16) Rohr, JR, T McMahon, **LB Martin**, S Johnson, and TR Raffel. Amphibian and reptile ecotoxicology: interactions among contaminants and other stressors. 32nd annual SETAC meeting, Boston, MA.
- 17) Rohr, JR, T McMahon, N Halstead, **LB Martin**, TR Raffel, JM Romansic, RK Boughton, PW Crumrine, and S Johnson. Fungicide-induced declines of freshwater biodiversity modify ecosystem functions and services. 32nd annual SETAC meeting, Boston, MA.
- 18) Sears, BF, JR Rohr, and **LB Martin**. The contribution of anti-parasite behavior to resistance and tolerance of trematode infections in larval anurans. Society for Integrative and Comparative Biology, Salt Lake City, UT.
- 19) Sears, BF, JR Rohr, and **LB Martin**. Resistance to trematode parasites carries a developmental cost in anuran tadpoles. American Society of Parasitologists, Anchorage, AK.
- 20) Urban, AM, CAC Coon, AL Liebl, and **LB Martin**. Does immune suppression occur to free resources for other physiological processes? Society for Integrative and Comparative Biology, Salt Lake City, UT.

2010

- 21) Liebl, AL, E Schmidt, and **LB Martin**. Physiological correlates of neophobic behavior: Is regulation of the hypothalamic-pituitary-adrenal axis correlated to responses to novelty? Society for Integrative and Comparative Biology, Seattle, WA.
- 22) Liebl, AL, and **LB Martin**. Hypothalamic-pituitary-adrenal regulation and neophilia in captive house sparrows. International Ornithological Congress, Campo de Jordao, Brazil.
- 23) **Martin, LB**, AL Liebl, JL Alam, LK Butler, B Faivre, T Imboma, JR Kuhlman, LM Romero, I Stewart, G Sorci, DF Westneat, and KA Lee. Altered inflammatory responses as facilitators of introductions in the house sparrow. Society for Integrative and Comparative Biology, Seattle, WA.

- 24) **Martin, LB**, AL Liebl, JL Alam, LK Butler, B Faivre, T Imboma, JR Kuhlman, LM Romero, I Stewart, G Sorci, DF Westneat, and KA Lee. Global variation in house sparrow immune functions. International Ornithological Congress, Campo de Jordao, Brazil.
- 25) Owen, JC, A Nakamura, CA Coon, and **LB Martin**. The effect of corticosterone on resistance to West Nile virus in an avian reservoir. International Ornithological Congress, Campo de Jordao, Brazil.
- 26) Previtali, A, R Hanselmann, RS Ostfeld, F Keesing, AE Jolles, **LB Martin**. Does variation in host immune function explain differences in reservoir competence among small mammals? Ecological Society of America, Pittsburgh, PA.
- 27) Rivers, JW, MG Betts, AL Liebl, JC Owen, and **LB Martin**. Assessing whether the corticosterone stress response predicts post-fledging survival in a temperate passerine. 128th American Ornithologists Union, San Deigo, CA.

2009

- 28) Schrey, AW, M Grispo, M Awad, ED McCoy, HR Mushinsky, T Albayrak, S Bensch, H Jensen, A Reynolds, H Westerdahl, P Zehtindjiev, and **LB Martin**. Microsatellite analysis of population structure in the house sparrow. 127th American Ornithologists Union, Philadelphia, PA.
- 29) Schrey, AW, CAC Coon, ED McCoy, HR Mushinsky, and **LB Martin**. Epigenetic variation in two populations of house sparrows. 127th American Ornithologists Union, Philadelphia, PA.
- 30) Rivers, JW, **LB Martin**, AL Liebl, and MG Betts. 2009. Alarm calls of white-crowned sparrow parents fail to stimulate corticosterone production in their offspring. 127th American Ornithologists Union, Philadelphia, PA.
- 31) Owen, JC, **LB Martin**, and A Nakamura. 2009. Reservoir competence of Northern Cardinals for West Nile Virus: the role of stress hormones. Michigan State University Veterinary Medicine conference, East Lansing, MI.
- 32) Coon, CA, RW Warne, and **LB Martin**. 2009. Unconventional sickness behaviors after immune activation in a wild passerine. Society for Behavioral Neuroendocrinology, East Lansing, MI.
- 33) Liebl, AL, N Tu, CAC Coon, and **LB Martin**. 2009. Development of quantitative real-time PCR tools for ecological immunologists: surmounting technological limitations in the field. Society for Behavioral Neuroendocrinology, East Lansing, MI.
- 34) Alam, JL, AL Leibl, H. Bobby Fokidis, and **LB Martin**. 2009. Are the immune systems of tropical birds glucocorticoid resistant? Society for Integrative and Comparative Biology, Boston, MA.
- 35) Kuhlman, JR and **LB Martin**. 2009. Stress effects on immunity in house sparrows. Society for Integrative and Comparative Biology, Boston, MA.
- 36) Leibl, AL, JL Alam, and **LB Martin**. 2009. Rapid quantification of bactericidal capacity of avian plasma. Society for Integrative and Comparative Biology, Boston, MA.
- 37) Coon, C, JS Adelman, and **LB Martin**. 2009. Development of a simple assay to measure an integral pro-inflammatory cytokine in songbird blood. Society for Integrative and Comparative Biology, Boston, MA.

2008

- 38) Kuhlman, JR and **LB Martin**. Acute stress effects on immunity in the house sparrow. 2008. 126th American Ornithologists Union, Portland, OR.
- 39) Kuhlman, JR and **LB Martin**. Acute stress effects on immunity in the house sparrow. 2008. International Society of Avian Endocrinology, Leuven, Belgium.

- 40) **Martin, LB**, ZM Weil, and RJ Nelson. 2008. Fever and sickness behavior vary among congeneric rodents. Psychoneuroimmunology Research Society, Madison, WI.
- 41) **Martin, LB**, ZM Weil, KJ Navara, CR Hutch, C Tuthill, I Zucker, and RJ Nelson. 2008. Melatonin organizes the immune system of Siberian hamsters. Society for Integrative and Comparative Biology, San Antonio, TX (poster).
- 42) **Martin, LB**, ZM Weil, and RJ Nelson. 2008. Fever and sickness behavior vary among congeneric rodents. Society for Integrative and Comparative Biology, San Antonio, TX.

2007

- 43) **Martin, LB**, J Gilliam, P Han, KA Lee, and M Wikelski. 2007. Corticosterone suppresses immune activity in temperate, but not tropical, house sparrows. Neotropical Ornithological Congress, Maturin, Venezuela.
- 44) **Martin, LB**, M Wikelski, and RJ Nelson. 2007. Geographic variation in glucocorticoids: influences on immunity and behavior. Society for Behavioral Neuroendocrinology, Young Investigator Symposium, Pacific Grove, CA.
- 45) Lee, KA, KC Klasing, **LB Martin**, L. Fusani, G. Sorci, B. Faivre, and M Wikelski. 2007. Immune defense strategies differ between invasive New World House Sparrows and their Old World ancestors. Evolutionary change in human altered environments: an international summit, UCLA.
- 46) Lee, KA, KC Klasing, WD Robinson, **LB Martin**, and M Wikelski. 2007. Ecological and life history correlates of immune defenses in tropical birds. Ecological Society of America, Symposium 21: Epidemics, Ecological Immunology, and Environmental Change: Insights from Theory and Field Systems, San Jose, CA.
- 47) Navara, KJ, **LB Martin**, ZM Weil, and RJ Nelson. 2007. Immunological memory is compromised by food restriction in male deer mice, *Peromyscus maniculatus*. Society of Integrative and Comparative Biology, Phoenix AZ (poster).

2006

- 48) **Martin, LB** and M Wikelski. 2006. Life history and immune activity in house sparrows. North American Ornithological Congress, Veracruz, Mexico.
- 49) **Martin, LB** and M Wikelski. 2006. Life history and immune activity in house sparrows. XXIV International Ornithological Congress, Hamburg, Germany.
- 50) **Martin LB** and RJ Nelson. 2006. Fever and sickness behavior in fast- and slow-living *Peromyscus*. Society of Behavioral Neuroendocrinology, Pittsburgh, PA. (poster).
- 51) **Martin, LB**, ZM Weil, and RJ Nelson. 2006. The immune defenses of wild rodents: model systems for bridging conservation, medicine, and ecophysiology. Society of Integrative and Comparative Biology, Orlando, FL.

2005

- 52) Lee, KA, **LB Martin**, and M Wikelski. 2005. Do immune defense strategies differ between invasive New World populations of the House Sparrow and their Old World ancestors? Society of Integrative and Comparative Biology, San Diego, CA.
- 53) **Martin, LB**, AK Hotchkiss, ZM Weil, and RJ Nelson. 2005. Fitness costs of induced immune activity in Siberian hamsters. Society of Integrative and Comparative Biology, San Diego, CA.
- 54) **Martin, LB**, BC Trainor, K Greiwe, JR Kuhlman, and RJ Nelson. 2005. Social and photoperiod effects on reproduction in species of *Peromyscus*. Society for Neuroscience, Washington, DC. (poster).

- 55) **Martin, LB**, LM Pyter, K Tsutsui, K Ukena, RJ Nelson, and GE Bentley. 2005. Effects of GnIH on immunity in Siberian hamsters. Society of Behavioral Neuroendocrinology, Austin TX. (poster).

2004

- 56) Berger, S, **LB Martin**, M Wikelski, EKV Kalko, and T Rödl. 2003. Immune function, steroid hormones, and male reproductive strategies in the Galápagos marine iguana, *Amblyrynchus cristatus*. Animal Behavior Society Meeting, Boise, ID. (poster).
- 57) Lee, KA, **LB Martin**, and M Wikelski. 2004. Sex influences immune responses differently in the House Sparrow and a monomorphic congener, the Eurasian Tree Sparrow. Society of Integrative and Comparative Biology, New Orleans, LA.
- 58) **Martin, LB**, and M Wikelski. 2004. Tropical house sparrows use more costly immune defenses than their temperate counterparts. Society of Integrative and Comparative Biology, New Orleans, LA.
- 59) **Martin, LB**, J Lewittes, KC Klasing, and M Wikelski. 2004. Neotropical house sparrows use more costly immune defenses than their North-temperate counterparts. Society of Integrative and Comparative Biology, New Orleans, LA. (poster).

2003

- 60) Hayden, TJ, RH Melton, B Willis, **LB Martin**, and T Beaty. 2003. Effects of maneuver training activities on the Red-cockaded Woodpecker population on Fort Stewart, GA. 121st Meeting of the American Ornithologists Union, Champaign, IL.
- 61) Lee, KA, **LB Martin**, and M Wikelski. 2003. A role for the immune system in biological invasions? 121st Meeting of the American Ornithologists Union, Champaign, IL.
- 62) **Martin, LB**, MI Pless, J Svoboda, and M Wikelski. 2003. Climatic seasonality influences life history traits and immune function in tropical and temperate House Sparrows: a common garden experiment. 121st Meeting of the American Ornithologists Union, Champaign, IL.
- 63) **Martin, LB**. Trade-offs between molt and immune activity in North-temperate and Neotropical House Sparrows (*Passer domesticus*). 2003. 121st Meeting of the American Ornithologists Union, Champaign, IL. (poster).
- 64) Pless, MI, **LB Martin**, and M Wikelski. 2003. Parasite load in House Sparrows from two latitudes. 121st Meeting of the American Ornithologists Union, Champaign, IL (poster).

2002 and earlier

- 65) **Martin, LB**, and M Wikelski. 2002. Do long-lived passerines have greater immunological competence? Cell-mediated immune activity in tropical and temperate House Sparrows (*Passer domesticus*). XXIII International Ornithological Conference, Beijing, China.
- 66) **Martin, LB**, A Raim, L Pater, and M Wikelski. 2002. Examining foraging behavior of Bicolored Antbirds using microphone-assisted telemetry. 119th Meeting of the American Ornithologists Union, Seattle, WA. (poster).
- 67) **Martin, LB**, and M Wikelski. 2000. Effects of testosterone on interaction between immunocompetence and basal metabolic rate in the House Sparrow, *Passer domesticus*. VIII International Conference on Behavioral Ecology, Zurich, Switzerland.

- 68) **Martin, LB.** 2000. Woodpecker abundance and distribution in a managed hardwood forest. Combined Meeting of the Wilson Society and Association of Field Ornithologists, Galveston, TX.
- 69) **Martin, LB.** 1998. Snags preferred for foraging and excavating by eastern North American woodpeckers. Annual Meeting of the Virginia Society of Ornithology, Reston, VA.

TEACHING and MENTORING

2011	University of South Florida, Lectures in Contemporary Bio (BSC 4933) University of South Florida, Introduction to Biodiversity (BSC 2011) University of South Florida, The Extended Synthesis (BSC 4933) University of South Florida, Physiological Ecology (BSC 4933)
2010	University of South Florida, Ecoimmunology (BSC 4933) University of South Florida, Evolutionary Medicine (BSC 4933)
2009	University of South Florida, Immunology in Context (BSC 4933) University of South Florida, Introduction to Biodiversity (BSC 2011) University of South Florida, Evolutionary Medicine (BSC 4933) University of South Florida, Advanced Vertebrate Ecophysiology (2x)
2008	University of South Florida, Physiological Ecology (BSC 4933/6932) University of South Florida, Evolutionary Medicine (BSC 4933)
2003	Princeton University, Guest lecturer, Comparative Physiology
2002	Princeton University, Teaching Assistant, Introductory Biology
2001	Princeton University, Teaching Assistant, Tropical Ecology
1999	University of Illinois, Teaching Assistant, Introductory Biology
1997 – 1999	Virginia Commonwealth University, Teaching Assistant, Intro. Biology

Graduate advisees

Complete

Joshua Kuhlman, MS, May 2010

In progress

Martyna Boruta, PhD expected May 2016

Amber Brace, PhD expected May 2016

Courtney Coon, PhD expected May 2013

Andrea Liebl, PhD expected May 2013

Undergraduate honors theses

Ongoing	Allesandra Araujo, Brittany Leigh, Desirae Wiley
2011	Alexandra Urban
2010	Laura Kidd, Jaymin Patel
2009	Sean Argo, Nerlyne Desravines, Elaine Rindfuss, Nhan Tu

Undergraduate honors thesis committee

2009	Andrea Schlunk
------	----------------

Undergraduate advisees

2012	Allesandra Araujo, Yuya Burkhart, Chloe Josefson, Brittany Leigh, Cristina Ruiz Lorenzo, Sara McLaughlin, Ahn-My Nguyen, Sasha Sierra, Victoria
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	Simenson, Desirae Wiley
2011	Allesandra Araujo, Amber Brace, Chris Caruana, Celina Diego, Ashley Garringer, Melinda Fang, Brittany Leigh, Cristina Ruiz Lorenzo, Holly Kilvitis, Sara McLaughlin, Ahn-My Nguyen, Jennie Nwokoye, Staci Reed, Roanak Shah, Sasha Sierra, Victoria Simenson, Alex Urban, Desirae Wiley
2010	Elizabeth Andreassi, Amber Brace, Chris Caruana, Melinda Fang, Ashley Garringer, Laura Kidd, Brittany Leigh, Sara McLaughlin, David Nicholson, Jaymin Patel, Evelyn Schmidt, Roanak Shah, Alexandra Urban, Will Watson
2009	Jen Alam, Said Awad, Mohammed Awad, Patrick Blackburn, Matthew Cook, Nerlyne Desravines, Ashley Garringer, Laura Kidd, Brittany Leigh, Neel Nabar, David Nicholson, Jaymin Patel, Chad Ponce, Evelyn Schmidt, Justin Trotter, Alexandra Urban, Will Watson
2008	Ohio State: Eric Johnson, Brandon Pollak USF: Jen Alam, Sean Argo, Said Awad, Mohammed Awad, Patrick Blackburn, Jonathan Dawson, Laura Kidd, Max Miller, Tri Nguyen, Trina Patel, Shauna Pittman, Elaine Rindfuss, Ed Thrombley, Nahn Tu
2005 – 2007	Ohio State: Mike Hamway, Chelsea Hutch, Josh Kuhlman, Eric Johnson, Brandon Pollak
2002 – 2003	Princeton: Jessica Gilliam, Chris Greenman, Peggy Han, Jason Lewittes, Monica Pless, Julia Svoboda

Graduate thesis committee membership

2011	Anna Rivara (Anthropology)
2010	Christina Kobasa
2007 – 2011	Chris Anderson, Lance Arvidson, Kerry Bohl, Jayne Gardiner, Taeghan McMahon, Nick Osman

Post-doctoral fellowship application sponsorships

2012	Roi Dor, Marie Curie Career Re-integration Grant (Israel, U Tel Aviv)
2011	Leone Brown, Life Sciences Research Foundation
2009	Cris Ledon-Rettig, NSF Minority Post-doctoral Fellowship (awarded) Peter Pap, Marie Curie Fellowship application
2008	Jim Rivers, Smith Fellowship, Society for Conservation Biology
2008	Dustin Rubenstein, eBIRD travel grant awardee (NSF-RCN, awarded)
2007	Jim Rivers, Co-PI for NSF International Post-doctoral Fellowship

External PhD thesis examiner:

2011	University of Tartu (Estonia), Elin Sild (Peeter Horak lab) University of Southern Mississippi, Aaron Holbrook (Jodie Jawor lab)
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SERVICE

Editorial service

2010 – 2015	Editorial Board, <i>Functional Ecology</i>
2010 – 2012	Editorial Board, <i>Proceedings of the Royal Society of London, B</i>
2009 - 2011	Guest Editor, Special Issue of <i>Functional Ecology</i> , <i>Ecological Immunology</i>

Professional organizations

2007 – 2009	Member, Psychoneuroimmunological Research Society
2005 – present	Member, Society of Behavioral Neuroendocrinology
2004 – 2006	Member, Ecological Society of America
2001 – present	Member, Society for Integrative and Comparative Biology
2001 – present	Full member, Sigma Xi Scientific Honor Society
2000 – present	Member, Alpha Phi Alpha Honor Society
1999 – present	Member, American Ornithologists Union
1996 – 1997	President, Graduate Organization of Biology Students, VCU

Professional committees

2011 – 2012	Student Award Committee, American Ornithologists Union
2009 – 2010	Chair, Awards Committee, American Ornithologists Union
2007 – 2009	Awards Committee, American Ornithologists Union
2007 – 2009	Early Professional Committee, American Ornithologists Union

University of South Florida

2011 – 2012	Graduate Council (and Curriculum subcommittee member)
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University of South Florida, College of Arts and Sciences

2010-2012	Instructor Promotion Committee
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University of South Florida Integrative Biology service

2011	USF-IB Seminar Committee
2011	USF-IB Internal Chair Search Committee
2010 – 2012	USF-IB Faculty Advisory Committee
2010 – 2011	USF-CAS Instructor Promotion Committee
2008 – 2010	USF-IB Graduate Student Admissions Committee
2008 – 2010	USF-IB Seminar Committee
2009	USF-IB Instructor Search Committee
2009	USF-IB Disease Biologist Search Committee

Panel service

2012	National Science Foundation, Animal Behavior (pre-proposals)
2010	National Science Foundation, Organism-Environment Interactions

Ad hoc peer review

Journals: Acta Zoologica Sinica, Aging Cell, American Journal of Physiology, American Naturalist, Animal Conservation, Auk, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biology Letters, Brain, Behavior, and Immunity, Canadian Journal of Zoology, Cancer Immunology and Immunotherapy, Comparative Biochemistry and Physiology A, Current Biology, Current Medical Research and Opinion, General and Comparative Endocrinology, Ecography, Ecological Monographs, Ecology, Ecology Letters, Environmental Science and Technology, Ethology, Evolution, Evolutionary Ecology, Frontiers in Molecular Innate Immunity, Functional Ecology, Herpetologica, Ibis,

Integrative and Comparative Biology, Journal of Avian Biology, Journal of Experimental Biology, Journal of Evolutionary Medicine, Journal of Heredity, Journal of Neuroendocrinology, Journal of Ornithology, Molecular Ecology, Oecologia, Physiological and Biochemical Zoology, PLOS One, Polar Biology, Proceedings of the Royal Society of London B: Biological Sciences, Science, Studies in Avian Biology, Trends in Ecology and Evolution, Trends in Parasitology, Wilson Journal of Ornithology

Grantors: The US - Israel Bi-national Agricultural Research and Development Fund (BARD), Netherlands Organisation for Scientific Research, NSF IOS Functional and Regulatory Systems; National Environmental Research Council

Book publishers: Princeton University Press, Elsevier

Journal quality control: Nature reader panel

Public outreach

2008	Judge, Student Presentations, Society for Integrative and Comparative Biology (2 divisions)
2006	Judge, Student Presentations, North American Ornithological Congress Judge, Ohio Academy of Sciences, State Science Day
2005	Judge, Denman Undergraduate Research Forum, Ohio State University Speaker, Career Day, Mansion Day School, Columbus OH Interpreter, Brain Awareness Week, COSI Science Center, Columbus OH
2004	Contributor, National Institute of Invasive Species Science Database Advocate, New York Bird Monitoring, Wildlife Conservation Society

CURRENT COLLABORATORS:

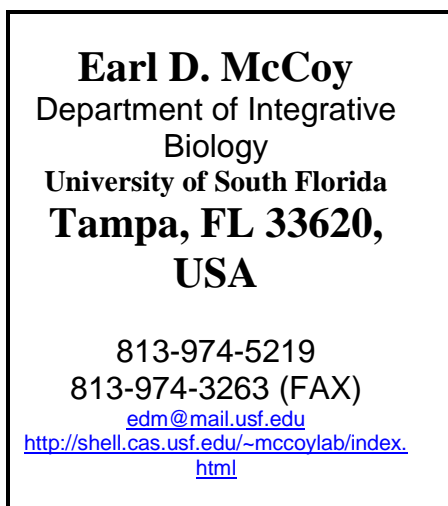
Dan Ardia (Franklin and Marshall)	Michael Bailey (Ohio State)
Staffan Bensch (Lund University)	Matt Betts (Oregon State)
Raoul Boughton (Archbold)	Ryan Calsbeek (Dartmouth)
Dana Hawley (Virginia Tech)	Dennis Hasselquist (Lund University)
Felecia Keesing (Bard College)	Kirk Klasing (UC Davis)
Rick Ostfeld (Cary Institute)	Jen Owen (Michigan State)
Robert Ricklefs (U Missouri Saint Louis)	Michael Romero (Tufts University)
Jason Rohr (South Florida)	Dustin Rubenstein (Columbia)
Gabriele Sorci (U Bourgogne)	Lillian Stark (Florida Dept. of Health)
Brian Trainor (UC Davis)	Dave Westneat (Kentucky)

Research network memberships:

Integrating the Ecology and Evolution of Invasions (Ruth Hufbauer and Mark Torchin, PIs)

HOSPnet: a network of 23 domestic and international house sparrow researchers (LB Martin, PI)

CURRICULUM VITAE



DEGREES

BACHELOR OF SCIENCE

Florida State University, 1970

MASTER OF SCIENCE

University of Miami, 1973

Thesis: *Seasonal Cycles of Soil Arthropods in Miami Rock Ridge Pinelands.*

Major Professor: R.H. Hofstetter

DOCTOR OF PHILOSOPHY

Florida State University, 1977

Dissertation: *Diversity of Terrestrial Arthropods in Northwest Florida Salt Marshes.*

Major Professor: D.R. Strong

PROFESSIONAL POSITIONS

BIOLOGICAL INTERN

Merritt Island National Wildlife Refuge, 1969

TEACHING AND RESEARCH ASSISTANT

Florida State University, 1973-1977

INSTRUCTOR

Organization for Tropical Studies, 1977

MARSH ECOLOGIST

Florida Medical Entomology Laboratory, University of Florida, 1977-1978

ASSISTANT PROFESSOR

Department of Biology, University of South Florida, 1978-1983

VISITING ASSISTANT PROFESSOR

Mountain Lake Biological Station, University of Virginia, 1981-1983

ASSOCIATE PROFESSOR

Department of Biology, University of South Florida, 1983-1989

VISITING ASSOCIATE PROFESSOR

Mountain Lake Biological Station, University of Virginia, 1983-1987

PROFESSOR

Department of Biology, University of South Florida, 1989-

ASSOCIATE CHAIRMAN

Department of Biology, University of South Florida, 1992-2006

ASSOCIATE CHAIRMAN

Department of Integrative Biology, University of South Florida, 2006-

AWARDS AND HONORS

ARNOLD SCHOLARSHIP

US Air Force, 1966-1970

MAYTAG FELLOWSHIP

Maytag Foundation, 1970-1973

CITATION CLASSIC

Institute for Scientific Information, 1990

Published Commentary: Connor, E.F. & E.D. McCoy. Species-area relationships - ten years after. Current Contents, Agricultural, Biological & Environmental Sciences 21(1): 16

FLORIDA LEGISLATURE'S TEACHING INCENTIVE AWARD

University of South Florida, 1994

PROVOST'S FACULTY EXCELLENCE AWARD

University of South Florida, 1995

FLORIDA LEGISLATURE'S PROFESSIONAL EXCELLENCE AWARD

University of South Florida, 1998

PRESIDENT'S FACULTY EXCELLENCE AWARD

University of South Florida, 2003

MERITORIOUS SERVICE AWARD

United States Fish and Wildlife Service, 2005

ASKOUNES-ASHFORD DISTINGUISHED SCHOLAR AWARD

University of South Florida, 2009

BIOGRAPHIES

AcademicKeys Who's Who in Science Higher Education

American Men and Women of Science

Dictionary of International Biography

Directory of American Scholars

Leading Scientists of the World

Lexington Who's Who

Men of Achievement

RESEARCH

My research interests and activities incorporate a wide variety of disciplines, including biogeography, population and community ecology, statistical ecology, conservation and restoration ecology, fire ecology, and philosophy. I am particularly interested in trying to solve theoretical and practical problems related to the environment by using the range of ideas and tools from these disciplines, and thereby arrive at reasonable solutions to environmental problems. Much of the recent and current research in my laboratory emphasizes conservation and restoration of the fragmented and severely threatened upland habitats of Florida. Field projects have focused on, among other things, the demography of the threatened sand skink and of the rare Florida scrub lizard; the habitat preference of the oak toad and of the ground skink, common species that appear to avoid reclaimed lands; movement patterns and paternity of gopher tortoise juveniles; comparative biology of common and rare frogs on lands altered by development; control of disease susceptibility, transmission, and virulence in the gopher tortoise; and analysis of the rate of decline of biodiversity in central Florida. Philosophical projects have focused on, among other things, the scientific status of applied ecology; the ways in which science and policy are interconnected; the ways in which the largely theoretical principles of ecology can be used to undergird environmental decision-making; the ethical basis of environmental decision-making; and risk analysis, mainly as it involves the importation of biological control agents .

GRANTS AND CONTRACTS

1. Population regulation of some mangrove herbivores. 1974. SIGMA XI. \$1,000.
2. An inventory of the saltmarsh mosquito control impoundments in Florida (with W.F. Bidlingmayer). 1977. US FISH AND WILDLIFE SERVICE. \$10,000.
3. International Travel (Ecuador). 1978. UNIVERSITY OF SOUTH FLORIDA. \$600.
4. Studies of three plant-insect systems at Rio Palenque, Ecuador. 1979. UNIVERSITY OF SOUTH FLORIDA. \$5,000.
5. Determination of possible effects of white amur on native herpetofauna residing in Lake Conway, Florida (with R.W. McDiarmid). 1979. US ARMY CORPS OF ENGINEERS. \$54,000.
6. Potential onshore impacts of OCS development on endangered plant and animal species of the western Florida coast. 1980. US FISH AND

- WILDLIFE SERVICE. \$10,000.
7. International Travel (Great Britain). 1982. UNIVERSITY OF SOUTH FLORIDA. \$600.
 8. Studies on the relative herbivore damage accrued by *Vaccinium* (Ericaceae) plants growing in sun and shade (Undergraduate Research Support). 1982. UNIVERSITY OF VIRGINIA. \$2,000.
 9. Insect species richness along temperate altitudinal gradients. 1983. UNIVERSITY OF SOUTH FLORIDA. \$5,000.
 10. International Travel (Jamaica). 1985. UNIVERSITY OF SOUTH FLORIDA. \$600.
 11. The demography of *Gopherus polyphemus* (Daudin) in relation to size of available habitat (with H.R. Mushinsky). 1986. FLORIDA GAME AND FRESH WATER FISH COMMISSION. \$67,000.
 12. Habitat structure: The physical arrangement of objects in space (Conference Support) (with S.S. Bell & H.R. Mushinsky). 1987. FLORIDA SEA GRANT. \$5000.
 13. Normative concepts in ecology and their consequences for environmental policy (with K.S. Shrader Frechette). 1987. NATIONAL SCIENCE FOUNDATION. \$72,000.
 14. International Travel (Mexico). 1987. UNIVERSITY OF SOUTH FLORIDA. \$600.
 15. Vertebrate species composition of selected scrub islands on The Lake Wales Ridge of central Florida (with H.R. Mushinsky). 1987. FLORIDA GAME AND FRESH WATER FISH COMMISSION. \$129,000.
 16. Habitat structure: The physical arrangement of objects in space (Conference Support) (with S.S. Bell & H.R. Mushinsky). 1988. UNIVERSITY OF SOUTH FLORIDA. \$10,000.
 17. Distribution of gopher tortoises (*Gopherus polyphemus*) on selected state parks in Florida (with H.R. Mushinsky). 1990. FLORIDA PARK SERVICE. \$45,000.
 18. Recovery of mangrove and seagrass ecosystems after Hurricane Andrew (with C.J. Dawes *et al.*). 1990. NATIONAL SCIENCE FOUNDATION. \$20,000.
 19. Environmental ethics, uncertainty, and preservation (with K.S. Shrader-Frechette). 1992. NATIONAL SCIENCE FOUNDATION. \$81,000.
 20. Studies of wildlife and restoration of phosphate-mined lands, Phase I (with H.R. Mushinsky). 1993. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH. \$237,000.
 21. Studies of the Florida mouse, *Peromyscus floridanus* (Graduate Research Support) (with H.R. Mushinsky). 1993. IMC-AGRICOLA COMPANY. \$23,000.
 22. Studies of the sand skink, *Neoseps reynoldsi* (Graduate Research Support) (with H.R. Mushinsky). 1994. DISNEY WILDLIFE CONSERVATION FUND. \$84,000
 23. Studies of restoration of scrub habitat on abandoned orange groves and wildlife recolonization (Graduate Research Support) (with H.R.

- Mushinsky). 1994. DISNEY WILDLIFE CONSERVATION FUND. \$65,000.
24. North American Tortoise Conference (Conference Support) (with G. Aquirre & H.R. Mushinsky). 1994. NATIONAL SCIENCE FOUNDATION. \$15,000.
 25. International Travel (Great Britain). 1994. UNIVERSITY OF SOUTH FLORIDA. \$600.
 26. Studies of wildlife and restoration of phosphate-mined lands, Phase II (with H.R. Mushinsky). 1995. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH. \$18,000.
 27. Wildlife usage of mesic flatlands and its bearing on restoration of phosphate-mined land in central Florida (with H.R. Mushinsky). 1995. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH. \$210,000.
 28. Values and ecological risk assessment (with K.S. Shrader-Frechette). 1996. NATIONAL SCIENCE FOUNDATION. \$60,000.
 29. Habitat requirements of key vertebrate species that are under-represented on phosphate mined lands (with H.R. Mushinsky). 1998. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH. \$288,000.
 30. Biology of the threatened sand skink, *Neoseps reynoldsi*, on restored scrub habitat (Graduate Research Support) (with H.R. Mushinsky). 1999. DISNEY WILDLIFE CONSERVATION FUND. \$19,000.
 31. Population consequences of upper respiratory tract disease on gopher tortoises (with J.K. Lindzey & H.R. Mushinsky). 1999. FLORIDA GAME AND FRESH WATER FISH COMMISSION. \$49,000.
 32. International Travel (Mexico). 2000. UNIVERSITY OF SOUTH FLORIDA. \$1000.
 33. Monitoring gopher tortoises after translocation to the Brooker Creek Preserve (with H.R. Mushinsky). 2001. PINELLAS COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. \$51,000.
 34. Using anurans to evaluate the relative health of wetlands, I (with H.R. Mushinsky). 2001. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT. \$50,000.
 35. The potential impact of re-introduction of fire in the Peloncillo Mountains on the New Mexico ridge-nosed rattlesnake (with H.R. Mushinsky). 2002. ARID LANDS PROJECT. \$2000.
 36. Upper respiratory tract disease and environmentally threatened gopher tortoises (with M.B. Brown *et al.*). 2002. NATIONAL SCIENCE FOUNDATION. \$2,210,000.
 37. Wildlife habitat and wildlife utilization of phosphate mined lands (with J.K. Godley *et al.*). 2003. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH. \$637,000.
 38. Anurans, cypress domes, and minimum flows and levels (with H.R. Mushinsky). 2004. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT. \$65,000.
 39. Experimental translocation of the sand skink (with H.R. Mushinsky *et al.*). 2006. DISNEY WILDLIFE CONSERVATION FUND. \$120,000.
 40. Anuran usage of well fields in urbanized settings (with H.R. Mushinsky).

2006. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT. \$80,000.
41. Ecological and genetic studies of the sand skink (*Plestiodon reynoldsi*) in central and south Florida (with H.R. Mushinsky *et al.*). 2006. RINKER CORPORATION/US FISH AND WILDLIFE SERVICE. \$858,000.
 42. Experimental restoration of Florida scrub on the Lake Wales Ridge (with E. Menges *et al.*). 2008. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. \$195,000. (ACTIVE)
 43. Compatibility of gopher tortoises with cows (with H.R. Mushinsky *et al.*). 2009. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. \$105,000. (ACTIVE)
 44. Effective monitoring of Florida Sand Skink, *Plestiodon* (*Neoseps*) *reynoldsi*, population trends (with H.R. Mushinsky). 2010. US FISH AND WILDLIFE SERVICE. \$175,000. (ACTIVE)
 45. Habitat Conservation Plan for Polk County, Florida (with D. Sumpter *et al.*). 2010. POLK COUNTY HCP. (ACCEPTED CONTINGENT UPON FUNDING)
 - ____. Habitat Conservation Plan for Lake County, Florida (with D. Sumpter *et al.*). (IN REVIEW)
 - ____. Habitat Conservation Plan for Lake County, Florida (with S. Kennedy *et al.*). (IN REVIEW)

PUBLICATIONS: JOURNAL ARTICLES

1. **McCoy**, E.D. & E.F. Connor. 1976. Environmental determinants of island species number in the British Isles: A reconsideration. JOURNAL OF BIOGEOGRAPHY 3: 381-382.
2. **McCoy**, E.D. & K.L. Heck. 1976. Biogeography of corals, seagrasses, and mangroves: An alternative to the center of origin concept. SYSTEMATIC ZOOLOGY 25: 201-210.
3. Strong, D.R., E.D. **McCoy** & J.R. Rey. 1977. Time and the number of herbivore species: The pests of sugarcane. ECOLOGY 58: 167-175.
4. Heck, K.L. & E.D. **McCoy**. 1978. Long-distance dispersal and the reef-building corals of the eastern Pacific. MARINE BIOLOGY 48: 349-356.
5. Connor, E.F. & E.D. **McCoy**. 1979. The statistics and biology of the species-area relationship. AMERICAN NATURALIST 113: 791-833.
6. Heck, K.L. & E.D. **McCoy**. 1979. The biogeography of seagrasses: Evidence from associated organisms. NEW ZEALAND DSIR INFORMATION SERIES 137(1): 109-128.
7. **McCoy**, E.D. 1979. Ecological control of mosquitoes on Florida's east coast: An overview. PROCEEDINGS OF THE FLORIDA ANTI-MOSQUITO ASSOCIATION 50: 20-23.
8. Morrison, G., M. Auerbach & E.D. **McCoy**. 1979. Anomalous diversity of tropical parasitoids: A general phenomenon? AMERICAN NATURALIST 114: 303-307.
9. Rey, J.R. & E.D. **McCoy**. 1979. The application of island-biogeographic

- theory to the pests of agricultural crops. ENVIRONMENTAL ENTOMOLOGY 8: 577-582.
10. **McCoy**, E.D. & E.F. Connor. 1980. Latitudinal gradients in the species-diversity of North America mammals. EVOLUTION 34: 193-203.
 11. **McCoy**, E.D. & J.R. Rey. 1981. Patterns of abundance, distribution, and alary polymorphism among the saltmarsh Delphacidae (Homoptera: Fulgoroidea) of northwest Florida. ECOLOGICAL ENTOMOLOGY 6: 285-291.
 12. **McCoy**, E.D. & J.R. Rey. 1981. Terrestrial arthropods of northwest Florida saltmarshes: Coleoptera (Insecta). FLORIDA ENTOMOLOGIST 64: 405-411.
 13. Rey, J.R., E.D. **McCoy** & D.R. Strong. 1981. Herbivore pests, habitat islands, and the species-area relation. AMERICAN NATURALIST 117: 611-622.
 14. **McCoy**, E.D. 1982. The application of island-biogeographic theory to forest tracts: Problems in the determination of turnover rates. BIOLOGICAL CONSERVATION 22: 217-227.
 15. **McCoy**, E.D. & J.R. Rey. 1982. Terrestrial arthropods of northwest Florida saltmarshes: Hemiptera and Homoptera (Insecta). FLORIDA ENTOMOLOGIST 56: 241-248.
 16. Rey, J.R., D.R. Strong & E.D. **McCoy**. 1982. On overinterpretation of the S/A relationship. AMERICAN NATURALIST 119: 741-743.
 17. Connor, E.F., E.D. **McCoy** & B.J. Cosby. 1983. Model discrimination and expected slope values in species-area studies. AMERICAN NATURALIST 122: 789-796.
 18. **McCoy**, E.D. 1983. The application of island-biogeographic theory to patches of habitat: How much land is enough? BIOLOGICAL CONSERVATION 25: 53-61.
 19. **McCoy**, E.D. & K.L. Heck. 1983. Centers of origin revisited. PALEOBIOLOGY 9: 17-19.
 20. **McCoy**, E.D. & J.R. Rey. 1983. The biogeography of herbivorous arthropods: Species accrual on tropical crops. ECOLOGICAL ENTOMOLOGY 8: 305-313.
 21. **McCoy**, E.D. & J.R. Rey. 1983. Area-related species richness: The uses of ecological and paleontological data. AMERICAN NATURALIST 122: 567-569.
 22. Rey, J.R. & E.D. **McCoy**. 1983. Terrestrial arthropods of northwest Florida saltmarshes: Araneae and Pseudoscorpiones (Arachnida). FLORIDA ENTOMOLOGIST 66: 497-503.
 23. **McCoy**, E.D. 1984. Colonization by herbivores of *Heliconia* spp. plants (Zingiberales: Heliconiaceae). BIOTROPICA 16: 10-13.
 24. Mason, C.F., T.G. Schreeve & E.D. **McCoy**. 1985. Butterflies and woodlands in Britain. BIOLOGICAL CONSERVATION 28: 377-379.

25. **McCoy**, E.D. 1985. Interactions among leaf-top herbivores of *Heliconia imbricata* (Zingiberales: Heliconiaceae). BIOTROPICA 17: 326-329.
26. **McCoy**, E.D., S.S. Bell & K. Walters. 1986. Identifying biotic boundaries along environmental gradients. ECOLOGY 67: 749-759.
27. Rey, J.R. & E.D. **McCoy**. 1986. Terrestrial arthropods of northwest Florida saltmarshes: Diptera (Insecta). FLORIDA ENTOMOLOGIST 69: 197-205.
28. Savino, D.F., C.E. Margo, E.D. **McCoy** & F. Friedl. 1986. Dermal myiasis of the eyelid. OPHTHALMOLOGY 93: 1225-1227.
29. **McCoy**, E.D. 1987. The ground-dwelling beetles of periodically-burned plots of sandhill. FLORIDA ENTOMOLOGIST 70: 31-39.
30. **McCoy**, E.D. 1987. Tropical rainforest deforestation. BULLETIN OF THE ECOLOGICAL SOCIETY OF AMERICA 68: 535.
31. **McCoy**, E.D. & K.L. Heck. 1987. Some observations on the use of taxonomic similarity in large-scale biogeography. JOURNAL OF BIOGEOGRAPHY 14: 79-87.
32. **McCoy**, E.D. & J.R. Rey. 1987. Terrestrial arthropods of northwest Florida saltmarshes: Hymenoptera (Insecta). FLORIDA ENTOMOLOGIST 70: 90-97.
33. Frank, J.H., and E.D. **McCoy**. 1989. Behavioral ecology: From fabulous past to chaotic future. FLORIDA ENTOMOLOGIST 72: 1-6.
34. Frank, J.H. & E.D. **McCoy**. 1990. Endemics and epidemics of shibboleths and other things causing chaos. FLORIDA ENTOMOLOGIST 73: 1-9.
35. **McCoy**, E.D. 1990. The distribution of insect associations along elevational gradients. OIKOS 58: 313-322.
36. **McCoy**, E.D. & B.W. Kaiser. 1990. Changes in foraging activity of the southern harvester ant, *Pogonomyrmex badius* (Latreille), in response to fire. AMERICAN MIDLAND NATURALIST 123: 112-123.
37. Shrader-Frechette, K.S. & E.D. **McCoy**. 1990. Theory reduction and explanation in ecology. OIKOS 58: 109-114.
38. Frank, J.H. & E.D. **McCoy**. 1991. Medieval insect behavioral ecology, and chaos. FLORIDA ENTOMOLOGIST 74: 1-9.
39. Wilson, D.S., H.R. Mushinsky & E.D. **McCoy**. 1991. Relationship between gopher tortoise body size and burrow width. HERPETOLOGICAL REVIEW 22: 122-124.
40. Frank, J.H. & E.D. **McCoy**. 1992. The immigration of insects to Florida, with a tabulation of records published since 1970. FLORIDA ENTOMOLOGIST 75: 1-28.
41. **McCoy**, E.D. & H.R. Mushinsky. 1992. Studying a species in decline: Changes in populations of the gopher tortoise on federal lands in Florida. FLORIDA SCIENTIST 55: 116-125.
42. **McCoy**, E.D. & H.R. Mushinsky. 1992. Rarity of organisms in the sand pine scrub habitat of Florida. CONSERVATION BIOLOGY 6: 537-548.
43. **McCoy**, E.D. & H.R. Mushinsky. 1992. Studying a species in decline: Gopher tortoises and the dilemma of "correction factors." HERPETOLOGICA 48: 402-407.
44. **McCoy**, E.D. & K.S. Shrader-Frechette. 1992. Community ecology, scale,

- and the instability of the stability concept. *PHILOSOPHY OF SCIENCE ASSOCIATION* 1992 (1): 184-199.
45. Shrader-Frechette, K.S. & E.D. **McCoy**. 1992. Statistics, costs and rationality in ecological inference. *TRENDS IN ECOLOGY AND EVOLUTION* 7: 96-99.
 46. Botts, P.S. & E.D. **McCoy**. 1993. Delineation of spatial boundaries in a wetland habitat. *BIODIVERSITY AND CONSERVATION* 2: 351-358.
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153. Ashton, R., P. Ashton, J. Berish, B. Blihovde, B. Bolt, S. Hermann, C. Guyer, E. Jacobson, E.D. **McCoy**, H.R. Mushinsky & W. Thompson. 2007. Scientific review of relocation in the Gopher Tortoise management plan. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION. 7pp.

154. Mushinsky, H.R., E.D. **McCoy** & N. Halstead. 2007. Measuring wetland health: Establishing current population levels of anurans in cypress domes. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT. 43pp.
155. Durbin, D., S. Gonzalez, K. Robbins, N. Halstead, H.R. Mushinsky & E.D. **McCoy**. 2008. Wildlife habitat and wildlife utilization of phosphate-mined lands. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH, 98pp.
156. Hudson, P., K. Berry, C.R. Tracy, E.D. **McCoy**, K. Ralls, M. Reed & R. Steidl. 2009. Understanding disease in desert tortoise populations: A brief summary of knowledge and recommendations pertinent to conservation. US FISH AND WILDLIFE SERVICE, 15pp.
157. Mushinsky, H.R., E.D. **McCoy**, A.C. Deyle & J.C. Guzy. 2010. Measuring wetland health: Monitoring anuran calling activity at urban and non-urban cypress domes. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT. 67pp.
158. Mushinsky, H.R., E.D. **McCoy**, A. Catenazzi, E. Britt, A. Schrey & J.S. Godley. 2011. Ecological and genetic studies of the sand skink (*Plestiodon reynoldsi*) in central and south Florida/Research to Benefit the conservation of the Florida Sand Skink. CEMEX CORPORATION/USFWS. 89pp.
159. US Fish and Wildlife Service (Prepared by Recovery Plan Assessment Committee: C.R. Tracy, W. Boarman, D. Delehanty, J. Heaton, E.D. **McCoy**, K. Nussear, B. Hagerty, P. Medica, D. Morafka & R. Averill-Murray. 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). US FISH AND WILDLIFE SERVICE, 209pp.
160. Mushinsky, H.R. & E.D. **McCoy**. Habitat requirements of key vertebrate species that are under-represented on phosphate mined lands. FLORIDA INSTITUTE OF PHOSPHATE RESEARCH (IN PRESS)

SEMINARS

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA
 ARCHBOLD BIOLOGICAL STATION
 BODEGA BAY MARINE LABORATORY
 FLORIDA ATLANTIC UNIVERSITY
 FLORIDA STATE UNIVERSITY
 FLORIDA TECHNOLOGICAL UNIVERSITY
 GEORGIA SOUTHERN UNIVERSITY
 MOTE MARINE LABORATORY
 MOUNTAIN LAKE BIOLOGICAL STATION
 SAVANNAH RIVER ECOLOGY LABORATORY
 SOUTHERN ILLINOIS UNIVERSITY
 STETSON UNIVERSITY
 UNIVERSITY OF CALIFORNIA, DAVIS
 UNIVERSITY OF COLORADO

UNIVERSITY OF FLORIDA
UNIVERSITY OF MAINE
UNIVERSITY OF MARYLAND
UNIVERSITY OF NEVADA
UNIVERSITY OF SOUTH FLORIDA
UNIVERSITY OF TAMPA
UNIVERSITY OF VIRGINIA
VILLANOVA UNIVERSITY
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

PRESENTATIONS

AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE (FLORIDA)
AMERICAN MUSEUM OF NATURAL HISTORY

Invited Symposia: (1) Vicariance Biogeography; (2) Conservation,
Restoration, and Management of Tortoises and Turtles

AMERICAN ORNITHOLOGIST'S UNION

AMERICAN SOCIETY FOR SURFACE MINING AND RECLAMATION

AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS

Invited Symposia: (1) North American Tortoises: Conservation and
Ecology; (2) Conservation of Reptiles and Amphibians; (3) Science and
Conservation: Tales from the Front; (4) Partners in Amphibian and Reptile
Conservation; (5) Exotics and Extinction: Fates of Fishes, Amphibians,
and Reptiles in the Americas; (6) Turtle Ecology

AMERICAN SOCIETY OF ZOOLOGISTS

Published Abstracts: American Zoologist 16: 270, 24: 10A, 25: 9A, 27:
10A, 28: 112A, 137A, 29: 88A, 30: 17A, 31: 135A

ARCHBOLD BIOLOGICAL STATION

Invited Symposium: Fiftieth Anniversary

ASSOCIATION OF PACIFIC COAST GEOGRAPHERS

BRITISH ECOLOGICAL SOCIETY

Invited Symposium: The Tropical Rain Forest; Abstract: Tropical Rain
Forest: Ecology and Management

Published Abstract: Chadwick & Sutton, Eds. Leeds Philosophical and
Literary Society, p. 102

CANADIAN AMPHIBIAN AND REPTILE CONSERVATION NETWORK

Keynote Address: Education and Conservation in Herpetology

CONSERVATION AND BIOLOGY OF TORTOISES AND FRESHWATER
TURTLES SYMPOSIUM

Invited Session: Florida Turtles: Conservation Challenges and
Opportunities

DESERT TORTOISE COUNCIL

Invited Workshop: Desert Tortoise Health and Disease

ECOLOGICAL SOCIETY OF AMERICA

Invited Symposium: Ecological Ethics: Building a Practical Code of Ethics

for Ecologists
 Published Abstracts: Bulletin of the Ecological Society of America 57: 30;
 59: 102; 60: 114; 67: S232; 71: 246; 74: S52; 76: S(2) 175; 77: S(3) 196,
 293, 318, 322, 395, 431
 Organized Poster Session: New Directions in an Ancient Ecosystem:
 Syntheses, Mechanisms, Models, and Applications in Florida Scrub
 Research

ENTOMOLOGICAL SOCIETY OF AMERICA
 Invited Symposium: Risk Assessment in Biological Control

FLORIDA A&M UNIVERSITY
 Invited Symposium: Nature and Management of the Inter-Tidal Marshes of
 the Gulf Coast

FLORIDA ANTI-MOSQUITO ASSOCIATION

FLORIDA DEFENDERS OF THE ENVIRONMENT
 Invited Symposium: Salt Marshes of the Gulf Coast of Florida

FLORIDA DEPARTMENT OF NATURAL RESOURCES

FLORIDA ENTOMOLOGICAL SOCIETY
 Invited Symposia: Behavioral Ecology

FLORIDA GOVERNOR'S CONFERENCE
 Invited Symposia: (1) Alternative Management of Salt Marshes; (2)
 Ecosystem Management

FLORIDA HERPETOLOGY CONFERENCE
 Invited Symposium: Florida Herpetology in the Twenty-First Century

FLORIDA SCRUB SYMPOSIUM

FLORIDA SEA GRANT
 Invited Symposium: Bay Area Scientific Information

GEOLOGICAL SOCIETY OF AMERICA
 Invited Symposium: Evolutionary Paleobiogeography

GOPHER TORTOISE COUNCIL
 Invited Symposium: The Status and Conservation of Florida Turtles
 Invited Workshop: Gopher Tortoise Status
 Invited Workshop: Information Gaps and Research Needs for the Gopher
 Tortoise
 Keynote address: Science, advocacy, ethics, and the Gopher Tortoise
 (Council)

HERPETOLOGISTS' LEAGUE
 Invited Symposium: Contemporary Herpetological Research: A Tribute to
 Robert Jaeger as 20-
 Year Editor of *Herpetologica*

INTERNATIONAL CONFERENCE ON TURTLES AND TORTOISES
 Invited Symposium: Life History and Population Dynamics

INTERNATIONAL CONGRESS OF ECOLOGY

INTERNATIONAL CONGRESS OF ENTOMOLOGY
 Invited Symposium: Theoretical Aspects of Insect Biogeography

INTERNATIONAL CONGRESS OF SYSTEMATIC AND EVOLUTIONARY
 BIOLOGY

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (TFTSG)

Invited Symposium: Florida Turtles: Conservation Challenges and Opportunities

LAKE WALES RIDGE ECOLOGICAL WORKING GROUP

NATIONAL CONFERENCE ON ECOSYSTEM RESTORATION

NORTH AMERICAN CONFERENCE ON SAVANNAS AND BARRENS

POWDERMILL OCCASIONAL FRESHWATER TURTLE CONFERENCE

SMITHSONIAN INSTITUTION

Invited Symposium: Species as Particles in Time and Space

SOCIETY FOR CONSERVATION BIOLOGY

SOCIETY FOR ECOLOGICAL RESTORATION

Invited Symposium: Success Criteria and Monitoring

SOCIETY FOR THE STUDY OF AMPHIBIANS AND REPTILES

Keynote Address: What should we do about the decline in biodiversity?

Keynote Address: Science, advocacy, and the race to extinction: The tortoise and the skink

Symposium: Life History and Ecology of Chelonians

US FISH AND WILDLIFE SERVICE

Invited Symposium: Florida Scrub

WESTERN SOCIETY OF NATURALISTS

Invited Symposium: Marine Biogeography and Evolution in the Southern Hemisphere

WORLD CONGRESS OF HERPETOLOGY

Invited Symposium: Conservation of Amphibians and Reptiles

TEACHING

I am interested in cultivating individual discovery through active learning. I believe that, increasingly, both undergraduate and graduate students expect to be taught rather than to learn. In science, a passive approach to gaining knowledge severely limits what a student is capable of achieving. I use a variety of classroom techniques designed to involve students in the learning process, by encouraging them to participate. My classes are open forums, where students can feel free to present ideas and ask questions at any point. My tests are essay examinations whenever feasible, with questions designed to synthesize the information learned in class. I employ computer exercises extensively, because they allow students to explore classroom topics, especially mathematical concepts, in detail and at their own speeds. I also employ field exercises extensively, because they provide experience in practical problem solving. My interest in cultivating individual discovery is reflected in my strong support of student research. I have taken more than 50 undergraduate students into my laboratory to do research, which provides them with the best opportunity available for active learning. Each student is given background reading material and an introduction to the project in which he or she is involved, is required to take notes of activities, and is required to make a presentation at the end. I have served on the committees of about a dozen honors students, guiding them

through their first real attempts at research. I have served on the Master's or Doctoral committees, or as an outside examiner, of more than 100 graduate students at seven universities in the United States, Australia, Israel, Netherlands, and South Africa.

GRANTS AND CONTRACTS

46. Overcoming “math phobia” in a non-mathematics science course. 2008. UNIVERSITY OF SOUTH FLORIDA (INNOVATIVE TEACHING GRANT)..\$4000.
47. Introductory biology course redesign and new skills course for the Department of Integrative Biology. 2011. NATIONAL CENTER FOR ACADEMIC TRANSFORMATION (with S.S. Bell). \$5000

PUBLICATIONS

161. **McCoy**, E.D. & S.K. Pierce. 2004. The function of course pre-requisites: Comparing “student-driven” and “faculty-driven” models. AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES (http://www.actionbioscience.org/education/mccoy_pierce.html).

COURSES

UNDERGRADUATE LABORATORIES

Florida State University: Comparative Vertebrate Physiology, Entomology, General Biology, Histology, Introductory Botany, Introductory Ecology, Introductory Zoology, Transmission Genetics

UNDERGRADUATE COURSES

University of South Florida: Environment, Biology of Terrestrial Arthropods, Fundamentals of Biology, Fundamentals of Zoology, Introductory Entomology, Principles of Ecology, Topics in Human Biology

GRADUATE COURSES AND SEMINARS

University of South Florida: Biogeography, Plant-Animal Interactions, Population Biology, Statistical Ecology, Advanced Biogeography, Conservation Ecology, Habitat Structure, History and Philosophy of Ecology, Life-History Tactics, Ordination Techniques, Restoration Ecology, Species as Particles, Urban Ecology, Recent Advances in the Study of Habitat Structure
University of Virginia, Mountain Lake Biological Station: Insect Ecology, Plant-Animal Interactions

FIELD COURSES

National Science Foundation: Project First
Organization for Tropical Studies: Tropical Ecology

WORKSHOPS

Hillsborough County Secondary Schools: Ecological Methods,
Conservation Methods
University of South Florida, Bachelor of Independent Studies: Ecological
Principles

POSTDOCTORAL ASSOCIATES

PHILLIP BATEMAN (PhD Open University, UK)
ERIC BRITT (PhD University of California, Irvine)
STEVEN CAMPBELL: For the Desert Tortoise Science Advisory Committee
(PhD University of Maine)
ALESSANDRO CATENAZZI (PhD Florida International University)
ROBERT KLUSON (PhD University of California, Santa Cruz)
ROBIN MOORE (PhD University of Kent, UK)
CAROL RIZKALLA (PhD Purdue University)
AARON SCHREY (PhD Southern Illinois University)

PHD STUDENTS

EDWARD PROFFITT (1983)
Dissertation: *The influences of cumulative area, patch size, and frequency of disturbance on marine infaunal community structure.*
SHANNON BROS (1985)
Dissertation: *The role of barnacles in regulating initial recruitment to a fouling community in Tampa Bay, Florida.*
BRIAN WITZ (1994)
Dissertation: *The foraging behavior and physiological ecology of Cnemidophorus sexlineatus (Squamata: Teiidae) in a Florida sandhill habitat.*
DAWN WILSON (1996)
Dissertation: *Nesting ecology of the striped mud turtle, Kinosternon baurii, in a central Florida population.*
PABLO DELIS (2001)
Dissertation: *Hyla gratiosa and H. femoralis (Anura: Hylidae) in west central Florida: A comparative study of rarity and commonness.*
CHERIE KELLER (2005)
Dissertation: *Assessment of resource selection using remote sensing and GIS for two vertebrates:*

- The gopher tortoise and the North Atlantic right whale.*
 BRIAN HALSTEAD (2008)
 Dissertation: *Predator behavior and prey demography in patchy habitats.*
- TRAVIS ROBBINS (2010)
 Dissertation: *Geographic Variation in Life History Tactics, Adaptive Growth Rates, and Habitat-specific Adaptations in Phylogenetically Similar Species: The Eastern Fence Lizard, Sceloporus undulatus undulatus, and the Florida Scrub Lizard, Sceloporus woodi.*
- ALICIA FOX (Candidate)
 Project: Genetic parentage analysis of the Florida Sand Skink

MS STUDENTS

- EUGENE SCHUPP (1981)
 Thesis: *Interactions between ants and plants: Azteca protection of Cecropia.*
- JOHN JULIANNNA (1984)
 Thesis: *Wing polymorphism and habitat quality in a delphacid planthopper Prokelesia marginata.*
- DAWN WILSON (1990)
 Thesis: *Activity patterns, home range sizes, and burrow usage of juvenile gopher tortoises, Gopherus polyphemus.*
- PABLO DELIS (1993)
 Thesis: *The influence of urbanization on herpetofaunal assemblages in western central Florida.*
- PATRICIA HARTMANN (1993)
 Thesis: *Demography of a population of the Florida scrub lizard (Sceloporus woodi) in a sand pine scrub on the Lake Wales Ridge of central Florida.*
- KEVIN CONNOR (1996)
 Thesis: *Homing behavior and orientation in the gopher tortoise, Gopherus polyphemus.*
- ERIC SUTTON (1996)
 Thesis: *A mark-recapture study of the sand skink, Neoseps reynoldsi, and a comparison of sand skink sampling methods.*
- DANYEL SCHMUTZ (1997)
 Thesis: *Microhabitat distribution of the Florida mouse, Podomys floridanus, on native upland sites and reclaimed mined land.*
- WESLEY SHOCKLEY (1997)
 Thesis: *A morphometric and skeletochronological analysis of Neoseps reynoldsi, the sand skink.*
- ALEXANDRA COLLAZOS (1998)
 Thesis: *Microhabitat selection in Neoseps reynoldsi, a Florida sand-swimming skink.*
- CHELCEY FORD (1999)

- Thesis: *Indications of forest stress and mortality along the Myakka River using tree-ring analysis.*
- KAREN HILL (1999)
Thesis: *Responses of released populations of the sand skink, Neoseps reynoldsi, to scrub habitat translocation in central Florida.*
- GEORGE NAVRATIL (1999)
Thesis: *The effects of land management practices on the sand skink, Neoseps reynoldsi.*
- STIG RAVDAL (2000)
Thesis: *The effects of silviculture and prescribed burning on herpetofauna in Florida sand-pine scrub.*
- KRISTIE GIANOPULOS (2001)
Thesis: *Responses of the threatened sand skink (Neoseps reynoldsi) and other herpetofaunal species to controlled burning and clear cutting in the Florida scrub habitat*
- KRISTEN PENNEY (2001)
Thesis: *Factors affecting translocation success and estimates of dispersal and movement of the sand skink, Neoseps reynoldsi, on restored scrub.*
- TERRI STILSON (2001)
Thesis: *Movement patterns and food selection in juveniles of the gopher tortoise.*
- KRISTIN CARUSO (2002)
Thesis: *Microhabitat preferences of the oak toad (Bufo quercicus) and explanations for the species' absence on reclaimed phosphate-mined lands.*
- CAROLYN MEYER (2002)
Thesis: *Responses of environmental variables to land management practices in Florida scrub habitat and restoration efforts in former scrub habitat.*
- KATHLEEN BARRETT (2003)
Thesis: *Microhabitat preferences of Eumeces inexpectatus, the southeastern five-lined skink: Explanations for its rarity on reclaimed phosphate-mined lands.*
- JAMIE COLSON-MOON (2003)
Thesis: *Reproductive characteristics, multiple paternity, and mating system in a central Florida population of the gopher tortoise, Gopherus polyphemus.*
- SHANNON GONZALEZ (2004)
Thesis: *Biological indicators of wetland health: Comparing qualitative and quantitative measures with anuran measures.*

SUSANNAH RIEDL (2006)

THESIS: THE EFFECTS OF TRANSLOCATION ON MOVEMENTS,
REPRODUCTIVE ACTIVITY, AND BODY CONDITION OF RESIDENT AND
TRANSLOCATED GOPHER TORTOISES (GOPHERUS POLYPHEMUS) IN
CENTRAL FLORIDA.

NEJMA PIAGENTINI (2006)

Thesis: *The science and policy that compels the wetland mitigation of phosphate-mined lands.*

KATHERINE BASIOTIS (2007)

Thesis: *The effects of invasive cogongrass (Imperata cylindrica) on the threatened gopher tortoise (Gopherus polyphemus).*

NEAL HALSTEAD (2007)

Thesis: *Long term effects of prescribed fire on reptile and amphibian communities in a Florida sandhill habitat.*

IRMGARD LUKANIK (2007)

Thesis: *An evaluation of movement patterns and effects of habitat patch size on the demography of the Florida mouse (Peromyscus floridanus).*

KRISTAN ROBBINS (2007)

Thesis: *Spatially-explicit habitat suitability analysis of juvenile gopher tortoises (Gopherus polyphemus).*

ROBBIN CAPERS (2010)

Thesis: *Foraging decisions of nocturnal mice under direct and indirect cues of predation risk.*

JACQUELINE GUZY (2010)

Thesis: *Maintaining biodiversity with a mosaic of wetlands: Factors affecting amphibian species richness among small isolated wetlands in central Florida.*

BRADLEY HAUCH (2010)

Thesis: *Using microhabitat data to determine appropriate models for estimating suitable scrub habitat for the Florida Sand Skink (Plestiodon reynoldsi)*

NICHOLAS OSMAN (2010)

Thesis: *Experimental translocation of the Florida Sand Skink (Plestiodon reynoldsi) into varying microhabitat types: Success of a highly adapted species across diverse environmental conditions.*

SARAH SMILEY (2010)

Thesis: *The distribution and population dynamics of the golden mouse (Ochrotomys nuttalli) at its southern range periphery.*

ANNA DEYLE (2011)

Thesis: *Population genetics of Amphiuma means and Siren lacertina in central Florida.*

ADCOCK (Candidate)

Project: *Reproduction in sirens*

ANNA HATHAWAY (Candidate)

Project: *Reproductive biology of relocated gopher tortoises.*

WILLIAM HENTGES (Candidate)

Project: Interaction of relocated gopher tortoises with cattle.
ANTHONY HALL (Candidate)
Project: Geotaxis and burrow location in the Gopher Tortoise.

ADDITIONAL POSTDOCTORAL ASSOCIATE AND GRADUATE STUDENT PUBLICATIONS

1. Schupp, E.W. 1986. *Azteca* protection of *Cecropia*: Ant occupation benefits juvenile trees. *OECOLOGIA* 70: 379-385.
2. Bros, W.E. 1987. Temporal variation in recruitment to a fouling community in Tampa Bay, Florida. *JOURNAL OF COASTAL RESEARCH* 3: 499-504.
3. Bros, W.E. 1987. Effects of removing or adding structure (barnacle shells) on recruitment to a fouling community in Tampa Bay, Florida. *JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY* 105: 275-296.
4. Witz, B.W. 1990. Antipredator mechanisms in arthropods: A twenty-year literature survey. *FLORIDA ENTOMOLOGIST* 73: 71-99.
5. Witz, B.W. 1990. Comparative ultrastructural analysis of spermatogenesis in *Pasimachus subsulcatus* and *P. strenuous* (Coleoptera: Carabidae). *INVERTEBRATE REPRODUCTION AND DEVELOPMENT* 18: 197-203.
6. Wilson, D.S. 1991. Estimates of survival for juvenile gopher tortoises, *Gopherus polyphemus*. *JOURNAL OF HERPETOLOGY* 25: 376-379.
7. Delis, P.R. & A.P. Summers. 1996. Anura: *Hyla gratiosa* (Barking Treefrog): Reproduction. *HERPETOLOGICAL REVIEW* 27: 18-19.
8. Witz, B.W. 1996. The functional response of *Cnemidophorus sexlineatus*: Laboratory versus field measurements. *JOURNAL OF HERPETOLOGY* 30: 498-506.
9. Wilson, D.S. 1998. Nest-site selection: Microhabitat variation and its effects on the survival of turtle embryos. *ECOLOGY* 79: 1884-1892.
10. Christman, S.P., C.A. Young, S. Gonzalez & P.A. Delis. 2000. New records of amphibians and reptiles from Hardee County, Florida. *HERPETOLOGICAL REVIEW* 31: 116.
11. Jansen, K.P., A.P. Summers & P.R. Delis. 2001. Spadefoot toads (*Scaphiopus holbrookii holbrookii*) in an urban landscape: Effects of nonnatural substrates on burrowing in adults and juveniles. *JOURNAL OF HERPETOLOGY* 35: 141-145.
12. Witz, B.W. 2001. Aspects of the thermal biology of the six-lined racerunner, *Cnemidophorus sexlineatus* (Squamata: Teiidae) in west-central Florida. *JOURNAL OF THERMAL BIOLOGY* 26: 529-535.
13. Nelson, R.T., B.J. Cochrane, P.R. Delis & D. Testrake. 2002. Basidioboliasis in anurans in Florida. *JOURNAL OF WILDLIFE DISEASES* 38: 463-467.
14. Delis, P.R. & E.P. Sutton. 2005. *Cnemidophorus sexlineatus* (Six-lined Racerunner) behavior. *HERPETOLOGICAL REVIEW* 36: 173.
15. Robbins, T.R. & D. A. Warner. 2010. Fluctuations in the incubation moisture environment affect growth but not survival of hatchling lizards.

- BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY. (IN PRESS)
16. Saha S., A. Catenazzi & E.S. Menges. 2010. Does time since fire explain plant biomass allocation in the Florida, USA, scrub ecosystem? FIRE ECOLOGY (IN PRESS)

GRADUATE STUDENT COMMITTEE MEMBERSHIP

RANDY DAY (PhD, 1982)	THOMAS BANCROFT (PhD, 1983)
BRANDT HENNINGSEN (PhD, 1984)	WAYNE HOFFMAN (PhD, 1984)
STEPHEN PATTON (PhD, 1986)	PAMELA BOTTS (PhD, 1992)
KEITH WALTERS (PhD, 1987)	HWEY-LIAN HSIEH (PhD, 1989)
DAVID TOMASKO (PhD, 1989)	REED BOWMAN (PhD, 1992)
TODD BOWDISH (PhD, 1996)	ERNST PEEBLES (PhD, 1996)
CHRISTOPHER POMORY (PhD, 1997)	CHERYL WILGA (PhD, 1997)
BRADLEY ROBBINS (PhD, 1998)	JEFFREY STREELMAN (PhD, 1998)
KEITH TARVIN (PhD, 1998)	MARIA CATTELL (PhD, 2001)
KEVIN JANZEN (PhD, 2001)	EMILY SEVERANCE (PhD, 2002)
WILLIAM ELLIS (PhD, 2003)	ANNE MCMILLEN-JACKSON (PhD, 2003)
MICHAEL TRINGALI (PhD, 2003).	ANNA BASS (PhD, 2006)
CAITLIN CURTIS (PhD, 2009)	GABE HERRICK (PhD, 2010)
ANGELA COLLINS (PhD Candidate)	TAMMY FOSTER (PhD Candidate)
HEATHER JEZOREK (PhD Candidate)	JUSTIN KREBS (PhD. Candidate)
KEITH STOKES (PhD Candidate)	
GARY PATTON (MS, 1982)	JEFFERY CHURCHILL (MS, 1983)
DEREK CURRIE (MS, 1983I)	ANDREA FULLER (MS, 1983)
EVA JONES (MS, 1985)	DAVID MILLER (MS, 1985)
WILLIAM VICKERS (MS, 1985t)	LAURIE MACDONALD (MS, 1986)
SUSAN SERVICE (MS, 1986)	PAMELA BOTTS (MS, 1987)
MENDI RAYMOND (MS, 1987)	CHRISTOPHER SHEA (MS, 1987)
DARREN WILLIAMS (MS, 1987)	MARTHA DUNHAM (MS, 1988)
MARK HOWERY (MS, 1990)	BERNARD KAISER (MS, 1990)
RAYMOND LORAINE (MS, 1990)	TIMOTHY MORTON (MS, 1990)
RONALD SCHAUB (MS, 1990)	JOSEPHA KURDZIEL (MS, 1991)
BARBARA HOFFMAN (MS, 1992)	STEPHEN MULLIN (MS, 1992)
LACEY KNOWLES (MS, 1993)	KENNETH FERGUSON (MS, 1994)
DEREK JOHNSON (MS, 1994)	ERIC HUDSON (MS, 1995)
DANIEL MOON (MS, 1995)	JILL GOLDSTEIN (MS, 1996)
KEENEY HAYES (MS, 1996)	KAREN MOODY (MS, 1996)
ROBERT BROOKS (MS, 1997)	JESSICA KOELSCH (MS, 1997)
LITTLE BEN MOTTEN (MS, 1999)	MARY STONE (MS, 1999)
DESIREE SASKO (MS, 2000)	GADDY BERGMANN (MS, 2002)
TAMMY FOSTER (MS, 2002)	MATTHEW ALEXANDER (MS, 2003)
KARA TEAGUE (MS, 2003)	SHERI BARTON (MS, 2006)
NATE GODDARD (MS, 2010)	CHRISTOPHER HAGGARTY (MS, 2010)
JOSHUA KUHLMAN (MS, 2010)	MONICA HAMBERG (MS Candidate)
CHRISTINA KOBASA (MS Candidate)	SARAH SANFORD (MS Candidate)

PROFESSIONAL SERVICE

SYMPOSIUM AND CONFERENCE ORGANIZATION

AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS /
HERPETOLOGISTS' LEAGUE / SOCIETY FOR THE STUDY OF
AMPHIBIANS AND REPTILES CONFERENCE

AMERICAN SOCIETY OF ZOOLOGISTS CONFERENCE

FLORIDA ENTOMOLOGICAL SOCIETY SYMPOSIA (Behavioral Ecology)

Published Proceedings: Frank & McCoy, Eds., 1986-1995, Florida

Entomologist 70: 1-48, 72: 1-64, 73: 1-110, 74: 1-59, 75: 1-83, 76: 1-113,
77: 1-84, 78: 1-55.

FLORIDA FIELD BIOLOGISTS CONFERENCE

NATIONAL SCIENCE FOUNDATION / CONSEJO NACIONAL DE CIENCIA Y
TECNOLOGIA CONFERENCE (North American Tortoises)

Published Proceedings: Aguirre et al., Eds., 1995, *Proceedings, North
American Tortoise Conference*.

UNIVERSITY OF SOUTH FLORIDA / SEA GRANT CONFERENCE (Habitat
Structure)

Published Proceedings: Bell et al., Eds., 1991, *Habitat Structure: The
Physical Arrangement of Objects in Space*.

PROPOSAL REVIEWING

AUSTRALIAN RESEARCH COUNCIL

CENTER FOR FIELD RESEARCH

CHARLES A. LINDBURGH FUND

CZECH SCIENCE FOUNDATION

FIELD MUSEUM OF NATURAL HISTORY OF CHICAGO

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

FLORIDA GAME AND FRESH WATER FISH COMMISSION

ISRAEL INTER-UNIVERSITY FUND FOR ECOLOGY

NATIONAL RESEARCH COUNCIL

NATIONAL SCIENCE FOUNDATION

NETHERLANDS MINISTRY OF AGRICULTURE

ORGANIZATION FOR TROPICAL STUDIES

PARTNER UNIVERSITY FUND

SOUTH AFRICAN COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

SWISS NATIONAL SCIENCE FOUNDATION

UNITED KINGDOM NATURAL ENVIRONMENT RESEARCH COUNCIL

UNITED STATES DEPARTMENT OF DEFENCE (ARMY)

UNITED STATES DEPARTMENT OF DEFENCE (STRATEGIC

ENVIRONMENTAL RESEARCH AND DEVELOPMENT)

MANUSCRIPT REVIEWING

ACTA OECOLOGICA
ACTA ZOOLOGICA MEXICANA
AMERICAN MIDLAND NATURALIST
AMERICAN NATURALIST
ANIMAL CONSERVATION
AUSTRALIAN JOURNAL OF ECOLOGY
AUSTRALIAN JOURNAL OF MARINE AND FRESHWATER RESEARCH
AUSTRALIAN NATIONAL HERITAGE TRUST
BIODIVERSITY AND CONSERVATION
BIOLOGICAL INVASIONS
BIOSCIENCE
BIOTROPICA
CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES
CANADIAN JOURNAL OF FOREST RESEARCH
CHELONIAN CONSERVATION AND BIOLOGY
CONSERVATION BIOLOGY
COPEIA
CURRENT ZOOLOGY
ECOGRAPHY
ECOLOGICAL ENTOMOLOGY
ECOLOGY AND ECOLOGICAL MONOGRAPHS
ENDANGERED SPECIES RESEARCH
ENVIRONMENTAL ENTOMOLOGY
EUROPEAN JOURNAL OF WILDLIFE RESEARCH
EVOLUTION
FLORIDA ENTOMOLOGIST
FLORIDA SCIENTIST
FOREST ECOLOGY AND MANAGEMENT
HERPETOLOGICA
HERPETOLOGICAL MONOGRAPHS
HERPETOLOGICAL REVIEW
ISRAEL JOURNAL OF ECOLOGY AND EVOLUTION
ISRAEL JOURNAL OF ZOOLOGY
JOURNAL OF ARID ENVIRONMENTS
JOURNAL OF BIOGEOGRAPHY
JOURNAL OF COASTAL RESEARCH
JOURNAL OF HERPETOLOGY
JOURNAL OF MAMMALOGY
JOURNAL OF PARASITOLOGY
JOURNAL OF TROPICAL ECOLOGY
JOURNAL OF VEGETATION SCIENCE
JOURNAL OF WILDLIFE MANAGEMENT
LAND DEGRADATION AND DEVELOPMENT

MARINE BIOLOGY
MARINE ECOLOGY PROGRESS SERIES
NUMERACY
OECOLOGIA
OIKOS
PALEOBIOLOGY
PLOS ONE
QUARTERLY REVIEW OF BIOLOGY
SCIENCE
SOUTHEASTERN NATURALIST
SYNTHESIS
SYSTEMATIC ZOOLOGY
TRENDS IN ECOLOGY AND EVOLUTION
TROPICAL ZOOLOGY
WILDLIFE SOCIETY BULLETIN
WILDLIFE RESEARCH

BOOK REVIEWING

ACADEMIC PRESS (Pre-Publication)
CAMBRIDGE UNIVERSITY PRESS (Pre-Publication)
CHAPMAN & HALL (Pre-Publication)
COLUMBIA UNIVERSITY PRESS (Pre-Publication)
ISLAND PRESS (Pre-Publication)
PRENTICE-HALL (Pre-Publication)
SCIENCE
SYSTEMATIC ZOOLOGY
WILEY-BLACKWELL (Pre-Publication)

EDITING

CONSERVATION BIOLOGY
ECOLOGY AND ECOLOGICAL MONOGRAPHS
FLORIDA ENTOMOLOGIST

PROFESSIONAL ORGANIZATION MEMBERSHIP

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES
AMERICAN SOCIETY OF NATURALISTS
ASSOCIATION FOR TROPICAL BIOLOGY
ECOLOGICAL SOCIETY OF AMERICA
ENTOMOLOGICAL SOCIETY OF AMERICA
FLORIDA ENTOMOLOGICAL SOCIETY

GOPHER TORTOISE COUNCIL
HERPETOLOGIST'S LEAGUE
SOCIETY FOR CONSERVATION BIOLOGY
SOCIETY FOR SIGMA XI

FORMAL ADVISORY GROUP MEMBERSHIP

CLARK COUNTY, NEVADA (MSHCP Assessment Committee)
FLORIDA AQUARIUM (Design Committee)
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (Gopher
Tortoise Stakeholders Advisory Committee)
HIGHLANDS/POLK COUNTIES, FLORIDA (MSHCP Advisory Committee)
INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE / SPECIES
SURVIVAL COMMISSION (Tortoise and Freshwater Turtle Specialist
Group)
LOWRY PARK ZOO (Design Committee)
MALPAI BORDERLANDS GROUP (Science Advisory Panel)
NATURE CONSERVANCY (Comprehensive Wildlife Conservation Strategy
Advisory Group)
SOUTHWEST FLORIDA RESEARCH STATION (Scientific Advisory Committee)
SUSTAINABLE ECOSYSTEMS INSTITUTE (Conservation Science Panel)
UNITED STATES FISH AND WILDLIFE SERVICE (Desert Tortoise Recovery
Plan Assessment Committee)
UNITED STATES FISH AND WILDLIFE SERVICE (Desert Tortoise Science
Advisory Committee)
UNIVERSITY OF SOUTH FLORIDA, ENVIRONMENTAL SCIENCE AND
POLICY PROGRAM (Organizational Committee)
UNIVERSITY OF SOUTH FLORIDA, WATER RESOURCES INSTITUTE
(Organizational Committee)

PROFESSIONAL CONSULTATION

AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES
DEFENDERS OF WILDLIFE
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FLORIDA INSTITUTE OF PHOSPHATE RESEARCH
FLORIDA PARK SERVICE
HILLSBOROUGH COUNTY MEDICAL EXAMINER
TAMPA MUSEUM OF SCIENCE AND INDUSTRY
NATURE CONSERVANCY
NEON DESIGN CONSORTIUM
SIERRA CLUB LEGAL DEFENSE FUND
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
UNITED STATES FISH AND WILDLIFE SERVICE

RESUME

PHILIP J. MOTTA, Ph.D.

Professor of Biology

University of South Florida

Department of Biology

4202 East Fowler Ave., Tampa, Florida 33620

<http://luna.cas.usf.edu/~motta/>

EDUCATION

University of Hawaii at Manoa, Honolulu, Hawaii 1975-1980. Ph.D., Zoology.

Duke University, Durham, North Carolina. 1972-1975. B.S., cum Laude,

Distinction in Zoology.

PROFESSIONAL SOCIETIES

President, 1998, American Elasmobranch Society, Board of Governors 1998-2004

American Society of Ichthyologists and Herpetologists

American Society for Integrative and Comparative Biology

EMPLOYMENT & POSITIONS

08/00 Professor of Biology, University of South Florida

2000 Adjunct Scientist, Mote Marine Laboratory

08/92 Associate Professor of Biology, University of South Florida

01/88-07/92 Assistant Professor of Biology, University of South Florida

01/87-12/87 Visiting Assistant Professor of Biology, University Virgin Islands

09/87 Associate Professor of Zoology, University of Montana.

01/82-87 Assistant Professor of Zoology, University of Montana.

01-04/81 Part-time Sessional Lecturer, Biology Program, University of British Columbia, Vancouver, B.C., Canada.

TEACHING

1988-present University of South Florida

Chordate Anatomy, Zoo 3233

Comparative Vertebrate Anatomy, Zoo 3713

Ichthyology Zoo 5456

Functional and Ecological Morphology, Bsc 5931

Physical Principles in Biology, Bsc 5931

Advances in Ichthyology, Zoo 6455

Topics in Ecology, Bsc 6932, 5932

Human Anatomy, Bsc 4933, APB 3190

Fundamentals of Zoology, Zoo 2010

Food: Personal and Global Perspectives, Bsc 2025
Biology of Sharks and Rays, Bsc 4933

1987 University of The Virgin Islands
Vertebrate Structure and Function
Evolution
Senior Science Seminar
Introductory Biology
Natural Science

1981-1986 University of Montana.
Comparative Vertebrate Anatomy
Integrated Human Anatomy and Physiology (team taught)
Behavioral Ecology
Morphological Basis of Behavior
Ethological Methods
Functional Morphology
Behavioral Ecology of Predators and Prey

Jan-April, 1981 University of British Columbia
Introductory Biology

TEACHING AWARDS

1999 USF Teaching Incentive Award for outstanding teaching
1995 USF Teaching Incentive Award for outstanding teaching
1991 Outstanding Undergraduate Teaching Award, USF.
1986 University of Montana Merit salary increase for outstanding teaching

GRANTS AND AWARDS

2009 Collaborative research: Experimental studies to reveal the boundary layer control mechanism of shark skin. National Science Foundation, IOS Processes Structures and Integrity, 09/01/09 -08/31/12, \$107,718.00
2009 Preliminary materials testing of aquaculture cage mesh. Contract to DSM Dyneema B.V., \$3,500.
2009 Collaborative Research: Multi-sensory guidance of marine animal navigation and prey capture. National Science Foundation, 03/01/09-03/31/13, \$141,076.00
2008 Feeding biology of the whale shark. Georgia Aquarium and Mote Marine Laboratory, 5/16/2008-11/30/2008, \$9,300.
2008 Florida Institute of Oceanography, ship-time grant in support of teaching, \$8,000.00.
2007 Collaborative Research: The function and evolution of the hammerhead cephalofoil. National Science Foundation, 05/1/07-04/30/10, \$227,937.00.
2007 Biomechanical analysis of feeding mechanisms in hammerhead and reef sharks. Established Researcher Award, USF Division of Sponsored Research, 01/01/07-

12/31/07; \$4300.00

2007 Biomechanics and Functional Biology of Vertebrates. Faculty Grant for Undergraduate Research, USF Honors College, \$5,000. (With S. Deban)

2006 Collaborative research and conservation of whale sharks in the Gulf of Mexico and Caribbean Sea. International Travel Grant, USF Division of Sponsored Research, \$1000.00

2002 Florida Institute of Oceanography ship-time grant for research, \$10,000.00

2001 Towed System Marine Life Attack Reduction , US Navy Naval Sea Systems Command-Texas Research Institute, \$84,196.00

2001 Florida Institute of Oceanography ship-time grant in support of teaching, \$10,000.00

2000 Florida Institute of Oceanography ship-time grant for research, \$10,000.00

1999 Florida Institute of Oceanography ship-time grant in support of teaching, \$8,000.00

1998 Feeding mechanics of sharks: functional and evolutionary implications. National Science Foundation, 11/01/98 - 07/30/00, \$88,457.00

1998 A multi-disciplinary approach to coral reef ecology and evolution, with S.A. Karl. Florida Institute of Oceanography ship-time grant, \$8,000.00

1997 Florida Institute of Oceanography facilities support for teaching, Keys Marine Lab.

1996 USF Research and Creative Scholarship grant, 12 months, \$5,075.00

1995 Florida Institute of Oceanography facilities support for teaching, Keys Marine Lab.

1992 A functional morphological analysis of the feeding mechanisms in sharks. National Science Foundation, 04/01/92 - 09/30/94, \$173,750.00

1992 Florida Institute of Oceanography ship-time grant in support of teaching, \$4,000.00

1992 Department of Natural Resources contract, 01/01/92 - 12/31/92, \$47,612.00

1991 South West Florida Water Management District contract, 08/22/89 -02/22/91, \$117,270.00

1991 Facilities use time at NOAA's National Undersea Research Center, Key Largo, FL, Trophic and habitat partitioning in labrid fishes in the Florida Keys.

1991 International Travel Grant, USF Division of Sponsored Research, \$1000.00

1990 Florida Institute of Oceanography ship-time grant in support of teaching and research, \$9,000.00

1989 Florida Institute of Oceanography facilities support for research, Keys Marine Lab, \$1,730.00

1989 USF Research and Creative Scholarship Grant, \$7,402.00

1989 USF President's Council Faculty Award Grant, \$4,875.00

1988 Florida Institute of Oceanography ship-time grant in support of teaching and research, \$10,200.00

1986 Recipient, University of Montana Research Grant, \$1,470.00

1985 Montana University system MONTS-NSF Grant, \$8,535.00

1983 Co-recipient (with E. Reese, University of Hawaii), Earthwatch grant, Ecology of Coral Reef Fishes, \$27,000.00

1983 University of Montana Research Grant, \$1,672.00

1982 University of Montana Research Grant, \$1,078.00

1982 Montana University System MONTNS-NSF Grant, \$7,000.00
1980 Natural Sciences and Engineering Research Council of Canada
Postdoctoral Fellowship, University of British Columbia, Declined
due to tenure-track position.

1980 Natural Sciences and Engineering Research Council of Canada Visiting
Fellowship, Department of Fisheries and Oceans, Pacific
Biological Station, Nanaimo, B.C., Canada. Declined due to tenure-track
position.

GRADUATE THESES COMPLETED

- 2011 Jayne Gardiner. Multisensory integration in shark feeding behavior. PhD,
December 2011.
- 2010 Kyle Mara. Evolution of the hammerhead cephalofoil: Shape change, specia-
lization, and feeding biomechanics in hammerhead sharks (Sphyrnidae). PhD,
June 2010.
- 2009 Andrey Castro. Use of molecular tools on surveys of genetic variation and
population structure in three species of sharks. PhD, April 2009 (co-Chair with S.
Karl).
- 2008 Lisa Whitenack. The biomechanics and evolution of sharks teeth. PhD,
November 2008. (Co-Chair with Daniel Simkins)
- 2007 John Tyminski. Androgen receptors in the bonnethead shark (*Sphyrnatis tiburo*):
cDNA cloning and tissue-specific expression in the male reproductive tract. M.S.,
August 2007. (co-Chair with J. Gelsleichter)
- 2006 Daniel Huber. Cranial biomechanics and feeding performance of sharks. PhD,
August 2006.
- 2005 Dayv Lowry. The early ontogeny of feeding in two shark species: Developmental
aspects of morphology, behavior, and performance. PhD, September 2005.
- 2005 Angela Collins. An examination of diet and movement patterns of the Atlantic
cownose ray *Rhinoptera bonasus* within a southwest Florida estuary. MS., July
2005.
- 2004 Alpa Wintzer. Behavioral and morphological consequences of rearing Florida
largemouth bass with non-elusive prey. M.S., July 2004.
- 2003 Mason Dean. Feeding behavior and prey capture kinematics of the lesser electric
ray *Narcine brasiliensis* M.S., July 2003.
- 2003 Michael Matott, An examination of modulation of feeding behavior in the nurse
shark *Ginglymostoma cirratum* (Bonaterre 1788). M.S., April 2003
- 2002 Heather T. Porter, A comparison of feeding kinematics of three ramfeeding
fishes: Florida gar (*Lepisosteus platyrhincus*), redbfin needlefish (*Strongylura*
notata), and great barracuda (*Sphyraena barracuda*). M.S., May 2002.
- 2002 Gaddy T. Bergman. Trophic ecomorphology of the nonindigenous Mayan cichlid
Cichlasoma (Nandopsis) urophthalmus (Gunther 1862) in southern Florida.
M.S., May 2002.
- 2000 Desiree Sasko, The prey capture kinematics of the Atlantic cownose ray,
Rhinoptera bonasus. M.S., December, 2000.
- 1998 Jeffrey Streelman. Nuclear DNA evolution in labroid fishes. Ph.D. December,
1998 (co-Chair with S. Karl).

- 1997 Cheryl Wilga. Evolution of feeding mechanisms in elasmobranchs: a functional morphological approach. Ph.D. December, 1997.
- 1999 Margaret Edmonds. Prey capture kinematics of the horn shark, *Heterodontus francisci*. M.S., April 1999.
- 1999 Michael Robinson. Patterns of growth and the effects of scale on the feeding kinematics of the nurse shark, *Ginglymostoma cirratum*. M.S., March 1999.
- 1997 Karen Overholtzer. Feeding ecology and related social behaviors in mixed-species aggregations of juvenile parrotfishes in the Florida Keys. M.S., August, 1997.
- 1996 Roldan Munoz. Social behavior and foraging ecology of *Sparisoma aurofrenatum* and *S. chrysopteron* (Pisces: Scaridae) in the Florida Keys. M.S., June, 1996.
- 1994 Patricia Hernandez. Ontogenetic scaling of oral jaw crushing performance in the sheephead, *Archosargus probatocephalus* (Teleostei, Sparidae): Trophic consequences of differential performance. M.S., July, 1994.
- 1993 Kari B. Clifton. Ecomorphological relationships of five species of labrids (Labridae, Teleostei) in a coral reef community. M.S., August, 1993.
- 1990 Bradley Eggold. Ontogenetic dietary shift and morphological correlates in striped mullet, *Mugil cephalus* L.. M.S., September, 1990.
- 1986 Amy Noffsinger. Functional morphology and feeding ecology of the northern squawfish, *Ptychocheilus oregonensis*. M.S., University of Montana.
- 1983 Deborah Burgoon. Brain cooling and the rete mirabile ophthalmicum in the calliope hummingbird (*Stellula calliope*). M.S., University of Montana.

CURRENT GRADUATE STUDENTS

Samantha Mulvany, PhD candidate
 Angela Barker, PhD candidate
 Laura Habegger, PhD candidate
 Amber Ferguson, MS candidate

SEMINARS/PRESENTATIONS [Titles not included]

- 2012 Habegger, M.L., Motta, P.J., Mullins, G., Stokes, M.J., and Winters, D. Society for Integrative and Comparative Biology, Charleston, SC. January 3-7, 2012.
- 2011 Bradshaw, M., Lang, A., Wahidi, R., Smith, J. And Motta, P. Bulletin of the 2011 APS Division of Fluid Dynamics Conference, Baltimore, MD
- 2011 Habegger, L., Motta, P., Mullins, G., Stokes, M., and D. Winters. 2011. American Society of Ichthyologists and Herpetologists, Minneapolis, MN. July 6-11, 2011.
- 2011 Gardiner, J.M., Atema, J., Hueter, R.E., and P.J. Motta. 2011. American Society of Ichthyologists and Herpetologists, Minneapolis, MN. July 6-11, 2011.
- 2011 Motta, P., Habegger, M.L., Lang, A., and R. Hueter. 2011. American Society of Ichthyologists and Herpetologists, Minneapolis, MN. July 6-11, 2011.
- 2011 Pfeifferberger, J.A., and P.J. Motta. Florida Academy of Sciences, 75th Anniversary Meeting, Florida Institute of Technology, Melbourne, Florida, March 11, 2011.

- 2011 Pfeiffenberger, J.A., and P.J. Motta. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
- 2011 Mulvany, S.M., and P.J. Motta. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
- 2011 Gardiner, J.M., Atema, J., Hueter, R.E., and P.J. Motta. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
- 2011 Habegger, M.L., Motta, P.J., Mullins, G., Stokes, M., and D. Winters. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
- 2011 Lambert, E.P., and P.J. Motta. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
- 2010 Lang, A., Motta, P., Habegger, M., Jones, E. and R. Hueter. 2010. Bulletin of the 2010 APS Division of Fluid Dynamics Conference, Long Beach, CA (November 2010)
- 2010 Lang, A, Motta, P. , Habegger, M., and R. Hueter. 2010. IMA Workshop “Natural Locomotion in Fluids and on Surfaces: Swimming, Flying, and Sliding,” June 1-5, 2010, Minneapolis, MN.
- 2010 Motta, P. America Elasmobranch Society, Providence RI.
- 2010 Gardiner, J.M., Atema, J., Hueter, R.E., and P.J. Motta. America Elasmobranch Society, Providence RI.
- 2009 Motta, P.J., Maslanka, M., Hueter, R.E., Davis, R.L., de la Parra, R., Mulvany, S.L., Habegger, M.L., Strother, J.A., Mara, K.R., Gardiner, J.M., Tyminski, J.P., and Zeigler, L.D. American Elasmobranch Society, Portland, OR.
- 2009 Mara, K.R., and P.J. Motta. American Elasmobranch Society, Portland, OR.
- 2009 Gardiner, J., Atema, J., Hueter, R., and P. Motta. American Society of Ichthyologists and Herpetologists, Portland, OR.
- 2009 Mulvany, S.L. and P.J. Motta. Society for Integrative and Comparative Biology, Boston, MA.
- 2009 Whitemack, L.B. and P.J. Motta. Society for Integrative and Comparative Biology, Boston, MA.
- 2009 Habegger, M.L., Motta, P.J. and D.R. Huber. Society for Integrative and Comparative Biology, Boston, MA.
- 2009 Gardiner, J.M., Atema, J., Hueter, R.E. and P.J. Motta. Society for Integrative and Comparative Biology, Boston, MA.
- 2009 Mara, K.R., Motta, P.J. and J.A. Pfeiffenberger. Society for Integrative and Comparative Biology, Boston, MA.
- 2008 Habegger, L., Huber, D, and P. Motta. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.
- 2008 Mara, K.R. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.
- 2008 Tyminski, J., Gelsleichter, J. and P. Motta. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.
- 2008 Whitenack, L.B. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.
- 2008 Huber, D.R. and P.J. Motta. 2008. Society for Integrative and Comparative Biology, San Antonio, TX.

- 2008 Mulvany, S. and P. Motta. 2008. Society for Integrative and Comparative Biology, San Antonio, TX.
- 2008 Gardiner, J.M. and P.J. Motta. 2008. Society for Integrative and Comparative Biology, San Antonio, TX.
- 2008 Mara, K.R., Motta, P.J. and D.R. Huber. 2008. Society for Integrative and Comparative Biology, San Antonio, TX.
- 2008 Habegger, M.L., Motta, P.J. and D.R. Huber. 2008. Society for Integrative and Comparative Biology, San Antonio, TX.
- 2007 Motta, P., Davis, R. Hueter, R., Maslanka, M. and S. Mulvany. 2007. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- 2007 Habegger, M.L. and P.J. Motta. 2007. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- 2007 Whitenack, L.B. and P.J. Motta. 2007. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- 2007 Mara, K.R., Huber, D. and P.J. Motta. 2007. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- 2007 Wilga, C.D., Motta, P.J. and C.P. Sanford. 2007. Society for Integrative and Comparative Biology, Phoenix, AZ.
- 2007 Simkins, D.C., Whitenack, L.B. and P.J. Motta. 2007. Society for Integrative and Comparative Biology, Phoenix, AZ.
- 2007 Whitenack, L.B., Simkins, D.C. and P.J. Motta. 2007. Society for Integrative and Comparative Biology, Phoenix, AZ.
- 2007 Mara, K.R. and P.J. Motta. 2007. Society for Integrative and Comparative Biology, Phoenix, AZ.
- 2007 Ortega, L.A., Heupel, M.R. and P.J. Motta. 2007. American Society of Limnology and Oceanography, Santa Fe, NM.
- 2006 Motta, P.J. Ohio University, Department of Biological Sciences, Athens, OH.
- 2006 Motta, P.J. and B.A. Fulcher. 2006. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- 2006 Huber, D.R. and P.J. Motta. 2006. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- 2006 Tyminski, J.P., Gelsleichter, J. and P.J. Motta. 2006. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- 2006 Whitenack, L.B., Simkins, D.C., and P.J. Motta. 2006. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- 2006 Motta, P.J. Department of Biology, University of Tampa, April 14, 2006.
- 2005 Lowry, D. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- 2005 Whitenack, L.B. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- 2005 Collins, A.B., Heupel, M.R., Hueter, R.E. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- 2005 Motta, P.J., Hueter, R.E., Huber, D.R., Lowry, D., Mara, K.R., Matott, M.P., Whitenack, L.B. and A.P. Wintzer. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.

- 2005 Collins, A.B., Heupel, M.R., Hueter, R.E. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- 2004 Motta, P.J. Distinguished Speaker, 29th Annual Albert L. Tester Memorial Symposium, March 11-12, 2004, Department of Zoology, University of Hawaii.
- 2004 Huber, D.R. and P.J. Motta. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- 2004 Lowry, D. and P.J. Motta. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- 2004 Motta, P.J., Hueter, R.E., Tricas, T.C., Summers, D.R. Huber, A.P., Lowry, D., Mara, K., Matott, M.P., Whitenack, L.B., and A.P. Wintzer. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- 2004 Whitenack, L.B., Lowry, D., Wintzer, A.P., Matott, M.P., Huber, D.R., Dean, M.N., Barker, A.S., and P.J. Motta. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- 2004 Wintzer, A. and P.J. Motta. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- 2004 Motta, P.J., Hueter, R.E., Tricas, T.C., Summers, A.P., Lowry, D., Matott, M.P., Whitenack, L.B., and A.P. Wintzer. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- 2004 Huber, D.R., Motta, P.J. and R.E. Hueter. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- 2004 Whitenack, L.B., Koob, T.J., and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- 2004 Barker, A.S., Heupel, M.R., Motta, P.J., and R.E. Hueter. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- 2004 Huber, D.R. and P.J. Motta. Society for Integrative and Comparative Biology meeting, New Orleans, Louisiana.
- 2004 Weggelaar, C.L., Huber, D.R., and P.J. Motta. Society for Integrative and Comparative Biology. New Orleans, LO.
- 2003 Patel, A.N., Lowry, D., Whitenack, L.B., Matott, M., Huber, D.R., Dean, M., Barker, A. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Manaus, Brazil.
- 2003 Castro, A., Delius, B., Lowry, D., Burgess, G. and P. Motta. American Society of Ichthyologists and Herpetologists meeting, Manaus, Brazil.
- 2002 Motta, P.J. Department of Biology, Texas A & M University Galveston, Invited seminar.
- 2002 Dean, M.N., and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Kansas City, MO.
- 2002 Patel, A.N., and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, PA.
- 2001 Motta, P., Hueter, R., Tricas, T., and A. Summers. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, PA.
- 2001 Porter, H.T. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, PA.

- 2001 Sasko, D. and P.J. Motta. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, PA.
- 2001 Wilga, C.D., Hueter, R.E., Wainwright, P.C., and P.J. Motta. Motor Control of Vertebrate Feeding: Function and Evolution symposium, Society for Integrative and Comparative Biology meeting, Chicago, Illinois.
- 2001 Porter, H.T. and P.J. Motta. Society for Integrative and Comparative Biology meeting, Chicago, Illinois.
- 2001 Department of Biology, Daytona Beach Community College, Invited seminar.
- 2001 SeaGate Corporation annual awards retreat, Atlantis Hotel, Paradise Island, Bahamas, Invited speaker.
- 2000 Environmental Constraints on Feeding Biomechanics, The University of Liege, Belgium, Invited symposium speaker.
- 1999 Department of Biology, University of Miami, Invited seminar.
- 1999 Department of Zoology, University of Oklahoma, Invited seminar.
- 1998 Plenary address, American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada.
- 1998 Feeding Biology of Elasmobranchs Symposium, American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada. Co-organizer.
- 1998 Wilga, C.D., Wainwright, P.C., and P.J. Motta, Feeding Biology of Elasmobranchs Symposium, American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada. Co-organizer.
- 1998 Edmonds, M.A. and P.J. Motta, Feeding Biology of Elasmobranchs Symposium, American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada. Co-organizer.
- 1995 Department of Biology, Louisiana State University, Baton Rouge, LA, Invited seminar.
- 1994 Fourth International Congress of Vertebrate Morphology, University of Chicago.
- 1994 Selected Topics in Elasmobranch Physiology Symposium, University of Southern California, American Society of Ichthyologists and Herpetologists. Invited Symposium Speaker.
- 1993 Biology of Feeding in Fishes, Amphibians, and Reptiles Symposium, University of Texas at Austin, American Society of Ichthyologists and Herpetologists. Invited Symposium Speaker.
- 1992 Ecomorphology of Fishes Symposium, Delivered two papers, University of Illinois, American Society of Ichthyologists and Herpetologists. Co-organizer and speaker.
- 1991 International Ichthyology Congress, Den Haag, The Netherlands. Invited Symposium Speaker.
- 1991 Department of Biology, Florida International University, Miami, Florida. Job Seminar.
- 1989 Department of Natural Resources, St. Petersburg, Florida. Invited Seminar.
- 1987 Fairleigh Dickinson University, West Indies Laboratory, St. Croix. U.S. Virgin Islands, Invited Seminar.
- 1987 University of South Florida, Biology Department, Tampa, Florida, Job Seminar.

- 1987 University of Puerto Rico, San Juan, Puerto Rico. Department of Anatomy, University of Puerto Rico Medical School. Job Seminar.
- 1986 University of Texas, Austin, Texas, Department of Zoology. Job Seminar.
- 1986 University of Texas Marine Science Seminar, Port Aransas, Texas. Job Seminar.
- 1986 Eastern Washington University, Cheney, Washington. Sigma Xi Banquet Speaker.
- 1986 Florida International University, Miami, Florida. Biology Department, Job Seminar.
- 1984 University of South Florida, St. Petersburg. Institute of Marine Studies Seminar, Invited Seminar.
- 1981 Fairleigh Dickinson University, West Indies Laboratory, St. Croix, U.S. Virgin Islands. Invited Seminar.
- 1981 University of British Columbia, Vancouver, B.C., Canada. Biology Seminar.

PUBLICATIONS

BOOKS

- Luczkovich, J., P. Motta, S. Norton, and K. Liem (ed.). 1995. Ecological Morphology of Fishes. Kluwer Academic Publishers, The Netherlands. 240 pp.
- Motta, Philip J. (ed.) 1989. The Biology of The Butterflyfishes: Success on The Coral Reef, Kluwer Academic Publishers, The Netherlands. 256 pp.

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- 84. Lang, A., Motta, P., Habegger, M. and R. Hueter. In review. Shark skin boundary layer control. Proc. IMA Workshop "Natural Locomotion in Fluids and on Surfaces: Swimming, Flying, and Sliding," June 1-5, 2010, IMA Volumes in Mathematics and its Applications.
- 83. Habegger, M.L., Dean, M., Huber, D.R. and P.J. Motta. In review. Feeding biomechanics in bull sharks (*Carcharhinus leucas*) during ontogeny. Zoology.
- 82. Gardiner, J.M. and P.J. Motta. 2012. Blind bass suck: *Micropterus salmoides* switch feeding modes in response to sensory deprivation. Zoology
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- 81. Motta, P.J., and D.R. Huber. In press. Prey capture behavior and feeding mechanics of elasmobranchs. In: Carrier JC, Musick JA, Heithaus MR (eds) Biology of sharks and their relatives, Second Edition. Taylor and Francis Group, LLC, Boca Raton.
- 80. Lang, A., Habegger, M. and P. Motta. In press. Shark Skin Drag Reduction. Encyclopedia of Nanotechnology. B. Bhushan (editor). Berlin: Springer.
- 79. Lambert, E.P., Motta, P.J., and D. Lowry. 2011. Modulation in the strike kinematics of the ant-lion larvae, *Myrmeleon crudelis*. Journal of Experimental Zoology 315A: 602-609.
- 78. Lang, A., Motta, P., Hueter, R. and M. Habegger. 2011. Shark Skin separation control mechanisms. *Marine Technology Society Journal* 45: 208-215.

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26. Wilga, C.D. and P.J. Motta. 1998. Conservation and variation in the feeding mechanism of the spiny dogfish *Squalus acanthias*. J. exp. Biol. 201: 1345-1358.
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21. Motta, Philip J., Stephen F. Norton, and Joseph J. Luczkovich. 1995. Perspectives on the ecomorphology of bony fishes. Env. Biol. Fish. Vol. 44: 11-20.
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SYMPOSIA & MEETINGS ORGANIZED

1988 The Biology of The Butterflyfishes, Organized by P. Motta, American Society of Ichthyologists and Herpetologists, University of Michigan, Ann Arbor, Michigan, June.

1992 Ecomorphology of Fishes, Organized by P. Motta, J. Luczkovich, and S. Norton, American Society of Ichthyologists and Herpetologists, University of Illinois, August.

1998 Feeding Biology of Elasmobranchs, Organized by E. Cortes and P.J. Motta, American Elasmobranch Society, University of Guelph, July.

2005 Joint meeting of the American Society of Ichthyologists and Herpetologists, Co-Local Chair, Tampa, Florida, July 7-11, 2005.

ABSTRACTS

- Habegger, M.L., Motta, P.J., Mullins, G., Stokes, M.J., and Winters, D. 2012. Feeding biomechanics in billfish: Inferring the role of the rostrum from a mechanical standpoint. Society for Integrative and Comparative Biology, January 3-7, Charleston, SC.
- Bradshaw, M., Lang, A., Wahidi, R., Smith, J. And Motta, P. 2011. A flow separation study over a shortfin mako shark pectoral fin. Bulletin of the 2011 APS Division of Fluid Dynamics Conference, Baltimore, MD
- Habegger, L., Motta, P., Mullins, G., Stokes, M., and D. Winters. 2011. Feeding biomechanics of swordfish (*Xiphias gladius*) rostrum. American Society of Ichthyologists and Herpetologists, Minneapolis, MN.
- Gardiner, J.M., Atema, J., Hueter, R.E., and P.J. Motta. 2011. Making sense of shark senses: Multimodal integration in prey tracking and capture. American Society of Ichthyologists and Herpetologists, Minneapolis, MN.
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- Pfeiffenberger, J.A., and P.J. Motta. 2011. The effects of intraspecific competition on the preycapture kinematics and behavior of bluegill sunfish, *Lepomis macrochirus*. The Society for Integrative & Comparative Biology. Salt Lake City, Utah. 3 January, 2011.
- Mulvany, S.M., and P.J. Motta. 2011. Feeding kinematics in batoids: comparing species with and without cephalic lobes. The Society for Integrative & Comparative Biology. Salt lake City, Utah. 3 January, 2011.
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- Lang, A, Motta, P. , Habegger, M., and R. Hueter. 2010. Experimental studies to reveal the boundary layer control mechanisms of shark skin. IMA Workshop "Natural Locomotion in Fluids and on Surfaces: Swimming, Flying, and Sliding," June 1-5, 2010, Minneapolis, MN.

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- Gardiner, J.M., Atema, J., Hueter, R.E., and P.J. Motta. 2010. Multisensory integration in shark feeding behavior. Invited symposium address, American Elasmobranch Society, Providence RI.
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- Mara, K.R., Motta, P.J. and J.A. Pfeifferberger. 2009. Constructional constraints in sphyrnid sharks: shape change and space utilization through phylogeny. Society for Integrative and Comparative Biology, Boston, MA.
- Habegger, L., Huber, D. and P. Motta. 2008. Theoretical calculations of feeding biomechanics in bull sharks over ontogeny. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.
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- Whitenack, L.B. and P.J. Motta. 2008. Correlated evolution of selachian tooth morphology, diet and ecology. American Society of Ichthyologists and Herpetologists meeting, Montreal, CA.

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- Mara, K.R., Motta, P.J. and D.R. Huber. 2008. Bite force and performance in the durophagous bonnethead shark, *Sphyrna tiburo*. Society for Integrative and Comparative Biology, San Antonio, TX.
- Habegger, M.L., Motta, P.J. and D.R. Huber. 2008. Theoretical calculations of bite force in the great barracuda, (*Sphyraena barracuda*) during ontogeny. Society for Integrative and Comparative Biology, San Antonio, TX.
- Motta, P., Davis, R. Hueter, R., Maslanka, M. and S. Mulvany. 2007. Whale shark filter feeding: morphology, mechanism and consumption. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- Habegger, M.L. and P.J. Motta. 2007. Bite force in the great barracuda (*Sphyraena barracuda*) during ontogeny. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- Whitenack, L.B. and P.J. Motta. 2007. Three-dimensional finite element analysis of selachian teeth. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- Mara, K.R., Huber, D. and P.J. Motta. 2007. Durophagy in the bonnethead shark, *Sphyrnatiburo*: An ecomorphological conundrum. American Society of Ichthyologists and Herpetologists meeting, St. Louis, MO
- Wilga, C.D., Motta, P.J. and C.P. Sanford. 2007. Feeding mechanisms in cartilaginous fishes. Invited symposium address. The Evolution of Feeding Mechanisms in Vertebrates. Society for Integrative and Comparative Biology, Phoenix, AZ.
- Simkins, D.C., Whitenack, L.B. and P.J. Motta. 2007. A new engineering tool for what-if finite element analysis in biology. Society for Integrative and Comparative Biology, Phoenix, AZ.
- Whitenack, L.B., Simkins, D.C. and P.J. Motta. 2007. Biology meets engineering: finite element analysis of selachian teeth. Society for Integrative and Comparative Biology, Phoenix, AZ.
- Mara, K.R. and P.J. Motta. 2007. Morphometric head shape comparison among hammerhead sharks (Sphyrnidae). Society for Integrative and Comparative Biology, Phoenix, AZ.
- Ortega, L.A., Heupel, M.R. and P.J. Motta. 2007. Movement patterns and depth preferences of young bull sharks (*Carcharhinus leucas*) in the Caloosahatchee Estuary, Florida. American Society of Limnology and Oceanography Meeting, Santa Fe, NM.
- Motta, P.J. and B.A. Fulcher. 2006. Hanging on for the ride: Suction disk performance of echeineid fishes. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.

- Huber, D.R and P.J. Motta. 2006. Mechanical factors involved in the evolution of chondrichthyan jaw suspension mechanisms. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- Tyminski, J.P., Gelsleichter, J. and P.J. Motta. 2006. Bonnethead shark (*Sphyrna tiburo*) androgen receptor: cDNA cloning and tissue specific expression through the malereproductive cycle. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- Whitenack, L.B., Simkins, D.C., and P.J. Motta. 2006. Biology meets engineering: Biomechanics and two-dimensional finite element analysis of carcharhinid teeth. American Society of Ichthyologists and Herpetologists meeting, New Orleans, LA.
- Lowry, D. and P.J. Motta. 2005. Ontogenetic development of feeding behavior in two elasmobranchs: do anatomical constraints canalize behavioral capacity? American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- Whitenack, L.B. and P.J. Motta. 2005. Performance of shark teeth during puncture: implications for the mechanics of cutting. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- Collins, A.B., Heupel, M.R., Hueter, R.E. and P.J. Motta. 2005. Tracking the cownose ray *Rhinoptera bonasus* within a southwest Florida estuary: Evidence for residence? American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- Motta, P.J., Hueter, R.E., Huber, D.R., Lowry, D., Mara, K.R., Matott, M.P., Whitenack, L.B. and A.P. Wintzer. 2005. Suction performance and feeding biology of the nurse shark *Ginglymostoma cirratum*. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- Collins, A.B., Heupel, M.R., Hueter, R.E. and P.J. Motta. 2005. Diet of the Atlantic cownose ray *Rhinoptera bonasus* in Charlotte Harbor, Florida, USA. American Society of Ichthyologists and Herpetologists meeting, Tampa, Florida.
- Weggelaar, C. W., Huber, D. R. and P.J. Motta. 2004. Scaling of bite force in the blacktip shark *Carcharhinus limbatus*. *Integr. Comp. Biol.* **44**, 662.
- Huber, D.R. and P.J. Motta. 2004. Cranial biomechanics of sharks utilizing durophagous and piscivorous feeding mechanisms. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- Lowry, D. and P.J. Motta. 2004. Ontogeny of prey capture kinematics and cranial morphology in the leopard shark *Triakis semifasciata*. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- Motta, P.J., Hueter, R.E., Tricas, T.C., Summers, D.R. Huber, A.P., Lowry, D., Mara, K., Matott, M.P., Whitenack, L.B., and A.P. Wintzer. 2004. Functional morphology, suction performance and the enigma of protrusion in the nurse shark *Ginglymostoma cirratum*. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- Whitenack, L.B., Lowry, D., Wintzer, A.P., Matott, M.P., Huber, D.R., Dean, M.N., Barker, A.S., and P.J. Motta. 2004. Behavioral and morphological specialization for aerial prey capture in the silver arowana, *Osteoglossum bicirrhosum*. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.

- Wintzer, A. and P.J. Motta. 2004. A comparison of the ontogeny of prey capture kinematics and feeding morphology in wild and hatchery Florida largemouth bass, *Micropterus salmoides floridanus*. 7th International Congress of Vertebrate Morphology, Boca Raton, Florida.
- Motta, P.J., Hueter, R.E., Tricas, T.C., Summers, A.P., Lowry, D., Matott, M.P., Whitenack, L.B., and A.P. Wintzer. 2004. A sucker is born every time: A story of suction prey capture in the nurse shark, *Ginglymostoma cirratum*. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- Huber, D.R., Motta, P.J. and R.E. Hueter. 2004. Crushing and gouging: A bite performance analysis of durophagous and piscivorous sharks. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- Whitenack, L.B., Koob, T.J., and P.J. Motta. 2004. A preliminary analysis of the role of selachian tooth serrations during cutting events. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- Barker, A.S., Heupel, M.R., Motta, P.J., and R.E. Hueter. 2004. Movement patterns of the cownose ray within Charlotte Harbor, Florida: A preliminary assessment. American Society of Ichthyologists and Herpetologists meeting, Norman, Oklahoma.
- Huber, D.R. and P.J. Motta. 2004. Bite force and cranial design of a hard prey specialist, the horn shark *Heterodontus francisci*. Society for Integrative and Comparative Biology meeting, New Orleans, Louisiana.
- Patel, A.N., Lowry, D., Whitenack, L.B., Matott, M., Huber, D.R., Dean, M., Barker, A. and P.J. Motta. 2003. Getting high with arowana: Aquatic and aerial prey capture in the silver arowana *Osteoglossum bicirrhosum*. American Society of Ichthyologists and Herpetologists meeting, Manaus, Brazil.
- Castro, A., Delius, B., Lowry, D., Burgess, G. and P. Motta. 2003. Inter-tooth distance as a predictor of body length in sharks. American Society of Ichthyologists and Herpetologists meeting, Manaus, Brazil.
- Dean, M.N., and P.J. Motta. 2002. Feeding behavior and prey capture kinematics of the lesser electric ray *Narcine brasiliensis*, with comments on its jaw protrusion mechanism. American Society of Ichthyologists and Herpetologists meeting, Kansas City, MO.
- Patel, A.N., and P.J. Motta. 2002. The effects of temperature on prey capture kinematics in the bluegill sunfish, *Lepomis macrochirus purpureus*. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, PA.
- Motta, P., Hueter, R., Tricas, T., and A. Summers. 2001. Suction feeding in elasmobranchs: functional and evolutionary considerations. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, Pennsylvania.
- Porter, H.T. and P.J. Motta. 2001. A comparison of prey capture kinematics in three ram feeding fishes. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, Pennsylvania.
- Sasko, D. and P.J. Motta. 2001. The excavation kinematics and feeding-ventilatory coupling of the Atlantic cownose ray, *Rhinoptera bonasus*. American Society of

- Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, Pennsylvania
- Wilga, C.D., Hueter, R.E., Wainwright, P.C., and P.J. Motta. 2001. Function and evolution of upper jaw protrusion mechanisms in elasmobranchs. Motor Control of Vertebrate Feeding: Function and Evolution symposium, Society for Integrative and Comparative Biology meeting, Chicago, Illinois.
- Porter, H.T. and P.J. Motta. 2001. A comparison of prey capture behavior and kinematics in three ram feeding fishes. Society for Integrative and Comparative Biology meeting, Chicago, Illinois.
- Motta, P.J. 2000. Functional constraints and evolutionary shifts in the feeding mechanisms of sharks. 21st Congress of the European Society for Comparative Physiology and Biochemistry, University of Liege, Belgium. Published in Comparative Biochemistry and Physiology, Part A, 16: 107.
- Sasko, D. and P.J. Motta. 1999. The prey capture behavior and kinematics of the Atlantic cownose ray, *Rhinoptera bonasus*. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, Pennsylvania.
- Sass, G.G. and P.J. Motta. 1999. The effects of satiation on prey capture kinematics in the largemouth bass, *Micropterus salmoides*. American Society of Ichthyologists and Herpetologists meeting, Pennsylvania State University, State College, Pennsylvania.
- Motta, P.J. 1998. Feeding behavior and mechanics of sharks: past, present and future. Plenary address, American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada.
- Motta, P.J. 1998. Suction feeding in sharks: a kinematic analysis of feeding in the nurse shark, *Ginglymostoma cirratum*. American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada.
- Wilga, C.D., Wainwright, P.C., and P.J. Motta. 1998. Evolutionary innovations in the feeding mechanisms of elasmobranchs. American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada.
- Edmonds, M.A., and P.J. Motta. 1998. Modulation of the feeding behavior of the horn shark, *Heterodontus francisci*. American Society of Ichthyologists and Herpetologists meeting, University of Guelph, Guelph, Ontario, Canada.
- Robinson, M.P. and P.J. Motta. 1997. Does size matter? Scaling and prey capture kinematics of the nurse shark, *Ginglymostoma cirratum*. American Society of Ichthyologists and Herpetologists meeting, University of Washington, Seattle, Washington.
- Motta, P.J. and C. Wilga. 1996. Comparative functional morphology of the suspensoria of squaloid and carcharhinoid sharks. American Society of Ichthyologists and Herpetologists meeting, University of New Orleans, New Orleans, Louisiana.
- Wilga, C. and P. Motta. 1996. Comparative functional morphology of upper jaw protrusion in Squaliform and Carcharhiniform sharks: a story of evolutionary and functional shifts. American Society of Ichthyologists and Herpetologists meeting, University of New Orleans, New Orleans, Louisiana.

- Motta, P.J., Tricas, T.C., Hueter, R.E., and A.P. Summers. 1995. Feeding mechanics of the lemon shark: conservative motor and kinematic patterns. J. Morphol. 35: 103A. American Society of Zoologists meeting, Washington, D.C.
- Motta, Philip J. and Cheryl D. Wilga. 1994. Anatomy and functional morphology of the lemon shark, *Negaprion brevirostris*, feeding mechanism. Fourth International Congress of Vertebrate Morphology, University of Chicago, Chicago.
- Motta, Philip J., Robert E. Hueter, Timothy C. Tricas, Adam P. Summers and Cheryl D. Wilga. 1994. Feeding mechanics of the lemon shark, *Negaprion brevirostris*: a morphological, kinematic, and electromyographic analysis. American Society of Ichthyologists and Herpetologists Meeting, University of Southern California, Los Angeles, California.
- Motta, Philip J. 1993. The feeding mechanism of the lemon shark, *Negaprion brevirostris*: anatomical innovation and functional conservation. American Society of Ichthyologists and Herpetologists Meeting, University of Texas at Austin, Austin.
- Summers, A.P., and P.J. Motta. 1993. Morphology of the feeding apparatus of the Southern Stingray, *Dasyatis sabina* (Batoidea). American Society of Ichthyologists and Herpetologists Meeting, University of Texas at Austin, Austin.
- Motta, Philip J., Kari B. Clifton, Patricia Hernandez, and Bradley T. Eggold. 1992. Ecomorphological correlates in ten species of subtropical seagrass fishes: diet and microhabitat utilization. American Society of Ichthyologists and Herpetologists Meeting, University of Illinois, Urbana-Champaign.
- Motta, P., Clifton, K., Eggold, B., Hernandez, P., Henningsen, B. and R. Wilcox. 1991. Fisheries evaluation of an impounded marsh prior to habitat restoration. American Society of Ichthyologists and Herpetologists Meeting, American Museum of Natural History, New York.
- Motta, P., Clifton, K., Eggold, B., Hernandez, P., Henningsen, B. and R. Wilcox. 1991. Fisheries evaluation of an impounded marsh prior to habitat restoration. Bay Area Scientific Information Symposium, Tampa, Florida.
- Motta, Philip J., Hueter Robert E., and Timothy C. Tricas. 1990. An electromyographic analysis of the biting mechanism in the lemon shark, *Negaprion brevirostris*; preliminary results. American Society of Ichthyologists and Herpetologists Meeting, College of Charleston.
- Motta, Philip J. 1988. Dentition patterns among Pacific and Western Atlantic butterflyfishes (Chaetodontidae): relationship to feeding ecology and evolutionary history. American Society of Ichthyologists and Herpetologists Meeting, University of Michigan.
- Motta, Philip J. 1986. The relationship between butterflyfish tooth composition and feeding ecology. American Society of Ichthyologists and Herpetologists Meeting, University of Victoria, Victoria, B.C., Canada.
- Motta, Philip J. 1984. The functional morphology of the head and the feeding behavior of butterflyfishes (Chaetodontidae). American Society of Ichthyologists and Herpetologists Meeting, University of Oklahoma, Norman, Oklahoma.
- Hourigan, T.F., Carlson, B., Motta, P., Stanton, F., and C.D. Kelley. 1982. Feeding and spatial organization of three species of pomacanthid fishes. Pac. Sci. 36:512.

- Motta, Philip J. 1980. The mechanics and functions of jaw protrusion in butterflyfishes (Chaetodontidae). American Society of Zoologists Meeting, Seattle, Washington. Amer. Zool. 20(4):930.
- Motta, Philip J. 1980. Feeding behavior of butterflyfishes. Animal Behavior Society Meeting, Colorado State University, Fort Collins, Colorado.
- Motta, Philip J. 1979. The dentition of seven species of butterflyfishes (Chaetodontidae) and their related feeding behaviors. Albert Tester Memorial Symposium, University of Hawaii, Honolulu, Hawaii. Pac. Sci. 33(1): 123.
- Motta, Philip J. 1976. Anatomy and functional morphology of dermal collagen fibers in sharks. Albert Tester Memorial Symposium, University of Hawaii, Honolulu, Hawaii. Pac. Sci. 30(3):213.

PUBLIC MEDIA FEATURES

- Whale Shark Feeding Frenzies Mystify, Enlighten Scientists*. LiveScience.com, 08 March, 2011
- Shark's Speedy Skin*. CBC Radio, December 4, 2010
- Whale shark, the world's largest fish, thrives on tiny crustaceans and worms*. The Washington Post, November 1, 2010
- Consultant to "Dangerous Encounters" with Brady Barr, National Geographic Television, 2010*
- "As it happens-Shark Forensics"* CBC Radio Show, December 4, 2009
- Barracuda Bite*, Daily Planet, Discovery Channel Canada, Jan 19, 2009 Canada TV broadcast.
- Sharks*, Ciniflix Productions, broadcast on Animal Planet and Discovery Channel, 2009
- Why a speeding shark is like a gold ball*. ABC News, November 10, 2008.
- Video footage provided for "Evolve", an Optomen Production, History Channel Series.*
- Q & A with Philip J. Motta, Ph.D.* Alumni Voice, USF Alumni Association, July 2008.
- Consultant to "Fish are Jumpin'" in Slate Magazine of the Washington Post, March 21, 2008.*
- Consultant to "Myth Busters" television show, March 2008*
- "Live from Georgia Aquarium" Today Show, NBC Television, February 12, 2008*
- America Back on Track - Quality News Network, live interview about whale sharks, September 24, 2007. www.QualityNewsNetwork.com*
- World's Biggest Fish Is a Delicate Feeder*, Washington Post, September 3, 2007, A08
- Scientists Wild Over Whale Sharks at Sea*, The Atlanta Journal Constitution, Aug. 6, 2006.
- Killer Shark Live*, Brighter Pictures, Endemol UK, October 5, 2005 live broadcast to UK
- Shark*, Smithsonian Magazine, August 2005
- Biting Back*, St. Petersburg Times, January 4, 2002
- Mechanics of Shark Eating Studied*, The News Press, Lee County Florida, November 17, 2000.
- Shark Studies Featured on National Television*, Inside USF, June 2-29, 2000
- Exploring a Deep, Toothy Mystery*, St. Petersburg Times, May 5, 2000.
- Reef Shark Adventure*, Extreme Contact Series, Animal Planet Television, May, 2000
- Sharks*, Beyond Science Television Series, WUSF, April 2000
- Future Shark*, Shark Week Series, Discovery Television, Summer 2000 and 2001

Jaws...in the laboratory, Mote News (Mote Marine Laboratory Periodical), Vol. 41. No. 2., 1996

Grabbing a Quick Bite! How Do Sharks Do It?, USF Magazine, Vol. 33. No. 5, Summer 1991.

USF COMMITTEE ACTIVITIES

Departmental: Faculty Advisory Committee (CoChair), IACUC Animal Use and Care Committee, Marine Biology Degree organizing Ad Hoc Committee, Marine Ecology Search Committee (Chair), Biology Instructor Search Committee (Chair), Graduate recruitment (Chair), Faculty Planning Committee (Chair), Graduate Admissions, Curriculum, Seminar, Vehicle Committee.

University: Faculty Development Committee (Chair), College of Arts and Sciences Advisory Committee, Diversity Committee, Tenure and Promotion Committee, Teaching Incentive Award Committee, Outstanding Undergraduate Teaching Award Committee.

CURRICULUM VITA

General Data

Name: Henry Richard Mushinsky
Position: Professor of Integrative Biology & Graduate Director
University of South Florida
Tampa, Florida 33620
Phone: Office: 813-974-5218 Home: 813-949-7005
E-mail: Mushinsk@usf.edu
FAX: 813-974-3263
Marital status: Married (Patricia Yarnot), two children.

Education (Phi Kappa Phi)

Institution	Major	Degree	Date
Tusculum College	Biology	B.S.	1967
East Tennessee State U.	Biology	M.S.	1969
Clemson University	Zoology	Ph.D.	1973

Employment

Graduate Director, Department of Integrative Biology 1998 - present
Professor, University of South Florida, 1993 - present
Associate Professor, University of South Florida, 1986 - 1993
Assistant Professor, University of South Florida, 1982 - 1986
Lecturer in Biology, University of South Florida, 1979 - 1981
Assistant Professor, Louisiana State University, 1973 - 1979

Research Areas

1. Conservation and biodiversity of vertebrates
2. Restoration ecology
3. Gopher Tortoise and Florida Sand Skink ecology and conservation
4. Use of anurans to monitor wetland health
5. Fire ecology

University Committees and Service

Two terms (6years) on the USF Faculty Senate and the Senate Executive Committee as the Sargent at Arms
USF Presidents Council 1994-96 (selected to serve as an advisor to President Castor)
USF Faculty Senate, ad hoc committee (chair) on tenure and promotion policies (1995)
USF Research Foundation, member of the Board of Directors (1995-98)

Chair, Dean of the Graduate School-Search Committee 1996-97
Search Committee for Associate Provost and Dean of the Graduate School,
2004-05
Search Committee for Associate Provost and Dean of the Graduate School,
2005-06
USF Institutional Animal and Care Committee (IACUC) 2007-present
College of Arts and Sciences, School of Natural Sciences and Mathematics
Graduate Curriculum Committee 2009 – present; Chair 2012-13
Faculty Advisor for the Pre-Veterinarian Society 2002-present
Faculty Advisor for the Herpetological Society 2008-present

Professional Organizations and Societies

Sigma Xi-The Research Society
Ecological Society of America
Animal Behavior Society (1975-2002)
American Society of Ichthyologists and Herpetologists
 Board of Directors, 1990-1995, 2004-09
 Environmental Quality Committee, 1995-present
 Meeting Management Committee 2003-present
 President Elect -2007
 President -2008
 Executive Committee 2008-present
Herpetologists' League (1974-present)
 Executive Council, 1993-1996
 Associate Editor 1993-2005
 Conservation Committee, Chair 1995-2004
 Editorial Board Member 1998-2010
 Vice President 2002-03
 President HL 2004-05
Society for the Study of Amphibians and Reptiles (1974-present)
 Board of Directors, 1989-1992
 Associate Editor, Journal of Herpetology, 1992-96
 President, SSAR, 1997
Society for Conservation Biology (1985-present)
Chelonian Conservation and Biology
 Editorial Board Member 2000-present
Florida Academy of Sciences
Gopher Tortoise Council
 Co-chair, 1993-1995
IUCN (The World Conservation Union) Species Survival Commission
 (invited member of the Tortoise and Freshwater Turtle Specialist
 group, serving since 1994)
World Congress of Herpetology (WCH), Elected to the Executive
 Committee of the WCH (2002-2008)

Research Grants and Fellowships (since 1995)

1993-97 Studies on relocation of the Florida mouse to restored xeric upland habitat. IMC-AGRICO, with Earl D. McCoy as co- principal investigator, \$25,600.

1993-95 Studies of resident vertebrates on mined and unmined lands in central Florida. Florida Institute for Phosphate Research, with Earl D. McCoy as co-principal investigator. Two years, \$252,000.

1994-97 Studies of the sand skink, Neoseps reynoldsi, in central Florida. Walt Disney World Corporation, Three years, \$148,500.

1994-95 North American Tortoises Conservation Conference in Durango Mexico. Supported by the National Science Foundation and the Science Foundation of Mexico, \$14,970.

1995-Studies of wildlife usage and restoration of upland habitats on phosphate-mined lands in central Florida - Supplement. Florida Institute for phosphate research, with Earl McCoy as co-principal Investigator. \$17,646.

1995-97 Wildlife usage of mesic flatlands and its bearing on restoration of phosphate-mined land in central Florida. Florida Institute for phosphate research, with Earl McCoy as co-principal Investigator. \$210,500.

1995-97 "Fundamental of Natural Science for Non-Science Students-An Integrated Approach." National Science Foundation, with Len Vacher, Pritish Mukherjee, and Jay Worrell as co-principal investigators. \$100,000.

1997-"Ecological genetics of the threatened salt marsh snake Nerodia clarkii, Florida Nongame Wildlife Program, with Steve Karl and Kevin Jansen. \$6,000.

1999-2001-"Habitat requirements of key vertebrate species that are under-represented on phosphate mined lands." Florida Institute of Phosphate Research, with Earl McCoy as co-principal investigator. \$285,000.

1999-2001-"Population consequences of upper respiratory tract disease on gopher tortoises." Florida Fish and Conservation Commission, with Earl McCoy and Jonathan Lindzey. \$ 49,267.

1999-2001-"Biology of the threatened sand skink on restored scrub habitat" Disney Conservation Award, with Earl McCoy. \$20,000.

2001-2003 - Using anurans to evaluate the relative health of wetlands at Starkey Well Field. South West Florida Water Management District, With Earl McCoy. \$50,000.

2002-2007 – Upper Respiratory Tract Disease and Environmentally-Threatened Gopher Tortoise. National Institutes of Health with funding from NSF. With Mary Brown (UF), Paul Klein (UF), Madan Oli (UF), and Earl McCoy. \$2,200,000.

2003-2006 – Wildlife Habitat and Wildlife Utilization of Phosphate Mined Lands. With Biological Research Associates INC., and Earl McCoy. \$700,000

2003 – The Effects of Predation on Fragmented Prey populations. Established Researcher Grant, Sponsored Research, USF. \$5,000

2004-06 – Anurans, Wellfields, and Minimum Flows and Levels. South West Florida Water Management District, With Earl McCoy. \$65,000.

2006-2010 – Experimental studies of translocation of the sand skink (*Neoseps reynoldsi*). Disney Development Corporation, \$119,000

2006-2010 – Ecological and genetic studies of the sand skink (*Neoseps reynoldsi*) in central and south Florida. Rinker Construction Company, \$750,000

2008-2012 - Experimental restoration of Florida scrub on the Lake Wales Ridge (with Menges et.al), Florida Fish and Wildlife Conservation Commission. 195,000

2007-2010 – Anurans as indicators of the health of wetlands at well fields in central Florida. South West Florida Water Management District, With Earl McCoy. \$80,000.

2009-2011 – Are tortoises compatible with cows? Florida Fish and Wildlife Conservation Commission. With Earl McCoy, \$200,000

2010-2011 – Effective monitoring of the Florida Sand Skink *Plestiodon* (*Neoseps*) *reynoldsi* population trends. US Fish and Wildlife Service. With Earl McCoy, \$125,000

2011-2012- Effective monitoring of the Florida Sand Skink *Plestiodon* (*Neoseps*) *reynoldsi* population trends. US Fish and Wildlife Service. With Earl McCoy, \$50,000

2012-2013 – Multi-species Habitat Conservation Plan (Polk County, Florida) (with Sumpter et al.) Florida Fish and Wildlife Conservation Commission \$162,000

2012-2013 – Assessing translocation success of the Florida Sand Skink (with McCoy) Disney Development Corporation. 11,000

2012-2017 USDA National Needs Graduate Program Proposal: Training the next generation of under-represented and cross-disciplinary scholars at the frontiers of agricultural sustainability and biosecurity, USDA (PI: Jason R. Rohr, Co-PIs:

Steven
Johnson, Valeria Harwood, Henry Mushinsky) 1/2012-12/2017 \$241,000

Invited Seminars

Louisiana State University, 1974
Southwestern Louisiana State University, 1976
Tulane University, 1977
University of New Orleans, 1978
University of South Florida, 1979
University of Southern Mississippi, 1979
Mote Marine Laboratory, 1980
University of Tampa, 1981,
University of Central Florida, 1982
Charles University, Prague, Czechoslovakia, 1985
University of Florida, Zoology 1986
Georgia Southern University, 1987
University of West Florida, 1988
University of Tampa, 1989
Eckerd College, 1989, 1991
Archbold Biological Station, 1989, 1991, 1992
University of South Florida, College of Architecture, 1990, 2000
University of Michigan, 1991
University of South Florida, 1992, 1997
Stetson University, 1994
New College, University of South Florida, Sarasota 1995
Savannah River Ecology Laboratory, 1995
Canadian Conservation Society, Quebec City, 1999
Powdermill Conference 1999 - Fourth Occasional Freshwater Turtle
Conference
Florida Institute of Technology, 2000
University of Florida, Wildlife Ecology 2000
Powdermill Conference 2004 – Fifth Occasional Freshwater Turtle
Conference University of New Orleans, 2004
Powdermill Conference 2006 – Sixth Occasional Freshwater Turtle
Conference
Villanova University, 2006
The Pennsylvania State University, 2010
Southeast Louisiana State University, 2010

Journal Referee

*American Midland Naturalist, American Naturalist, Animal Behaviour,
Animal Conservation, Brimleyana, Conservation Biology, Copeia,
Ecology, Florida Scientist, Florida Field Naturalist, Herpetologica,*

Herpetological Monographs, Journal Chemical Ecology, Journal of Chelonian Biology, Journal of Comparative Psychology, Molecular Ecology, Journal of Herpetology, Journal of The Herpetological Association of Africa, Biology Letters, Marine Biology, Oecologia, Southwestern Naturalist, Southeastern Naturalist, Wildlife Research, and Functional Ecology.

Articles in Refereed Journals

1. Mushinsky, H. R. and E. D. Brodie, Jr. 1975. Selection of substrate pH by salamanders. AMERICAN MIDLAND NATURALIST 93:440-443.
2. Mushinsky, H. R. 1976. Ontogenetic development of microhabitat preference in salamanders: The influence of early experience. COPEIA 1976 (4):755-758.
3. Mushinsky, H. R. and J. J. Hebrard. 1977. Food partitioning by five species of water snakes in Louisiana. HERPETOLOGICA 33:162-166.
4. Mushinsky, H. R. and J. J. Hebrard. 1977. The use of time by sympatric water snakes. CANADIAN JOURNAL OF ZOOLOGY 55:1545-1550.
5. Hebrard, J. J. and H. R. Mushinsky. 1978. Habitat use by five sympatric water snakes in a Louisiana Swamp. HERPETOLOGICA 34:306-311.
6. Mushinsky, H. R. 1979. Mating behavior of the common water snake, *Nerodia sipedon sipedon*, in eastern Pennsylvania (Reptilia, Serpentes, Colubridae). JOURNAL OF HERPETOLOGY 13:127-129.
7. Garton, J. D. and H. R. Mushinsky. 1979. Integumentary toxicity and unpalatability as an antipredator mechanism in the narrow mouthed toad, *Gastrophryne carolinensis*. CANADIAN JOURNAL OF ZOOLOGY 57:1965-1973.
8. Mushinsky, H. R. and K. H. Lotz. 1980. Chemoreceptive responses of two sympatric water snakes to the extracts of commonly ingested prey species: Ontogenetic and ecological considerations. JOURNAL OF CHEMICAL ECOLOGY 523-535.
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Mushinsky, H. R. and E. D. McCoy. 1989. Changes in the demography of gopher tortoises, Gopherus polyphemus in response to disturbance. Amer. Zool. 29: 122A.

McCoy, E. D. and H. R. Mushinsky. 1990. Rarity of amphibians and reptiles characteristic of the Florida scrub habitat. Bull. Ecol. Soc. 71:246.

Mushinsky, H. R. and E. D. McCoy 1990. Distributions of gopher tortoise burrows on State and Federal Lands in Florida. Amer. Zool. 30: 17 A.

Wilson, D. S., H. R. Mushinsky, and E. D. McCoy, 1991. Gopher tortoise burrow width to body size relations. Fl. Scien. 54:15-16. Suppl. 1.

Mushinsky, H. R., E. D. McCoy, and D. S. Wilson, 1991. Growth of gopher tortoises in central Florida. Amer. Zool. 31:135A

McCoy, E. D., H. R. Mushinsky, D. Johnson, W. E. Meshaka, Jr. 1993. Effects of Hurricane Andrew on mangroves in southwestern Florida. Bull. Ecol. Soc. 74:351.

Mushinsky, H. R. and E. D. McCoy. 1996. Establishing the differences between vertebrate assemblages of disturbed and undisturbed upland fragments in central Florida. Bull. Ecol. Soc. 77:318.

McCoy, E. D. and H. R. Mushinsky. 1996. Explaining the differences between vertebrate assemblages of disturbed and undisturbed upland fragments in central Florida. Bull. Ecol. Soc. 77:293.

Schmutz, D. D., H. R. Mushinsky, and E. D. McCoy. 1996. Microhabitat distribution of the Florida mouse, Podomys floridanus, on undisturbed upland sites and reclaimed mined lands. Bull. Ecol. Soc. 77:395.

Hill, K. E., H. R. Mushinsky, E. D. McCoy, and P. E. Sutton. 1996. Macrodistribution of the threatened sand skink, Neoseps reynoldsi. Bull. Ecol. Soc. 77:196.

Sutton, P. E., H. R. Mushinsky, and E. D. McCoy. 1996. Absolute density and field sampling method comparison for a threatened Florida skink, Neoseps reynoldsi. Bull. Ecol. Soc. 77:431.

Navratil, G. F., H. R. Mushinsky, and E. D. McCoy. 1996. A plan to study the effects of land management practices on the Florida sand skink, Neoseps reynoldsi. Bull. Ecol. Soc. 77:322.

McCoy, E. D., P. Hartmann, and H. R. Mushinsky. 1999. Demography of the Florida scrub lizard, a species at risk. Bull. Ecol. Soc. 80:344

Invited Speaker at a National or International Symposium

1985 Herpetofaunal responses to periodic fire. European Society of Herpetologists, Charles University, Prague.

1986 On the trophic position of snakes, snakes or snacks? Snake ecology symposium, American Society of Ichthyologists and Herpetologists, University of British Columbia, Victoria.

1988 Fire as a disturbance agent in terrestrial systems. Symposium on Habitat Structure, University of South Florida, Chinsegut Conference Center, Brooksville, Florida.

1989 The demography of gopher tortoises, Gopherus polyphemus, in disturbed habitats. First World Congress of Herpetology, University of Kent, Canterbury, England.

1990 The distributions of gopher tortoises on State and Federal lands in Florida. Symposium on North American Tortoises at the American Society of Ichthyologists and Herpetologists Meeting in Charleston, South Carolina.

1991 Rarity and amphibian and reptile taxa characteristic of Florida scrub. Symposium on conservation of North American amphibians and reptiles at the American Society of Ichthyologists and Herpetologists Meeting in New York City.

1993 Management of Gopherus polyphemus: Biogeographic patterns. Conservation, Restoration, and Management of Tortoises and Turtles: An International Conference. Purchase, New York.

1993 Management of Gopherus polyphemus: Growth and Sexual Dimorphism. Conservation, Restoration, and Management of Tortoises and Turtles: An International Conference. Purchase, New York.

1993 Effects of fire on herpetofauna. Fire Ecology and Management in the Blue Mountains Seminar. Blue Mountains Natural Resource Institute. LaGrande, Oregon.

1993 Anuran biodiversity on an upland habitat in Florida. Second World Congress of Herpetology, Adelaide University, Australia.

1994 Ecology of the gopher tortoise (Daudin). North American Tortoise Conference, Mapimi Biosphere Preserve, Durango, Mexico.

1997 Advocation of avocation? (with McCoy) Symposium on ethical behavior of scientists. American Society of Ichthyologists and Herpetologists. Seattle, Washington.

1997 Behavior of the gopher tortoise in its ecological landscape (with McCoy). Symposium on North American Tortoises. Society for the Study of Amphibians and Reptiles. Seattle, Washington.

1997 Setting the goals for the re-establishment of vertebrate assemblages on reclaimed phosphate mined Lands in central Florida (with McCoy and Kluson). Society for Ecological Restoration, 9th International Conference. Fort Lauderdale, Florida.

1998 An overview of tortoise demography: what, how, and why? International conference on turtles and tortoises. (with McCoy) Carson, California.

1998 Gopher tortoise responses to fragmentation and degeneration of habitat. International conference on turtles and tortoises. (with McCoy) Carson, California.

1999 Conservation, ethics, and herpetological education in the next millenium. Canadian Amphibian and Reptile Conservation Network. Quebec City, Quebec, Canada. Invited Key Note Speaker

1999 Gopher tortoise biology: landscape to microhabitat selection (With McCoy). 4th Occasional freshwater Turtle Conference, Laughlin, Nevada.

2000 Environmental considerations for turtles relocations (with G. Kuchling). International Conference on Tortoise and Turtle Relocations, Orlando, Florida

2001 What should we do about the decline in diversity? (With McCoy and Lips) Plenary Session, Joint Annual Meeting of the Herpetologists' League and the Society for the Study of Amphibians and Reptiles, Indianapolis, Indiana.

2003 A comparison of GIS and survey estimates of gopher tortoise habitat and numbers in Florida. (With E. D. McCoy) Powdermill Conference, Fifth occasional conference of the freshwater turtle group. Manaus, Brazil.

2006 Disease, habitat quality and the gopher tortoise in Florida. (With E.D. McCoy) Popwdermill Conference, Sixth Occasional Conference of the Freshwater Turtle Group, Portal Arizona.

2008. Biology and Conservation of Long-lived Species: The Gopher Tortoise (With E.D. McCoy).Symposium on Long-lived Species of Boney Fishes, Sharks and Reptiles, Joint Meeting of Ichthyologists and Herpetologistsrts.

2009. Science, Advocacy and the race to extinction; The Florida Sand Skink and the Gopher Tortoise, ASIH Presidential Address to the Joint Meeting of Ichthyologists and Herpetologists, Portland Oregon.

2012 Evaluating the status of a population of translocated Florida Sand Skinks (*Plestiodon reynoldsi*) (With Earl McCoy) 6th World Congress of Herpetology, Vancouver, British Canada.

Papers Presented to Professional Societies at Annual Meetings

1973 Ontogenetic development of habitat preference in salamanders: the influence of early experience. American Society of Zoologists.

- 1976 Food partitioning by five species of aquatic snakes (with Hebrard). American Society of Zoologists.
- 1976 Habitat use among five sympatric species of aquatic snakes (with Hebrard). American Society of Zoologists.
- 1976 Daily activity patterns of four sympatric water snakes (with Hebrard). Animal Behaviour Society.
- 1977 Responses of two sympatric species of water snakes to extracts of commonly ingested prey items (with Hartmann). Louisiana Academy of Science.
- 1977 Behavioral aspects of resource partitioning in water snakes (with Hebrard). Animal Behaviour Society
- 1977 The effects of early experience on the responses of two sympatric water snakes to extracts of commonly ingested prey items (with Hartmann). American Society of Ichthyologists and Herpetologists.
- 1978 Behavioral and seasonal aspects of the thermal ecology of water snakes (with Hebrard). American Society of Ichthyologists and Herpetologists.
- 1978 Annual variations in resource partitioning among four syntopic Nerodia (with Hebrard). American Society of Ichthyologists and Herpetologists.
- 1979 Yearly variation in resource use by sympatric water snakes (with Hebrard). Florida Academy of Science.
- 1979 Thermal niches of ecologically similar water snakes (with Walley). Herpetologists' League/ Society for the study of Amphibians and Reptiles.
- 1979 The role of temperature on the ecological associations of water snakes (with Hebrard and Walley). American Society of Zoologists.
- 1981 Ontogenetic dynamics of water snake foraging ecology (with Hebrard and Vodopich). American Society of Ichthyologists and Herpetologists.
- 1981 Ontogeny of water snake feeding ecology (with Hebrard and Vodopich). American Society of Zoologists.
- 1982 Ecological studies on Basidiobolus sp., a fungus occurring in the digestive tract of amphibians and reptiles (with Okafor and Merner). Florida Academy of Science.

1983 On the relationship between fire and the herptile community on a sandhill in Florida. Florida Academy of Science.

1983 Notes on the feeding behavior of the short-tailed snake, Stilosoma extenuatum. American Society of Ichthyologists and Herpetologists.

1984 On the relationship between fire and the autecology of Cnemidophorus sexlineatus. American Society of Ichthyologists and Herpetologists.

1985 Fire and the Florida sandhill herpetofaunal community. Florida Academy of Science.

1985 Fire, vegetation structure and herpetofaunal communities. Society of European Herpetologists.

1985 On the relationship between fire periodicity, plant structure and herpetofaunal communities in Florida (with McCoy), American Society of Zoologists.

1986 An examination of the trophic position of snakes. American Society of Ichthyologists and Herpetologists.

1986 Effects of Planned burning on ground-dwelling beetles in Florida sandhill (with McCoy). Ecological Society of America.

1987 A tale of two refuges (with McCoy and Wilson). Gopher Tortoise Council.

1987 A comparative demographic study of gopher tortoises on Federal Lands in Florida (with McCoy). American Society of Zoologists.

1988 The influence of habitat structure on gopher tortoise distributions within populations (with McCoy). Natural Areas Conference: Rare species and significant habitats.

1988 The relationship between habitat structure and gopher tortoise distribution (with McCoy and Wilson). American Society of Ichthyologists and Herpetologists.

1988 Spatial distributions of gopher tortoises in relation to habitat size (with McCoy and Wilson). American Society of Zoologists.

1989 Changes in the demography of gopher tortoises, *Gopherus polyphemus* in response to disturbance (with McCoy). American Society of Zoologists.

1990 Rarity of amphibians and reptiles in Florida scrub (with McCoy). Gopher Tortoise Council.

- 1990 Fire ecology, activity, and growth of the southeastern five-lined skink, *Eumeces inexpectatus*, in central Florida. Herpetologists' League / Society for the study of Amphibians and Reptiles.
- 1990 Rarity of amphibians and reptiles characteristic of scrub habitat of Florida (with McCoy). Ecological Society of America.
- 1990 Gopher tortoises status on State and Federal lands in Florida (with McCoy). American Society of Zoologists.
- 1991 Gopher tortoise burrow width to body size relations (with Wilson and McCoy). Florida Academy of Sciences.
- 1991 Rarity and amphibian and reptile taxa characteristic of Florida scrub (with McCoy). American Society of Ichthyologists and Herpetologists.
- 1991 Seasonal occurrence of *Kinosternon baurii* on a sandhill in central Florida (with Wilson). Herpetologists' League/ Society for the study of Amphibians and Reptiles.
- 1991 Growth of the gopher tortoise in central Florida (with McCoy and Wilson). American Society of Zoologists.
- 1992 Sexual dimorphism and growth of gopher tortoises in central Florida (With McCoy and Wilson). Society for the study of Amphibians and Reptiles.
- 1992 Comparison of growth of gopher tortoise growth rates from Florida and Georgia (with McCoy and Wilson). Gopher Tortoise Council.
- 1993 Anuran biodiversity on a periodically burned xeric upland habitat in central Florida (with McCoy and Delis). American Society of Ichthyologists and Herpetologists/Herpetologist's League.
- 1993 Foraging ecology of the mangrove salt marsh snake: Effects of habitat structure (with Mullin). American Society of Ichthyologists and Herpetologists/Herpetologist's League.
- 1994 Management of *Gopherus polyphemus*: Biogeographic patterns (with McCoy and Wilson). International meeting of the Society for Conservation Biology and the Association for Tropical Biology.
- 1994 Burrow turnover in *Gopherus polyphemus* in response to habitat structure (with Kwaitkowski, McCoy, and Wilson). American Society of Ichthyologists and Herpetologists.

- 1994 Designing refuges for the Florida Sand Pine Scrub Habitat (with McCoy). North American Conference on Savannas and Barrens.
- 1994 The ecology of the gopher tortoise (*Gopherus polyphemus*). North American Tortoises Conference.
- 1995 Distribution and abundance of two rare skinks in Florida Scrub (with E. D. McCoy). American Society of Ichthyologists and Herpetologists.
- 1996 Establishing the differences between vertebrate assemblages of disturbed and undisturbed upland fragments in central Florida (with E.D. McCoy). Ecological Society of America.
- 1996 Explaining the differences between vertebrate assemblages of disturbed and undisturbed upland fragments in central Florida (with E. D. McCoy). Ecological Society of America
- 1996 Microhabitat distribution of the Florida mouse, *Peromyscus floridanus*, on undisturbed upland sites and reclaimed mined lands (with D. D. Schmutz & E. D. McCoy). Ecological Society.
- 1996 Macrodistribution of the threatened sand skink, *Neoseps reynoldsi* (with K. Hill, P. E. Sutton & E. D. McCoy). Ecological Society.
- 1996 Absolute density and field sampling method comparison for a threatened Florida skink, *Neoseps reynoldsi* (with P. E. Sutton & E. D. McCoy). Ecological Society.
- 1996 A plan to study the effects of land management practices on the Florida sand skink, *Neoseps reynoldsi* (With G. F. Navratil & E. D. McCoy). Ecological Society.
1997. Behavior of the gopher tortoise in its ecological landscape (with McCoy and Connor). Third World Congress of Herpetology, Prague.
1997. Biology of a rare lizard *Neoseps reynoldsi* in Florida (with McCoy and Sutton). Third World Congress of Herpetology, Prague.
1997. Relocation of Scrub habitat and sand skinks in Florida (with Hill and McCoy). Third World Congress of Herpetology, Prague.
1997. Molecular systematics and phylogeography of the salt marsh snakes, *Nerodia clarkii*, using mtDNA d-loop sequences (with Jansen and Karl). American Society of Ichthyologists and Herpetologists. University of Washington, Seattle.

1998. Vertebrates and phosphate mining in Florida. (With McCoy) American Society of Ichthyologists and Herpetologists. University of Guelph, Ontario, Canada.
1999. Microhabitat requirements of the sand skink, *Neoseps reynoldsi* (With Collazos and McCoy) American Society of Ichthyologists and Herpetologists. Pennsylvania State University.
1999. Demography of the Florida scrub lizard, a species at risk. (With McCoy and Hartmann) Ecological Society of America, Washington State University, Spokane.
2000. Demography of the rare Florida scrub lizard in a fragmented habitat. (With McCoy and Hartmann). American Society of Ichthyologists and Herpetologists, La Paz, Mexico.
2000. Assessing habitat restoration after phosphate mining. (With McCoy). American Society of Ichthyologists and Herpetologists, La Paz, Mexico.
2001. Response of the sand skink (*Neoseps reynoldsi*) to prescribed burning and clear-cutting in Florida scrub habitat. (With Gianopulos, and McCoy). 2001 Scrub Symposium, USFWS, Orlando, Florida.
2001. Translocation success of the threatened sand skink, *Neoseps reynoldsi*. (With Penney and McCoy). 2001 Scrub Symposium, USFWS, Orlando, Florida.
2001. Response of the sand skink (*Neoseps reynoldsi*) to controlled burning and clear-cutting in Florida scrub habitat. (With Gianopulos, and McCoy). American Society of Ichthyologists and Herpetologists, Indianapolis, Indiana.
2001. Translocation success of the threatened sand skink, *Neoseps reynoldsi*. (With Penney and McCoy). American Society of Ichthyologists and Herpetologists, Indianapolis, Indiana.
2001. *Eumeces inexpectatus*, the southeastern five-lined skink, a generalist species in Florida: Why is it rare on reclaimed phosphate mined lands? (With Barrett, Caruso, and McCoy). American Society of Ichthyologists and Herpetologists, Indianapolis, Indiana.
2001. Reading between the pipes: Hylid microhabitat preferences. (With Barrett, Caruso, and McCoy). American Society of Ichthyologists and Herpetologists, Indianapolis, Indiana.
2002. Time and fragmentation: Tales from the Florida scrub. (With E. D. McCoy). American Society of Ichthyologists and Herpetologists, Kansas City, Missouri.

2003. A comparison of GIS and survey estimates of gopher tortoise habitat and numbers in Florida. (With E. D. McCoy) Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
2003. Management strategies for the gopher tortoise in the face of exotic and endemic pathogens. (With E. D. McCoy) Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
2003. Using anurans to measure wetland health on a central Florida, USA, wellfield. (With S. M. Gonzalez and E. D. McCoy) Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
2003. Spatial and temporal mechanisms affecting anuran population fluctuations in a Florida sandhill habitat. (With B.J Halstead, P. Delis and E. D. McCoy) Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
2003. Temporal and spatial effects of prescribed fire on reptile abundance and diversity. (With N. T. Halstead and E. D. McCoy) Joint Meeting of Ichthyologists and Herpetologists, Manaus, Brazil.
2004. The influence of habitat structure on the vertebrates of reclaimed phosphate mine in central Florida, (With McCoy and Kluson). First National Conference on Ecosystem Restoration, Orlando FL.
2004. Wildlife utilization of phosphate mined lands, (With Gonzalez, McCoy and Durbin). First National Conference on Ecosystem Restoration, Orlando FL.
2004. Habitat requirements of three species and their responses to translocation to reclaimed phosphate mined land, (With Barrett, Caruso, and McCoy). First National Conference on Ecosystem Restoration, Orlando FL.
2004. Restoration of the Florida mouse to native and reclaimed mined sites: assessing habitat quality to improve translocation success, (With Schmutz and McCoy). First National Conference on Ecosystem Restoration, Orlando FL.
2005. Do gopher tortoises (*Gopherus polyphemus*) consume exotic cogon grass (*Imperata cylindrica*)? Results of feeding experiments, With Basiotis and McCoy). American Society of Ichthyologists and Herpetologists, Tampa, FL.
2005. Analysis of juvenile gopher tortoise (*Gopherus polyphemus*) movement paths using random walk models, (With Halstead, Stilson, and McCoy). American Society of Ichthyologists and Herpetologists, Tampa, FL.
2005. Condition indices in *Aspidooscelis sexlineatus*. A comparison of models, (With Halstead and Moore). American Society of Ichthyologists and Herpetologists, Tampa, FL.

2006. Long-term effects of prescribed fire on reptile and amphibian communities in a Florida sandhill habitat (with Halstead and McCoy), American Society of Ichthyologists and Herpetologists, New Orleans, Louisiana.

2006. Analysis of juvenile Gopher Tortoise (*Gopherus polyphemus*) foraging paths using correlated random walk models (with Halstead, McCoy and Stilson) American Society of Ichthyologists and Herpetologists, New Orleans, Louisiana.

2006. Habitat quality, disease, and the gopher tortoise (with McCoy and Lindzey) American Society of Ichthyologists and Herpetologists, New Orleans, Louisiana

2006. Examination of the foraging tactics of a central place forager, *Gopherus polyphemus*, using correlated random walk models (With Halstead, Stilson and McCoy). 91st Ecological Society of America Annual Meeting. Memphis, Tennessee.

2007. Diet selection of the coachwhip (*Masticophis flagellum*) and black racer (*Coluber constrictor*) in Florida scrub habitat (With Halstead and McCoy. 2007 Joint Meeting of Ichthyologists and Herpetologists. St. Louis, Missouri.

2007. The influence of predators on the survival and abundance of the Florida scrub lizard (*Sceloporus woodi*) (With Halstead and McCoy. 2007 Joint Meeting of the Ecological Society of America and the Society for Ecological Restoration. San Jose, California.

2007. Anuran calling as an indicator of wetland health: The importance of using variation in landscape composition (with Halstead and McCoy), American Society of Ichthyologists and Herpetologists, St Louis, MO.

2007. The effects of cogongrass (*Imperata cylindrica*) on the threatened gopher tortoise (*Gopherus polyphemus*) (with Basiotis and McCoy), American Society of Ichthyologists and Herpetologists, St Louis, MO.

2007. Science, advocacy, ethics and the Gopher Tortoise (Council). Keynote speaker at Annual meeting of the Gopher Tortoise Council, Milton, FL

2008. Transgressive aggression in Sceloporus hybrids confers fitness through advantages in male agonistic encounters (with Robbins, Pruitt, Straub and McCoy). Southeastern Ecology and Evolution Conference, Tallahassee, FL

2008. Genetic diversity and gene flow in the sand skink, *Plestiodon reynoldsi*. Southeastern Ecology and Evolution Conference (With Fox, Schrey, and McCoy), Tallahassee, Florida.

2008. Parentage analysis of the fossorial lizard, *Plestiodon reynoldsi*. (with Fox, Schrey and McCoy) Joint Meeting of Ichthyology and Herpetology, Montreal, Canada
2008. Comparing current to historic southern distribution of *Ochrotomys nuttalli* in Florida (with Smiley and McCoy). American Society of Mammalogists Brookings, SD.
2008. Prospecting for gold: Sampling problems, habitat, and population dynamics of the golden mouse (*Ochrotomys nuttalli*) in south-central Florida (with Smiley and McCoy). Southeast Ecology and Evolution Conference. Tallahassee, FL.
2008. Comparing current to historic southern distribution in a changing landscape, the case of the golden mouse (*Ochrotomys nuttalli*) in Florida (with Smiley and McCoy). Florida Ecology and Evolution Symposium. Archbold Biological Station, Lake Placid, FL
2009. Mitochondrial DNA variation in golden mice (*Ochrotomys nuttalli*) populations from fragmented and continuous landscapes (with Schrey, Smiley and McCoy). American Society of Mammalogists. Fairbanks, AK.
- 2009 Genetic relatedness in the fossorial sand skink, *Plestiodon reynoldsi*, in the scrub of central Florida. (with Fox, Schrey and McCoy). Society for Integrative and Comparative Biology, Boston, Massachusetts
- 2009 Microsatellite analysis of population structure in the house sparrow (with Schrey, Grispo, Awad, McCoy, Albayrak, Bensch, Jensen, Reynolds Westerdahl, Zehtindijev and Martin). Annual Meeting of the American Ornithological Union. Philadelphia, PA.
- 2009 Mitochondrial DNA variation in golden mice (*Ochrotomys nuttalli*) populations from fragmented and continuous landscapes (with Smiley, Schrey, and McCoy). Annual Meeting of the American Society of Mammalogists. Portland, Oregon
2009. Effects of a managed burn regime on Florida Sand Skink analyzed With microsatellite loci (with Schrey, Fox and McCoy) .Annual Meeting of the American Society of Ichthyology and Herpetology. Montreal Canada
- 2010 Genetic analysis identifies two major barriers to gene flow within the Florida Sand Skink's distributions (with Schrey, Godley, Ashton, and McCoy). Annual Meeting of the American Society of Ichthyology and Herpetology. Providence, Rhode Island

2010. Maintaining biodiversity with a mosaic of wetlands: factors affecting amphibian species richness among small isolated wetlands in central Florida (with Guzy, and McCoy) Joint Meeting of Ichthyologists and Herpetologists. Providence, Rhode Island.

2011. Comparison of Genetic Structure of the Florida Sand Skink, *Plestiodon reynoldsi*, in Homogeneous and Heterogeneous Scrub on Lake Wales Ridge in Central Florida. Joint Meeting of Ichthyology and Herpetology, (with Fox Schrey and McCoy) Minneapolis, Minnesota.

2011 Trapping two species of aquatic salamanders in central Florida for genetic analysis of dispersal. (with Deyle and McCoy) Joint Meeting of Ichthyologists and Herpetologists. Minneapolis, Minnesota

2011 Urbanization interferes with the use of amphibians as indicators of wetland health

(with Guzy, McCoy, Halstead, Gonzalez and Deyle) Joint Meeting of Ichthyologists and Herpetologists. Minneapolis, Minnesota.

2011. Relocating Gopher Tortoises onto Working Cattle Ranch: How does Available Vegetation Correlate with Burrow Placement (With Hathaway and McCoy) Joint meeting of Ichthyologist and Herpetologist Minneapolis, Minnesota

2011. Habitat-specific adaptations in growth rates play a role in species distribution of *Sceloporus* lizards in Florida (with Robbins and McCoy). Meeting of the Society for Integrative and Comparative Biology, Salt Lake City, UT.

2012. Comparison of Genetic Structure of the Florida Sand Skink, *Plestiodon reynoldsi*, in Homogeneous and Heterogeneous Scrub on Lake Wales Ridge in Central Florida. (with Fox, Schrey, McCoy Society for Integrative and Comparative Biology, Charleston, South Carolina

2012. On juvenile growth and survival of lizard populations along a fine scale temperature gradient: a reciprocal transplant approach (with Robbins and McCoy) World Congress of Herpetology Vancouver, B.C. Canada

2012. Relocating Gopher Tortoises to a Cattle Ranch. How does Reproductive Output vary Between Years and Resident and Relocated Females? (with Hathaway and McCoy), World Congress of Herpetology Vancouver, B.C. Canada

Participation in Graduate Student Education

The following students have completed graduate degree work under my direction. Many of the USF students had Dr. Earl D. McCoy as Co-advisor.

Ph.D. Students (first one is from LSU Baton Rouge):

THOMAS MICHOT (1979)

Dissertation: Thermal ecology of sympatric water snakes in southern Louisiana.

BRIAN WITZ (1994)

Dissertation: *The foraging behavior and physiological ecology of Cnemidophorus sexlineatus (Squamata: Teiidae) in a Florida sandhill habitat.*

DAWN WILSON (1996)

Dissertation: *Nesting ecology of the striped mud turtle, Kinosternon baurii, in a central Florida population.*

KEVIN JANSEN (2001)

Ecological genetics of the salt marsh snake, Nerodia clarkii

PABLO DELIS (2001)

Dissertation: *Hyla gratiosa and H. femoralis (Anura: Hylidae) in west central Florida: A comparative study of rarity and commonness.*

CHERIE KELLER (2005)

Dissertation: *Assessment of resource selection using remote sensing and GIS for two vertebrates: The gopher tortoise and the North Atlantic right whale.*

BRIAN HALSTEAD (2008)

Dissertation: *Predator behavior and prey demography in patchy habitats.*

TRAVIS ROBBINS (2010)

Dissertation: *Geographic Variation in Life History Tactics, Adaptive Growth Rates, and Habitat-specific Adaptations in Phylogenetically Similar Species: The Eastern Fence Lizard, Sceloporus undulatus undulatus, and the Florida Scrub Lizard, Sceloporus woodi.*

ALICIA FOX (2013, anticipated)

Dissertation: Genetic parentage analysis of the Florida Sand Skink

Master Degree Students (first three are from LSU, Baton Rouge):

KRISTAN HARTMANN (1976)

Thesis: Thermal ecology of sympatric anuran tadpoles in southeastern Louisiana.

JILDA GARTON (1979)

Thesis: Toxicity and palatability of the Narrow Mouth Toad, *Gastrophryne carolinensis*

MARY GENE WALLEY (1979)

Thesis: Thermal ecology of *Nerodia fasciatus* in a Louisiana bayou

DAVID E. MILLER (1985)

Thesis: Prey size selection during ontogeny of the mangrove water snake, *Nerodia fasciata compressicauda*.

LAURIE A. MACDONALD (1986)

Thesis: The diet of the gopher tortoise, *Gopherus polyphemus*, in a sandhill habitat in central Florida.

- TERRY A. LINLEY (1987)
Thesis: Proximate organic composition and energy content of eggs and hatchlings of the gopher tortoise, *Gopherus polyphemus*
- DARREN WILLIAMS (1987)
Thesis: The effects of fire on the abundance of small mammals on a sandhill habitat.
- BRIAN W. WITZ (1987)
Thesis: Pygidial secretions of *Pasimachus subsulcatus* (Coleoptera: Carabidae) deter predation by *Eumeces inexpectatus* (Squamata: Scincidae).
- RAYMOND K. LORAINE (1990)
Thesis: A geographic analysis of sexual dimorphism and morphological variation in *Seminatrix pygaea* (Cope).
- BERNARD K. KAISER (1990)
Thesis: Tail loss and dominance in captive adult male *Anolis sagrei*.
- DAWN WILSON (1990)
Thesis: *Activity patterns, home range sizes, and burrow usage of juvenile gopher tortoises, Gopherus polyphemus.*
- STEPHEN J. MULLIN (1992)
Thesis: Predator success as a function of habitat structural complexity in the mangrove salt marsh snake, *Nerodia clarkii compressicauda* Baird and Girard.
- PABLO DELIS (1993)
Thesis: *The influence of urbanization on herpetofaunal assemblages in western central Florida.*
- PATRICIA HARTMANN (1993)
Thesis: *Demography of a population of the Florida scrub lizard (Sceloporus woodi) in a sand pine scrub on the Lake Wales Ridge of central Florida.*
- KEVIN CONNOR (1996)
Thesis: *Homing behavior and orientation in the gopher tortoise, Gopherus polyphemus.*
- ERIC SUTTON (1996)
Thesis: *A mark-recapture study of the sand skink, Neoseps reynoldsi, and a comparison of sand skink sampling methods.*
- KEENEY HAYES (1996)
Thesis: Long-term memory and trap avoidance by the six-line racerunner (*Cnemidophorus sexlineatus* L.)
- DANYEL SCHMUTZ (1997)
Thesis: *Microhabitat distribution of the Florida mouse, Podomys floridanus, on native upland sites and reclaimed mined land.*
- JESSICA KOELSCH (1997)
Thesis: *Seasonal movement of West Indian Manatees into and out of Charlotte Harbor in response to environmental gradients.*
- WESLEY SHOCKLEY (1997)
Thesis: *A morphometric and skeletochronological analysis of Neoseps*

- reynoldsi, *the sand skink*.
- ALEXANDRA COLLAZOS (1998)
Thesis: *Microhabitat selection in Neoseps reynoldsi, a Florida sand-swimming skink.*
- KAREN HILL (1999)
Thesis: *Responses of released populations of the sand skink, Neoseps reynoldsi, to scrub habitat translocation in central Florida.*
- GEORGE NAVRATIL (1999)
Thesis: *The effects of land management practices on the sand skink, Neoseps reynoldsi.*
- STIG RAVDAL (2000)
Thesis: *The effects of silviculture and prescribed burning on herpetofauna in Florida sand-pine scrub.*
- KRISTIE GIANOPULOS (2001)
Thesis: *Responses of the threatened sand skink (Neoseps reynoldsi) and other herpetofaunal species to controlled burning and clear cutting in the Florida scrub habitat*
- KRISTEN PENNEY (2001)
Thesis: *Factors affecting translocation success and estimates of dispersal and movement of the sand skink, Neoseps reynoldsi, on restored scrub.*
- TERRI STILSON (2001)
Thesis: *Movement patterns and food selection in juveniles of the gopher tortoise.*
- KRISTIN CARUSO (2002)
Thesis: *Microhabitat preferences of the oak toad (Bufo quercicus) and explanations for the species' absence on reclaimed phosphate-mined lands.*
- CAROLYN MEYER (2002)
Thesis: *Responses of environmental variables to land management practices in Florida scrub habitat and restoration efforts in former scrub habitat.*
- KATHLEEN BARRETT (2003)
Thesis: *Microhabitat preferences of Eumeces inexpectatus, the southeastern five-lined skink: Explanations for its rarity on reclaimed phosphate-mined lands.*
- JAMIE COLSON-MOON (2003)
Thesis: *Reproductive characteristics, multiple paternity, and mating system in a central Florida population of the gopher tortoise, Gopherus polyphemus.*
- SHANNON GONZALEZ (2004)
Thesis: *Biological indicators of wetland health: Comparing qualitative and quantitative measures with anuran measures.*
- SUSANNAH RIEDL (2006)

- Thesis: *The effects of translocation on movements, reproductive activity, and body condition of resident and translocated gopher tortoises (Gopherus polyphemus) in Central Florida.*
- NEJMA PIAGENTINI (2006)
Thesis: *The science and policy that compels the wetland mitigation of phosphate-mined lands.*
- SHERI BARTON (2006)
Thesis: Use of aerial photographs to identify population trends of the West Indian Manatee in Charlotte Harbor.
- KATHERINE BASIOTIS (2007)
Thesis: *The effects of invasive cogongrass (Imperata cylindrica) on the threatened gopher tortoise (Gopherus polyphemus).*
- NEAL HALSTEAD (2007)
Thesis: *Long term effects of prescribed fire on reptile and amphibian communities in a Florida sandhill habitat.*
- IRMGARD LUKANIK (2007)
Thesis: *An evaluation of movement patterns and effects of habitat patch size on the demography of the Florida mouse (Peromyscus floridanus).*
- KRISTAN ROBBINS (2007)
Thesis: *Spatially-explicit habitat suitability analysis of juvenile gopher tortoises (Gopherus polyphemus).*
- ROBBIN CAPERS (2010)
Thesis: *Foraging decisions of nocturnal mice under direct and indirect cues of predation risk.*
- JACQUELYNE GUZY (2010)
Thesis: *Maintaining biodiversity with a mosaic of wetlands: Factors affecting amphibian species richness among small isolated wetlands in central Florida.*
- BRADLEY HAUCH (2010)
Thesis: *Using microhabitat data to determine appropriate models for estimating suitable scrub habitat for the Florida Sand Skink (Plestiodon reynoldsi)*
- NICHOLAS OSMAN (2010)
Thesis: *Experimental translocation of the Florida Sand Skink (Plestiodon reynoldsi) into varying microhabitat types: Success of a highly adapted species across diverse environmental conditions.*
- SARAH SMILEY (2010)
Thesis: *The distribution and population dynamics of the golden mouse (Ochrotomys nuttalli) at its southern range periphery.*
- ANNA DEYLE (2011)
Thesis: Population genetics of *Amphiuma means* and *Siren lacertina* in central Florida.
- ZACHARY ADCOCK (2012)
Thesis: Reproductive biology of the Southern Dwarf Siren, *Pseudobranchius axanthus*, in southern Florida.
- ANNA HATHAWAY (2012)

Thesis: Availability and quality of vegetation affects reproduction of the
Gopher Tortoise (*Gopherus polyphemus*) in improved pastures.
WILLIAM HENTGES (Current student)
Project: Interaction of relocated gopher tortoises with cattle.
ADAM EMERICK (Current student)
Evaluating the status of a translocated population of the Florid Sand Skink
SAMANTHA WILBER (starting in January 2013)

GRADUATE STUDENT COMMITTEES

THOMAS BANCROFT (PhD, 1983)
WAYNE HOFFMAN (PhD, 1984)
STEPHEN PATTON (PhD, 1986)
KEITH WALTERS (PhD, 1987)
REED BOWMAN (PhD, 1992)
CHERYL WILGA (PhD, 1997)
KEITH TARVIN (PhD, 1998)
MARIA CATTELL (PhD, 2001)
DANIEL MOON (PhD, 2001)
CAITLIN CURTIS (PhD, 2009)
SAMANTHA MULVANY (PhD, enrolled)
CHARLOTTE STINSON (PhD, enrolled)
CHRISTOPHER ANDERSON (PhD, enrolled)
TEGAN MCMAHON (PhD, enrolled)
LARA HABEGGAR (PhD, enrolled)

EVA JONES (MS, 1985)
WILLIAM VICKERS (MS, 1987)
MENDI RAYMOND (MS, 1987)
MARTHA DUNHAM (MS, 1988)
MARK HOWERY (MS, 1990)
RONALD SCHAUB (MS, 1990)
KENNETH FERGUSON (MS, 1994)
DEREK JOHNSON (MS, 1994)
DANIEL MOON (MS, 1995)
JILL GOLDSTEIN (MS, 1996)
KAREN MOODY (MS, 1996)
ROBERT BROOKS (MS, 1997)
DESIREE SASKO (MS, 2000)
TONIA SCHWARTZ (MS, 2003)
CRISTOS THEOPHILOUS (MS, 2003)
SONYA LECLAIR (MS, 2005)
SHANNON ANSLEY (MS 2006)
AMANDA BAKER (MS, 2006)
LANCE ARVIDSON (MS, 2008)
THERESA PIACENZA (MS, 2008)
WILLIAM REYERSON (MS, 2008)
PUALA SNADUSKY (MS, 2010)
NICHOLAS LARGI (MS, enrolled)

I have mentored seven **Post-doctoral researchers** in the past 10 years.

PHILLIP BATEMAN (PhD Open University, UK)

ERIC BRITT (PhD University of California, Irvine)

ALESSANDRO CATENAZZI (PhD Florida International University)

ROBERT KLUSON (PhD University of California, Santa Cruz)

ROBIN MOORE (PhD University of Kent, UK)

CAROL RIZKALLA (PhD Purdue University)

CURRICULUM VITAE

SIDNEY K. PIERCE

I. Personal Data

Born Holyoke, Massachusetts
Married, two children

II. Education

Undergraduate: University of Miami, Bachelor of Education, 1966
Graduate: Florida State University, Doctor of Philosophy, 1970

III. Academic Activities

A. Experience in Higher Education

1966-68 Teaching Assistant, Florida State University
1968-69 Research Assistant, Florida State University
1969 (summer) NIH Trainee, Marine Ecology Program, Marine Biological Lab., Woods Hole, Massachusetts
1969-70 Predoctoral Fellow, Florida State University (NIH)
1970-73 Assistant Professor, Department of Zoology, University of Maryland, College Park
1973-77 (summers) Instructor, Marine Biological Lab., Woods Hole, Massachusetts
1973-78 Associate Professor, Department of Zoology, University of Maryland
1986-92 Affiliate Senior Staff Scientist, Center of Marine Biotechnology, University of Maryland
1987-89 Acting Associate Director, Agriculture Experiment Station, University of Maryland
1987-89 Program Director, Biological Instrumentation Program, National Science Foundation
1978-00 Professor, University of Maryland
1979-85, 90-97, 99-00 Director of Graduate Studies, Department of Zoology, University of Maryland
1990-97, 99-00 Associate Chairman, Department of Zoology, University of Maryland
1997-99 Acting Chairman, Department of Biology (formerly Zoology), University of Maryland
2000-2006 Professor and Chair, Department of Biology, University of South Florida
2000- Professor Emeritus, Department of Biology, University of

Maryland
2000- Professor, Department of Biology, University of South Florida

IV. Research, Teaching, Service

A. Publications

1. Full papers in refereed journals

1. Pierce, S. K. 1970. The water balance of *Modiolus* (Mollusca: Bivalvia: Mytilidae): osmotic concentrations in changing salinities. **Comp. Biochem. Physiol.**, 36: 521-533.
2. Pierce, S. K. 1971. A source of solute for volume regulation in marine mussels. **Comp. Biochem. Physiol.**, 38: 619-635.
3. Pierce, S. K. 1971. Volume regulation and valve movements by marine mussels. **Comp. Biochem. Physiol.**, 39A: 103-118.
4. Pierce, S. K. 1972. The rectum of *Modiolus*: a clue to solving a troubled taxonomy. **Malacologia**, 12: 283-293.
5. Pierce, S. K. and Greenberg, M. J. 1972. The nature of cellular volume regulation in marine bivalves. **J. Exp. Biol.**, 57: 681-692.
6. Pierce, S. K. and Greenberg, M. J. 1973. The initiation and control of free amino acid regulation of cell volume in salinity-stressed marine bivalves. **J. Exp. Biol.**, 59: 435-446.
7. Pierce, S. K. and Minasian, L. L. 1974. Water balance of a euryhaline sea anemone *Diadumene leucolena*. **Comp. Biochem. Physiol.**, 49A: 159-167.
8. Baginski, R. M. and Pierce, S. K. 1975. Anaerobiosis: a possible source of osmotic solute for high salinity acclimation in marine molluscs. **J. Exp. Biol.**, 62: 589-598.
9. Murphy, D. J. and Pierce, S. K. 1975. The physiological basis for changes in the freezing tolerance of intertidal molluscs. I. Response to subfreezing temperatures and the influence of salinity and temperature acclimation. **J. Exp. Zool.**, 193: 313-322.
10. Bartberger, C. A. and Pierce, S. K. 1976. Relationship between ammonia excretion rates and hemolymph nitrogenous compounds of a euryhaline

- bivalve during low salinity acclimation. **Biol. Bull.**, 150: 1-14.
11. Pierce, S. K. and Greenberg, M. J. 1976. Hypoosmotic cell volume regulation in marine bivalves: the effect of membrane potential change and metabolic inhibition. **Physiol. Zool.**, 49: 417-424.
 12. Reiss, P., Pierce, S. K., and Bishop, S. H. 1977. Glutamate dehydrogenases from tissues of the ribbed mussel, *Modiolus demissus*.: ADP activation and possible significance **J. Exp. Zool.**, 202: 253-258.
 13. Greenberg, M. J., Reed, C., and Pierce, S. K. 1977. Dissociated cells of *Microciona prolifera* (Porifera) are inhibited from reaggregating by cytochalasins A, B and E. **Comp. Biochem. Physiol.**, 56C(2): 95-102.
 14. Baginski, R. M. and Pierce, S. K. 1977. The time course of intracellular free amino acid accumulation in tissues of *Modiolus demissus* during high salinity adaptation. **Comp. Biochem. Physiol.**, 57(4A): 407-413.
 15. Baginski, R. M. and Pierce, S. K. 1978. A comparison of amino acid accumulation during high salinity adaptation with anaerobic metabolism in the ribbed mussel *Modiolus demissus demissus*. **J. Exp. Zool.**, 203: 419-428.
 16. Watts, J. A. and Pierce, S. K. 1978. Acetylcholinesterase: a useful marker for the isolation of sarcolemma from the bivalve (*Modiolus demissus demissus*) myocardium. **J. Cell. Sci.**, 34: 193-208.
 17. Watts, J. A. and Pierce, S. K. 1978. Characterization of the divalent cation activated adenosine triphosphatase from the membrane of the cardiac cell of *Modiolus demissus demissus*. **J. Exp. Zool.**, 204: 43-48.
 18. Watts, J. A. and Pierce, S. K. 1978. A correlation between the activity of divalent cation activated adenosine triphosphatase in the cell membrane and low salinity tolerance of the ribbed mussel *Modiolus demissus demissus*. **J. Exp. Zool.**, 204: 49-56.
 19. Amende, L. A. and Pierce, S. K. 1978. Hypotaurine: the identity of an unknown ninhydrin-positive compound co-eluting with urea in amino acid extracts of bivalve tissues. **Comp. Biochem. Physiol.**, 59B: 257-261.
 20. Amende, L. M. and Pierce, S. K. 1980. Cellular volume regulation in salinity-stressed molluscs. The water balance of *Noetia ponderosa* (Arcidae) red blood cells. **J. Comp. Physiol.**, 138: 283-289.

21. Amende, L. M. and Pierce, S. K. 1980. Free amino acid mediated volume regulation of isolated *Noetia ponderosa* red blood cells: control by Ca^{2+} and ATP. **J. Comp. Physiol.**, 138: 291-298.
22. Amende, L. M. and Pierce, S. K. 1980. Structural changes of *Noetia ponderosa* red blood cell membranes during cell volume regulation in reduced salinities: a freeze fracture study. **J. Comp. Physiol.**, 138: 299-306.
23. Costa, C. J., Pierce, S. K., and Warren, M. K. 1980. The intracellular mechanism of salinity tolerance in polychaetes: volume regulation by isolated *Glycera dibranchiata* red coelomocytes. **Biol. Bull.**, 159: 626-638.
24. Otto, J. and Pierce, S. K. 1981. Water balance of *Rangia cuneata* during adaptation to salinity change. **Mar. Biol.**, 61: 185-192.
25. Otto, J. and Pierce, S. K. 1981. An interaction of extra-and intracellular osmoregulatory mechanisms in the bivalve mollusc, *Rangia cuneata*. **Mar. Biol.**, 61: 193-198.
26. Pierce, S. K. 1981. Introduction. In: *Cell Volume Regulation Symposium*. **J. Exp. Zool.**, 215: 235-236.
27. Prior, D. J. and Pierce, S. K. 1981. Adaptation and tolerance of invertebrate nervous systems to osmotic stress. In: *Cell Volume Regulation Symposium*. **J. Exp. Zool.**, 215: 237-245.
28. Pierce, S. K. and Amende, L. M. 1981. Control mechanisms of amino acid mediated cell volume regulation in salinity stressed molluscs. In: *Cell Volume Regulation Symposium*. **J. Exp. Zool.**, 215: 247-257.
29. Beres, L. S. and Pierce, S. K. 1981. The effects of salinity stress on the electrophysiological properties of *Mya arenaria* neurons. **J. Comp. Physiol.**, 144: 165-173.
30. Watts, J. A., Koch, R. A., Greenberg, M. J., and Pierce, S. K. 1981. Ultrastructure of the heart of the marine mussel, *Geukensia demissa*. **J. Morph.**, 170: 301-319.
31. Warren, M. K. and Pierce, S. K. 1982. Two cell volume regulatory systems in the *Limulus* myocardium: an interaction of ions and quaternary ammonium compounds. **Biol. Bull.**, 163: 504-516.
32. Pierce, S. K. 1982. Invertebrate cell volume control mechanisms: a co-

ordinated use of intracellular amino acids and inorganic ions as osmotic solute. **Biol. Bull.**, 163: 405-419.

33. Costa, C. J. and Pierce, S. K. 1983. Volume regulation in the red coelomocytes of *Glycera dibranchiata*: an interaction of amino acid and K⁺ effluxes. **J. Comp. Physiol.**, 151: 133-144.
34. Pierce, S. K., Warren, M. K., and West, H. H. 1983. Non-amino acid mediated volume regulation in an extreme osmoconformer. **Physiol. Zool.**, 56: 445-454.
35. West, H. H., Harrigan, J., and Pierce, S. K. 1984. Hybridization of two populations of a marine opisthobranch with different developmental patterns. **Veliger**, 26: 199-206.
36. Moran, W. M. and Pierce, S. K. 1984. The mechanism of crustacean salinity tolerance: cell volume regulation by K⁺ and glycine effluxes. **Mar. Biol.**, 81: 41-46.
37. Pierce, S. K., Edwards, S. C., Mazzocchi, P. H., Klingler, L. J., and Warren, M. K. 1984. Proline betaine: a unique osmolyte in an extremely euryhaline osmoconformer. **Biol. Bull.** 167: 495-500.
38. Rowland, L. M. and Pierce, S. K. 1985. The utilization and fate of quaternary ammonium compounds during low salinity adaptation in *Elysia chlorotica*. **Physiol. Zool.**, 58: 149-157.
39. Parker, H T and Pierce, S. K. 1985. Acclimation of *Elysia chlorotica* to low salinity: effects on the electrical properties of identifiable neurons. **Comp. Biochem. Physiol.**, 82A 367-372.
40. Moran, W. M. and Pierce, S. K. 1985. The effect of hypoosmotic stress on glycine influx in isolated muscle cells of *Cancer irroratus*. **J. Exp. Zool.**, 236: 265-274.
41. Edwards, S. C. and Pierce, S. K. 1986. Octopamine potentiates intracellular Na⁺ and Cl⁻ reduction during cell volume regulation in *Limulus* exposed to hypoosmotic stress. **J. Comp. Physiol.**, 156: 481-489.
42. Smith, L. S. and Pierce, S. K. 1987. Cell volume regulation by molluscan erythrocytes during hypoosmotic stress: Ca²⁺ effects on ionic and organic osmolyte effluxes. **Biol. Bull.**, 172: 407-418.

43. Pierce, S. K. and Rowland, L. M. 1988. Proline betaine and amino acid accumulation in sea slugs (*Elysia chlorotica*) exposed to extreme hyperosmotic conditions. **Physiol. Zool.**, 61: 205-212.
44. Cronkite, D. L. and Pierce, S. K. 1989. Free amino acids and cell volume regulation in the euryhaline ciliate *Paramecium calkinsi*. **J. Exp. Biol.**, 251: 275-284.
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47. Pierce, S. K. and Politis, A. D. 1990. Ca^{2+} - activated volume recovery mechanisms. **Annual Rev. Physiol.**, 52: 27-42.
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49. Cronkite, D. L., Neuman, J., Walker, D., and Pierce, S. K. 1991. The response of contractile and non-contractile vacuoles of *Paramecium calkinsi* to widely varying salinities. **J. Protozool.** 38: 565-573.
50. Politis, A. D. and Pierce, S. K. 1991. Specific protein phosphorylation occurs in molluscan red blood cell ghosts in response to hypoosmotic stress. **J. Membrane Biol.** 124: 169-177.
51. Quinn, R. H. and Pierce, S. K. 1992. The ionic basis of the hypo-osmotic depolarization in neurons from the opisthobranch mollusc, *Elysia chlorotica*. **J. Exp. Biol.** 163: 169-186.
52. Dragolovich, J. and S. K. Pierce. 1992. Comparative time courses of inorganic and organic osmolyte accumulation as horseshoe crabs (*Limulus polyphemus*) adapt to high salinity. **Comp. Biochem. Physiol.** 102A: 79-84.
53. Pierce, S. K. , Rowland-Faux, L. M., and O'Brien, S. M. 1992. Different salinity tolerance mechanisms in Atlantic and Chesapeake Bay conspecific oysters: glycine betaine and amino acid pool variations. **Mar. Biol.** 113: 107-113.

54. Pierce, S. K. and L. M. Rowland-Faux. 1992. Ionomycin produces an improved volume recovery by an increased efflux of taurine from hypoosmotically stressed molluscan red blood cells. **Cell Calcium**. 13: 321-327.
55. Dragolovich, J. and Pierce, S. K. 1994. Characterization of partially purified betaine aldehyde dehydrogenase from horseshoe crab (*Limulus polyphemus*) cardiac mitochondria. **J. Exp. Biol.** 270: 417-425.
56. Pierce, S. K. 1994. Osmolyte permeability in molluscan red cells is regulated by Ca^{2+} and membrane protein phosphorylation: The present perspective. In: Deaton, L. and S. K. Pierce, eds. Cell volume regulation symposium. **J. Exp. Biol.** 268: 166-170.
57. Rumpho, M. E., C. V. Mijer, D. L. Andrews, J. R. Manhart and S. K. Pierce. 1994. Extraction of DNA from mucilaginous tissues of a sea slug (*Elysia chlorotica*). **Biotechniques**. 17(6): 1097-1101.
58. Pierce, S. K., Rowland-Faux, L. and Crombie, B. 1994. The mechanism of glycine betaine regulation in response to hyperosmotic stress in oyster mitochondria: A comparative study of Atlantic and Chesapeake Bay oysters **J. Exp. Zool.** 271:161-170.
59. Pierce, S. K., Smith, G. N., Clark, E. and Mangel, T. 1995. On the giant octopus (*Octopus giganteus*) and the Bermuda Blob: Homage to A. E. Verrill. **Biol. Bull.** 188: 219-230
60. Paynter, K. T., Pierce, S. K. and Burreson, E. M. 1995. Salinity tolerance mechanisms of *Crassostrea virginica* are altered by *Perkinsus marinus* parasitism. **Mar. Biol.** 122: 67-72
61. Pierce, S. K., Biron, R. W. and Rumpho, M. E. 1996. Endosymbiotic chloroplasts in molluscan cells contain proteins synthesized after plastid capture. **J. Exp. Biol.** 199: 2323-2330
62. Mijer, C. V., Andrews, D. L., Manhart, J. R., Pierce, S. K. and Rumpho, M. E. 1996. Chloroplast genes are expressed during intracellular symbiotic association of *Vaucheria litorea* plastids with the sea slug *Elysia chlorotica*. **Proc. Nat. Acad. Sci.** 93: 12333-12338.
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intracellular choline levels may account for differences in glycine betaine synthesis between conspecific oyster populations responding to hyperosmotic stress. **J. Exp. Zool.** 278: 283-289.

64. Pierce, S. K., Mangel, T. K., Rumpho, M. E., Hanten, J. J., Mondy, W. L. 1999. Annual viral expression in a sea slug population: Life cycle control and symbiotic chloroplast maintenance. **Biol. Bull.** 197: 1-6.
65. Perrino, L. A. and Pierce, S. K. 2000. Betaine aldehyde kinetics partially account for oyster population differences in glycine betaine synthesis. **J. Exp. Zool.** 286: 238-249.
66. Perrino, L. A. and Pierce, S. K. 2000. Choline dehydrogenase kinetics contribute to glycine betaine regulation differences in Chesapeake Bay and Atlantic oysters. **J. Exp. Zool.** 286: 250-261
67. Green, B. J., Li, W-y, Manhart, J. R., Fox, T. C., Kennedy, R. A., Pierce, S. K. and Rumpho, M. E. 2000. Mollusc-algal chloroplast endosymbiosis. Photosynthesis, thylakoid protein maintenance and chloroplast gene expression continue for many months in the absence of the algal nucleus. **Plant Physiol.** 124: 331-342.
68. Hanten, J. J. and S. K. Pierce. 2001. Synthesis of several light-harvesting complex I polypeptides is blocked by cycloheximide in symbiotic chloroplasts in the sea slug, *Elysia chlorotica* (Gould): A case for horizontal gene transfer between alga and animal? **Biol. Bull.** 201: 33-44.
69. Peña-Rasgado C. , S.K. Pierce and H. Rasgado-Flores. 2001. Osmolytes responsible for volume reduction under isosmotic or hypoosmotic conditions in barnacle muscle cells. **J. Cell Molec. Biol.** 47: 841-853.
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71. Mondy, W. L. and S. K. Pierce. 2003. Apoptotic-like morphology is associated with the annual synchronized death of a population of kleptoplastic sea slugs (*Elysia chlorotica*). **J. Invert. Biol.** 122: 126-137.
72. Pierce, S. K, S. E. Massey, J. J. Hanten and N. Curtis. 2003. Horizontal transfer of functional nuclear genes between multicellular organisms. **Biol. Bull.** 204: 237-240

73. McCoy, E. D. and S. K. Pierce. 2004. The function of course pre-requisites in Biology: Comparing “student driven and “faculty driven” models. **Action Bioscience.org** (A reviewed Web publication of the AIBS) http://www.actionbioscience.org/education/mccoy_pierce.html.
74. Pierce, S. K., S. E. Massey, N. E. Curtis, G. N. Smith, Jr., C. Olavarria and T. K. Mangel. 2005. Microscopic, biochemical and molecular characteristics of the Chilean Blob and a comparison with the remains of other sea monsters: Nothing but whales. **Biol. Bull.** 206: 125-133.
75. Pierce, S. K., N. E. Curtis, S. E. Massey, A. L. Bass, S. A. Karl and C. Finney. 2006. A morphological and molecular comparison between *Elysia crispata* and a new species of kleptoplastic sacoglossan sea slug (Gastropoda: Opisthobranchia) from the Florida Keys USA. **Molluscan Res.** 26: 23-38.
76. Curtis, N. E., S. E. Massey and S. K. Pierce. 2006. The symbiotic chloroplasts in the sacoglossan *Elysia clarki* are from several algal species. **J. Invert. Biol.** 125: 336-345.
77. Curtis, N. E., S. K. Pierce, S. E. Massey, J. A. Schwartz and T. K. Mangel. 2007. The intracellular, functional chloroplasts in adult sea slugs (*Elysia clarki*) come from several algal species, and are also different from those in juvenile slugs. **Mar. Biol.** 150: 797-806.
78. Hubert, M. D., E. Indyk, C. Pena-Rasgado, S. K. Pierce, H. Rasgado-Flores, S. S. Garber. 2007. Effect of extracellular glucose and K⁺ on intracellular osmolytes in a human kidney cell line. **Front. Biosci.** 12: 4352-4363.
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82. Schwartz, J. A., N. E. Curtis and S. K. Pierce. 2010. Using algal transcriptome sequences to identify transferred genes in the sea slug, *Elysia chlorotica*. **Evol. Biol.** 37: 29-37.
83. Curtis, N. E., J. A. Schwartz and S. K. Pierce. 2010. An Ultrastructural comparison of chloroplast containing cells in the digestive diverticulum of four sacoglossan sea slugs of differing kleptoplastic abilities. **J. Invert. Biol.** 129: 297-308.
84. Middlebrooks, M., S. K. Pierce, S. S. Bell. 2011. Foraging behavior under starvation conditions is altered via photosynthesis by the marine gastropod, *Elysia clarki*. **PLoS**. 6(7): e22162.
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86. Pierce, S. K. and N. E. Curtis. 2012. The cell biology of the chloroplast sy

2a. Books

- Pierce, S. K. and Mangel, T. K. 1987. **Illustrated Invertebrate Anatomy**. Oxford University Press, NY. 309 pp.-Reprinted in 1992.

2b. Chapters in books

- Reed, C., Greenberg, M. J., and Pierce, S. K. 1976. The effects of the cytochalasins on sponge reaggregation: new insights through the scanning electron microscope. In: F. W. Harrison, ed., **Aspects of Sponge Biology**, Academic Press, N.Y., pp. 153-169.
- Pierce, S. K. 1978. An overview of the mechanisms controlling free amino acid mediated cell volume regulation in salinity stressed bivalve molluscs. Workshop on Joint USSR-USA Research Program on Physiology and Biochemistry of Marine Animals. Eds. F. J. Vernberg and A. V. Zhirmunsky. United States Department of Commerce, NOAA and Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina. pp. 113-124.
- Pierce, S. K. and Mangel, T. K. 1985. A comparison of the water regulating

responses of bivalve and polychaete red cells to osmotic stresses. In: W. Cohen, ed., **Blood Cells of Marine Invertebrates: Experimental Systems in Cell Biology and Comparative Physiology**, Alan R. Liss, Inc., N.Y., pp.167-189.

Dragolovich, J. and Pierce, S. K. 1993. The role and regulation of methylamines in the response of cells to osmotic stress. In: K. Strange, ed., **Cellular and Molecular Biology of Cell Volume Regulation**, CRC Press, Boca Raton, FL., 123-132.

3. Abstracts (published)

Pierce, S. K. 1969. Volume control in the ribbed mussel *Modiolus demissus* (Bivalvia: Mytilidae). **Amer. Zool.**, 9: 200.

Pierce, S. K. and Greenberg, M. J. 1970. Free amino acid efflux from mussel hearts: a demonstration of volume regulation. **Amer. Zool.**, 10: 518.

Pierce, S. K. and Greenberg, M. J. 1971. The ionic basis of cellular volume regulation in molluscs. **Amer. Zool.**, 11: 231.

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Otto, J. and Pierce, S. K. 1978. Role of divalent cations during FAA ac-

- cumulation in hyperosmotically stressed bivalves. **Amer. Zool.**, 18: 617.
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- Beres, L. S. and Pierce, S. K. 1979. Salinity-induced changes in the electrical properties of molluscan neurons. **Neurosci. Soc. Abs.**, 5: 241.
- Costa, C. J. and Pierce, S. K. 1979. Cellular hypoosmotic volume regulation in *Glycera dibranchiata* coelomocytes: kinetics and role of free amino acids. **Amer. Zool.**, 19: 971.
- Edwards, S. C., Pierce, S. K., and Battelle, B.-A. 1979. Hypoosmotic stress-induced release of octopamine from isolated cardiac ganglia of *Limulus polyphemus*. **Amer. Zool.**, 19: 857.
- Moran, W. M. and Pierce, S. K. 1980. Volume regulation in the muscle fibers of the rock crab, *Cancer irroratus*. **Amer. Zool.**, 20: 874.
- Costa, C. J. and Pierce, S. K. 1981. Cellular volume regulation in *Glycera dibranchiata* coelomocytes: effects of divalent cations with metabolic inhibition. **Amer. Zool.**, 21: 916.
- Pierce, S. K., West, H. H., and Warren, M. K. 1981. Molluscan cell volume regulation mediated by non-amino acid solutes. **Amer. Zool.**, 21: 930.
- Moran, W. M. and Pierce, S. K. 1981. Effect of reduced osmotic pressure on glycine transport in crab muscle fibers. **Amer. Zool.**, 21: 941.
- Warren, M. K. and Pierce, S. K. 1981. Osmotic solute in *Limulus*: whole animal and isolated tissue response to low salinity. **Amer. Zool.**, 21: 1014.
- Edwards, S. C. and Pierce, S. K. 1982. Octopamine-stimulated reduction in intracellular Na⁺ and Cl⁻ in *Limulus* muscle exposed to low salinity stress. **Amer. Zool.**, 22: 896.
- Warren, M. K. and Pierce, S. K. 1982. Inorganic ions as intracellular osmotic solute in *Limulus*. **Amer. Zool.**, 22: 896.
- Smith, L. H. and Pierce, S. K. 1983. Actin may control membrane permeability to osmotic solute during volume regulation in clam erythrocytes. **Proc. Int. Union Physiol. Sci.**, 15: 215.

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- Smith, L. H. and Pierce, S. K. 1983. *Noetia ponderosa* erythrocytes use intracellular ions for initial volume regulation during hypoosmotic stress. **Amer. Zool.**, 23: 994.
- Pierce, S. K. 1984. The patterns of organic osmolyte accumulation in *Elysia chlorotica* exposed to hyperosmotic stress: proline betaine and amino acids. **Proc. First Congress Comp. Physiol. Biochem.** IUBS, Liege, Belgium, B176.
- Quinn, R. H. and Pierce, S. K. 1984. The ionic basis of membrane depolarization induced by hypoosmotic stress in neurons from *Elysia chlorotica*. **Proc. First Congress Comp. Physiol. Biochem.** IUBS, Liege, Belgium, B164.
- Edwards, S. C. and Pierce, S. K. 1984. Neuromodulation of cell volume regulation by octopamine in *Limulus* during hypoosmotic stress. **Amer. Zool.**, 24: 3.
- Pierce, S. K. 1984. Osmolyte increase without apparent volume regulation in response to a hyperosmotic stress. **Amer. Zool.**, 24: 3.
- Quinn, R. H., Prior, D. J., and Pierce, S. K. 1984. The ionic basis of neuronal depolarization induced by hypoosmotic stress in *Elysia chlorotica*. **Amer. Zool.**, 24: 113.
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- Pierce, S. K., Cronkite, D. L., and Smith, L. H. 1985. Calmodulin may be involved in cell volume regulation in response to low salinity. **Amer. Zool.**, 24: 140A.
- Batelle, B.-A., S. C. Edwards, H. M. Maresch and S. K. Pierce. 1986. Synthesis of -glutamyltyramine and -glutamyltopamine in the nervous system of *Limulus polyphemus*. **Neurosci. Soc. Abst.**
- Cronkite, D. L. and S. K. Pierce. 1986. Amino acid mediated cell volume regulation in *Paramecium calkinsi* from brackish marshes. **Proc. Int. Union Physiol. Sci.**, 16: 227.
- Pierce, S. K. and A. D. Politis. 1987. Ca^{2+} entry into hypoosmotically stressed invertebrate cells is initiated by the osmotic stress. **Proc. of the 9th Conference of the European Society for Comparative Physiology and Biochemistry**, 9: 38.
- Politis A. D. and S. K. Pierce. 1987. Involvement of protein kinase C in cell volume regulation of *Noetia* red cells. **Amer. Zool.** 27 : 131A.
- Quinn, R. H. and S. K. Pierce. 1987. The relationship of solute efflux to hyposmotic depolarization in neurons from *Elysia chlorotica*. **Amer. Zool.**, 27: 131A.
- Pierce, S. K. 1988. Ionic and organic osmolyte regulation in cell volume recovery: the role of Ca^{2+} in the process. **Proc. Int. Union of Biol. Sci. 2nd Int. Congress of Comp. Physiology and Biochemistry**. 254.
- Politis, A. D. and S. K. Pierce. 1989. Hypoosmotic stress induces phosphorylation of two specific proteins that may be involved in cell volume recovery. **J. Cell Biol.**, 107: 286a.
- Dragolovich, J. and S. K. Pierce. 1989. Mitochondria isolated from *Limulus polyphemus* heart tissue increase glycine betaine synthesis in response to hyperosmotic stress. **Amer. Zool.**, 29: 160A.
- Dragolovich, J. and S. K. Pierce. 1990. Localization and purification of betaine aldehyde dehydrogenase in mitochondria isolated from horseshoe crab heart tissue. **Physiologist.**, 33: A-37.

- Pierce, S. K., L. R. Faux and S. M. O'Brien. 1990. Salinity tolerance differences between Chesapeake Bay and Atlantic oysters: differences in amino acid and glycine betaine metabolism. **Physiologist.** 33: A-37.
- Maugel, T. K. and S. K. Pierce. 1991. Is the life cycle of *Elysia chlorotica* ended by disease? **Amer. Zool.** 31: 31A.
- Pierce, S. K. 1993. Differences in the salinity tolerance mechanisms between Chesapeake Bay and Atlantic Coast oysters: Genetics or disease-induced effects on mitochondrial metabolism? **J. Shellfish Res.** 12: 113.
- Maugel, T. K. and S. K. Pierce. 1994. Is the life cycle of *Elysia chlorotica* ended by disease? **Proc. 52nd Ann. Meeting Micros. Soc. Amer.** Pp 266-267.
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- Pierce, S. K., G. N. Smith, Jr., T. K. Maugel and E. Clark. 1994. The St. Augustine "sea monster" and the Bermuda "Blob": *Octopus giganteus* or not? **Am. Zool.**
- Pena-Rasgado, C., S. K. Pierce and H. Rasgado-Flores. 1995. Osmolytes responsible for volume loss in response to isosmotic Ca^{2+} removal or to hypotonicity in muscle cells. **Biophys. Soc. Abs.**
- Mujer, C. V., D. L. Andrews, J. R. Manhart, S. K. Pierce and M. E. Rumpho. 1995. Expression of chloroplast *psbA* and 16S *rRNA* genes during endosymbiosis of algal plastids from *Vaucheria* with the mollusc host *Elysia*. **Plant Physiol.**
- Warren, J. W. and S. K. Pierce. 1995. Volume recovery, taurine efflux and membrane protein phosphorylation are potentiated by okadaic acid during hypoosmotic stress in *Noetia ponderosa* red blood cells. **Am. Zool.** 35: 72A
- Perrino, L. A. and S. K. Pierce. 1995. Betaine aldehyde dehydrogenase kinetics may explain differences in glycine betaine concentrations in Atlantic and Chesapeake Bay oysters acclimated to low salinity. **Am. Zool.** 35: 74A
- Warren, J. W. and S. K. Pierce. 1998. Chloride channel inhibitors effect

taurine efflux and volume recovery of *Noetia ponderosa* (Bivalvia) RBCs during hypoosmotic stress. **Am Zool.** 38: 157A

Hanten, J. J., T. K. Mangel and S. K. Pierce. 1998. Retroviruses may regulate the life cycle of *Elysia chlorotica* and be involved in the plastid symbiosis. **Am. Zool.** 38: 173A.

Curtis, N. E., S. E. Massey and S. K. Pierce. 2003. The algal source of symbiotic chloroplasts in *Elysia crispata* is not *Caulerpa*, **Integ. Comp Biol.** 43: 861.

Pierce, S. K., S. E. Massey and N. E. Curtis. 2003. Horizontal transfer of functional genes between nuclear genomes of algae and sea slugs. **Integ. Comp. Biol.** 43 : 1000.

Pierce, S. K., S. E. Massey, N. E. Curtis and T. K. Mangel. 2003. Identification of the Chilean sea monster. **Integ. Comp. Biol.** 43 : 1027.

Curtis, N. E., S. E. Massey, J. A. Schwartz, H. Tagihof, and S. K. Pierce. 2004. The intracellular, functional chloroplasts in *Elysia crispata* come from several algal species and are different from those in juvenile slugs. **Integ. Comp. Biol.** 44: 868.

Quit listing these in 2004.

5. Papers submitted for publication

B. Other Creative and Scholarly Activities

1. Grants and contracts

General Research Board, "The effect of external ion concentrations on free amino acid efflux from molluscan hearts", University of Maryland, 1971 (\$2,100)

Biomedical Sciences, "The mechanism of osmotically induced amino acid regulation in a cardiac tissue", University of Maryland, 1972 (\$2,250)

National Science Foundation, "The molecular mechanism of molluscan salinity tolerance", 1972 (2 years) (\$20,000)

National Science Foundation, "Passive membrane permeability of control and anaerobiosis: the molluscan mechanism of salinity tolerance", 1975 (2 years) (\$41,700)

Biomedical Science, "The control mechanism of amino acid permeability

during cell volume regulation", University of Maryland, 1976 (\$1,200)

National Institutes of Health, "Cellular water balance: the invertebrate mechanism", 1977 (3 years) (\$105,000)

Biomedical Science, funds awarded to obtain an atomic absorption spectrophotometer, 1978 (\$15,000)

National Institutes of Health, "Cellular water balance: the invertebrate mechanism", 1980 (renewal, 3 years) (\$140,000)

National Institutes of Health, "Cellular water balance: the invertebrate mechanism", 1983 (renewal, 3 years) (\$250,000)

Biomedical Science, funds awarded to obtain a liquid scintillation counter, 1985 (\$20,000)

National Science Foundation, "Genetic controls of cell volume regulation", 1987 (4 years) (\$275,000)

National Science Foundation, Travel award program for the 2nd International Congress of Comparative Physiology and Biochemistry, 1987 (\$35,000)

National Science Foundation, Travel award program for the 3rd International Congress of Comparative Physiology and Biochemistry, 1990 (\$20,000)

National Science Foundation, Funds to obtain a scanning spectrofluorimeter and fluorescent microscope, 1990 (\$59,000 plus \$41,000 matching from the University)

University of Maryland Agricultural Experiment Station Competitive Grants Program, "The salinity tolerance mechanism of Chesapeake Bay Oysters is less effective than that of coastal conspecifics: Implications for a dying fishery". 1990 (\$27,000), 1991 (\$25,000), 1992 (\$25,000), 1993 (\$18,000)

National Oceanic and Atmospheric Administration, "An integrated physiological investigation of the effects of protozoan parasitism on the American oyster, *Crassostrea virginica*". (Co-PI with 5 others). 1992 (\$312,000)

National Science Foundation, "The mechanism of glycine betaine mediated cellular osmoregulation". 1992 (3 years) (\$275,000)

National Science Foundation, Travel award program for an International Symposium of Cell Volume Regulation at the joint meeting of APS, ASZ, SEB and CSZ in Cambridge, England, 1992 (Co-PI with Lewis Deaton) (\$5000)

National Oceanic and Atmospheric Administration, "An integrated physiological investigation of the effects of protozoan parasitism on the American oyster, *Crassostrea virginica*". (Co-PI with 5 others). 1993 (\$375,000)

National Science Foundation, "Cellular and molecular interactions between symbiotic chloroplasts and molluscan cells" 1995 (PI with Mary Rumpho, Texas A&M) (3 years) (\$185,000)

National Science Foundation, "The mechanism of glycine betaine mediated

cellular osmoregulation. 1997 (\$180,000) (3 years)
 National Science Foundation, "Role of viruses in the life cycle and endosymbiosis of a sea slug. 2001 (\$75,000)-proof of concept award
 National Science Foundation, "New transmission electron microscope for the Department of Biology. 2002 (\$175,000). (PI with C. Dawes, R. Pollenz and F. Thomas).
 National Science Foundation, Endosymbiosis and gene transfer between multi cellular organisms 2003. (\$650,000) 3 years
 Private donation from an interested citizen 2008 (\$60,000)
 Private donation from an interested citizen 2009 (\$40,000)
 Private donation from an interested citizen 2009 (\$80,000)
 Private donation from an interested citizen 2010 (\$35,000)
 Private donation from an interested citizen 2011 (\$68,000)
 NSF preproposal pending with M. Middlebrooks

2. Special recognitions and achievements

Honors and awards

Faculty research excellence award-Division of Agriculture & Life Sciences, University of Maryland-1985

Diatome Award for research excellence-1994-Microscopical Society of America annual meeting

3. Invited seminars and presented papers

Volume control in the ribbed mussel Modiolus demissus (Bivalvia: Mytilidae). Paper presented at meetings of the American Society of Zoology, 1969

Free amino acid efflux from mussel hearts: a demonstration of volume regulation. Paper presented at meetings of the American Society of Zoology, 1970

Osmosis, volume and valves: a comparative study of molluscan salinity tolerance. Seminar delivered at Department of Zoology, University of Rhode Island, 1970

The ionic basis of cellular volume regulation in molluscs. Paper presented at meetings of the American Society of Zoology, 1971

Volume regulation of molluscan cells: dependence of metabolism and membrane potential. Paper presented at the meetings of the American Society of Zoology, 1972

Salinity tolerance in molluscs: from the marsh to the membrane. Seminar delivered at Department of Biology, College of William and Mary, Virginia, 1972

- Osmotic regulation in molluscs: from the salt marsh to the cell membrane. Seminar delivered at Department of Zoology, University of Maryland, College Park, Maryland, 1974
- Osmotic regulation in molluscs: anaerobiosis and membrane permeability. Seminar delivered at Department of Biology, Georgetown University, Washington, D.C., 1974
- The molluscan mechanism of salinity tolerance. Seminar delivered at Department of Invertebrate Zoology, Smithsonian Institution, 1975
- The physiological basis of euryhalinity in bivalve molluscs. Seminar delivered at the Chesapeake Biological Laboratory, Solomons, Maryland, 1977
- Invited participant in joint USA-USSR conference on "Physiology and biochemistry of aquatic animals." Held at the Belle Baruch Institute for Marine Biology and Coastal Research, University of South Carolina, 1977
- The physiological basis of euryhalinity in bivalve molluscs. Seminar delivered at Department of Biology, Wake Forest University, Winston-Salem, North Carolina, 1977
- Control of cell volume in salinity-stressed molluscs. Seminar delivered at School of Biological Sciences, University of Kentucky, Lexington, Kentucky, 1979
- Control of cell volume in salinity-stressed molluscs. Seminar delivered at Department of Biology, Western Maryland College, Westminster, Maryland, 1979
- Control mechanisms of amino acid mediated cell volume regulation in salinity stressed molluscs. Symposium paper presented in the Cell Volume Regulation Symposium at the American Society of Zoologists meeting in Tampa, Florida, 1979
- The mechanism of salinity tolerance in bivalve molluscs: from the salt marsh to the cell membrane. Seminar delivered at the Department of Zoology, University of Florida, Gainesville, Florida, 1980
- The role of octopamine in the salinity tolerance of *Limulus polyphemus*. Seminar delivered at the Department of Zoology, University of Florida, Gainesville, Florida, 1980
- The mechanism of cell volume regulation: solutes, membrane permeability control and membrane structure. Seminar delivered at the Department of Biology, University of North Carolina, Charlotte, North Carolina, 1981
- The mechanism of cell volume regulation: solutes, membrane permeability control and membrane structure. Seminar delivered at C.V. Whitney Marine Laboratory of the University of Florida, St. Augustine, Florida, 1982
- Cell volume regulation in response to osmotic stress: mechanisms, solutes and membranes. Seminar delivered at the Department of Biology,

- Georgetown University, Washington, D.C., 1982
- Invertebrate cell volume control mechanisms: a coordinated use of intracellular amino acids and inorganic ions as osmotic solute. Seminar delivered at the Department of Zoology, University of Maine, Orono, Maine, 1983
- Mechanisms of invertebrate cell volume regulation: fast and dirty. Workshop on "Organic Compounds as Osmotic Effectors in the Central Nervous System", American Society for Neurochemistry, Portland, Oregon, 1984
- Cell volume control in response to osmotic stress: coordination of amino acid and ion permeabilities. Seminar delivered at the Division of Biology and Medicine, Brown University, 1984
- The cellular basis of salinity tolerance: coordination of amino acid and ion permeabilities. Seminar delivered to the Boston University Marine Program, 1984
- The patterns of organic osmolyte accumulation in *Elysia chlorotica* exposed to hyperosmotic stress: proline betaine and amino acids. Presented to the International Congress of Comparative Physiology of the International Union of Biological Sciences, Liege, Belgium, 1984
- The interaction of ionic and organic osmolytes during cell volume regulation: some invertebrate mechanisms. Presented to the International Symposium on Cell Volume Control Processes, Switzerland, 1984
- The molecular mechanism of salinity tolerance. Presented to the College of Marine Studies, University of Delaware, Lewes, DE, 1985
- The Ca^{2+} sensitive component of hypoosmotic cell volume regulation may be mediated by calmodulin: Modification of an ancient model. Invited lecture presented at the satellite symposium of the IUPS Congress on Membrane Transport and Control: Comparative mechanisms, Banff, Alberta, Canada, 1986.
- The effects of Ca^{2+} on cell volume regulation are initiated by the osmotic rather than the ionic portion of the hypoosmotic stress. Invited lecture presented to the symposium on membrane transport of the European Society for Comparative Biochemistry and Physiology, Copenhagen, Denmark. 1987
- Ionic and organic osmolyte regulation in cell volume recovery: The role of Ca^{2+} in the process. Invited lecture presented to the symposium on Cell Volume Control Processes at the 2nd International Congress of Comparative Physiology and Biochemistry, Baton Rouge, LA, 1988
- Cellular and molecular mechanisms involved in salinity tolerance of marine animals: molluscan red cells and other wonders. Presented to the Department of Biological Science, Florida Atlantic University, 1989.
- Cellular and molecular mechanisms involved in salinity tolerance of marine animals: molluscan red cells and other wonders. Presented to the

Department of Biology, Clemson University, 1989.
 Department of Zoology, University of Rhode Island, 1989
 Department of Physiology, University of Maryland Medical School, 1990
 Department of Zoology University of Georgia, 1990
 State of Maryland, Department of Natural Resources meeting on zebra mussels, 1992
 Virginia Institute of Marine Science, 1992
 Invited presentation in the International Symposium on Cell Volume Regulation, Cambridge, England, 1992
 Invited to present at the NOAA Oyster Disease Conference, Milford, CT, 1993
 Invited to present at the National Shellfisheries meeting, Portland, OR 1993
 Invited presentation in the Cephalopod Symposium at the annual meeting of the American Malacological Union, Hilo, Hawaii, 1995
 Invited presentation at the Second International Congress of Symbiosis, Woods Hole, MA 1997
 Invited presentation to the first International Symposium on Cell Swelling, Slovakian Academy of Sciences, Bratislava, Slovakia, 1997
 Invited presentation to the Department of Biology Faculty Colloquium Series, University of Maryland, 1999.
 Invited seminar to the Department of Biology, University of South Florida, Tampa, FL. 1999.
 Invited presentation to the Symposium on Cell Volume Recovery at the meeting of the Society for Integrative and Comparative Biology, Atlanta, GA, 2000
 Invited presentation in the "Monday night at Mote" lecture series at the Mote Marine Laboratory, Sarasota, FL. 2000
 Invited presentation to the Department of Biology, Florida Institute of Technology, Melbourne, FL 2000.
 Invited presentation to the Office of Naval Research, Washington, DC. 2001
 Invited presentation to the International Symbiosis Congress, Halifax 2003
 Paper presented at SICB meeting in New Orleans, 2004
 Invited presentation at the C. V. Whitney Lab, St. Augustine, FL 2006
 Invited presentation at the C. V. Whitney Lab, St. Augustine, FL 2007
 Invited presentation to the Department of Biology, New College, Sarasota FL 2007
 Invited presentation to the Florida Museum of Discovery and Science, Ft. Lauderdale, FL ,2007 in conjunction with the premier of the National Geographic IMAX movie on Prehistoric Sea Monsters.
 Invited speaker at a symposium on Symbiosis at the SE American Microbiological Society Meeting at Auburn University, Auburn AL 2007
 Invited presentation to the Department of Biology and Chemistry, Ave Maria University, Naples , FL, 2008

Invited speaker at the molluscan physiology section of the National Shellfisheries Association meeting, Providence, RI, 2008
Paper presented at SICB, San Antonio, TX, 2008
Invited speaker at the International Symbiosis Congress, University of Wisconsin, Madison WI, 2009.
Paper presented at SCIB, Seattle, WA, 2010.
Invited speaker to the Center of Marine Biotechnology, Univ. of Maryland Baltimore, 2011.

4. Editorships

Associate, Editorial Board of **Journal of Experimental Zoology**, 1980-1982
Editor (U.S.) of **Marine Biology**, 1981-1984
Editorial Board of **Biological Bulletin**, 1985-1989
Editorial Board of **American Zoologist**, 1987-1992
Editorial Board of **News in Physiological Science**, 1989-1992
Editorial Board of **Comparative Biochemistry and Physiology**, 1995-2003
Editorial Board of **Symbiosis**, 2011-

5. Areas of personal research

The cell biology of symbiosis. Gene transfer, genomics, molecular evolution and natural history of sea slugs. Cellular mechanisms of membrane permeability control and water balance. Comparative invertebrate physiology. Occasionally, sea monsters.

C. Instruction

1. Courses taught at the University of Maryland

a. Undergraduate

ZOOL 328 Comparative Physiology
ZOOL 481 Biology of Marine and Estuarine Invertebrates

b. Graduate

ZOOL 621 Comparative Physiology
ZOOL 608 Physiology Seminar
ZOOL 608 Scientific Writing
ZOOL 609 Special Problems in Zoology
ZOOL 708 Special Topics
ZOOL 799 Thesis Research
ZOOL 899 Dissertation Research

1a. Courses taught at the University of South Florida

a. Graduate

Scientific Writing
Lectures in Biology

b. Undergraduate

ZOO 3205C Advanced Invertebrate Zoology
BSC 4990 Symbiosis.
Lectures in Biology

2. Advising and supervision of graduate student research

a. Degrees conferred:

<u>Name</u>	<u>Degree and Date Completed</u>	<u>Research Project</u>
Walter Schwab	Ph.D., 1974	An electrophysiological study of scyphozoan development
Dennis Murphy	Ph.D., 1976	Physiological aspects of freezing resistance in intertidal bivalves
Richard Baginski	Ph.D., 1976	High salinity acclimation in intertidal bivalves
John Watts	Ph.D., 1977	Salinity tolerance of marine bivalves: the role of divalent adenosine triphosphatase activity
Lynn Amende	Ph.D., 1979	The molecular basis of volume regulation in molluscan blood cells
Charles Costa	Ph.D., 1981	The mechanism of cell volume regulation in annelid red cell ghosts
Mary Kim Warren	Ph.D., 1982	Two volume regulatory systems

		in the <i>Limulus</i> myocardium: an interaction of ions and quaternary ammonium compounds
W. Michael Moran	Ph.D., 1982	The role of glycine influx in cell volume regulation of the rock crab, <i>Cancer irroratus</i>
Samuel C. Edwards	Ph.D., 1984	Neurohormonal involvement of octopamine in cell volume regulation in <i>Limulus polyphemus</i>
Laurens Smith	Ph.D., 1986	The role of the cytoskeleton in cell volume regulation by invertebrate cells
Alexander Politis	Ph.D., 1988	The mechanism of cell volume recovery: Ca^{2+} influx, calmodulin activation and protein phosphorylation
Richard Quinn	Ph.D., 1988	The basis of membrane depolarization during hypoosmotic stress in neurons
Julia Dragolovich	Ph.D., 1991	The role of glycine betaine in high salinity adaptation of <i>Limulus</i>
Lisa Perrino	Ph. D., 1998	The role of enzyme kinetics in the regulation of glycine betaine synthesis in oysters: differences between Chesapeake Bay and Atlantic conspecifics
Carol Bartberger	M.S., 1973	Effects of salinity on nitrogen excretion rates of intertidal bivalves
James Otto	M.S., 1979	A physiological evaluation of the osmoregulatory response of the horseshoe crab

Linda Beres	M.S., 1980	The effects of salinity stress on the electrical properties of neurons in the euryhaline bivalve, <i>Mya arenaria</i>
H T Parker	M.S., 1983	Acclimation of <i>Elysia chlorotica</i> to low salinity: effects on the electrical properties of identifiable neurons
Laura Rowland	M.S., 1983	Volume regulation during low salinity acclimation in <i>Elysia chlorotica</i> : utilization of quaternary ammonium compounds
Susan Cooperstein (Co-advisor with T. Chen)	M.S., 1993	Molecular cloning and preliminary characterization of the cDNA for the <i>hsp-70</i> -like gene from <i>Crassostrea gigas</i>
Kellie Austin (Co-advisor with K. Paynter)	M. S. 1994	Characterization of chemiluminescence produced by hemocytes of the Eastern oyster, <i>Crassostrea virginica</i>
Rachel Biron	M. S. 1995	Protein synthesis occurs in symbiotic chloroplasts in residence in the cytoplasm of molluscan cells
Jeffery Hanten	M. S. 2001	Identification of plastid proteins encoded in sea slug DNA
William Mondy	M. S. 2001	The annual end of a sea slug population's life cycle is the result of apoptosis
Elizabeth Gold Walter Schwab	M.S., 1972 (nonthesis) M.S., 1973 (nonthesis)	

Lynn Amende	M.S., 1976 (nonthesis)
Paul Hubbard	M.S., 1992 (nonthesis)

University of South Florida

Nicholas Curtis Ph D 2007

b. Current graduate students:

<u>Name</u>	<u>Degree Sought (Date Expected)</u>	<u>Research Project</u>
Julie Schwartz	Ph. D. 2013	

D. Service

1. Memberships and officerships in professional organizations

Tallahassee, Sopchoppy and Gulf Coast Marine Biological Association,
member, Board of Directors and Honorary Advisory Council
President of Assateague, Chincoteague and Chesapeake Bay Branch of the
TS&GCMBA
Corporation of the Marine Biological Laboratory, Woods Hole,
Massachusetts
Fellow of the American Association for the Advancement of Science
American Physiological Society
American Society of Zoologists
Chairman of Nominating Committee of Division of Comparative
Physiology and Biochemistry (A.S.Z.), 1978
Principal Organizer of a Symposium on Cell Volume Regulation for
the 1979 Tampa Meeting of the American Society of Zoologists
Principal Organizer of a Symposium on Cell volume regulation for
the 1992 International Congress of Comparative Biochemistry
and Physiology held at Cambridge University, UK
ASZ representative to three AAAS committees 1994-1997

International Committees

Representative of Division of Comparative Physiology and Biochemistry
(A.S.Z.) to the IUPS Program Committee of the National Research
Council, 1984-91
Secretary IUPS Program Committee, 1986-91
Board of the Comparative Physiology Section of IUBS, 1984-91

Travel Award Program (including fundraising) for the American portion of the IUBS Congress in Tokyo, Japan, 1990

Travel Award Program (including fundraising) for the International Congress of Comparative Biochemistry and Physiology in Cambridge, UK, 1992

2. University of Maryland (The following list is only approximate, I gave up keeping careful track in 1980)

a. Department of Biology (formerly Zoology)

Graduate Committee, 1970-71

Colloquium Committee, 1970-71

Ecology Recruitment Committee, 1970-71

Physiology and Neurophysiology Recruitment Committee, 1970-71

Introductory Zoology Recruitment Committee, 1970-71

Program in Estuarine Zoology, 1970-72; Chairman, 1971-72

Dedication Ceremony (new building), 1970-72

Advisory Committee, 1971-72

Ecology Estuarine Zoology Recruitment Committee, Co-Chairman, 1971-72

Five-Year Review (Graduate Program), 1971-74

Physiology Recruitment Committee, 1971-74

Stockroom Committee, Chairman, 1973-74

Chairman of Darkroom Facilities, 1973-78, 1980-83

Graduate Student Application and Review Committee, 1971-78

Core Curriculum Committee, 1977-78

Chesapeake Bay Research Fund Review Committee, Chairman, 1972-

Graduate Policy Committee, Chairman, 1979-85

Physiology Recruitment Committee, Chairman, 1981-83

Advisory Committee, 1985-87

Zoology Chairman Search Committee, 1986

Physiology and Molecular Biology Search Committee, Chairman, 1987

Department 5-year Review Committee, Chairman 1989-92

Graduate Policy Committee, Chairman 1989-

Molecular Geneticist Search Committee, 1991

b. Colleges of Agriculture and Life Sciences

Division Council, 1973-74

Chemistry Department Administrative Review Committee, 1975-76

Chemistry Department Chairman Recruitment Committee, 1975-76

Division Promotions and Tenure Committee, 1979, 1981

Chemistry Department Review Committee, 1986

Cellular and Molecular Biology Graduate Program Committee, 1986-88

Agriculture and Life Science Coordinating Council, 1986-88
Division Promotions and Tenure Committee, Chairman, 1986-1987
College Coordinating Committee, 1987
APAC, Jr., 1990-92
College Promotions and Tenure Committee, Chairman, 1992

c. College Park Campus

Academic Standards Committee of the Graduate Council, 1978-81
Marine, Estuarine and Environmental Studies Faculty Committee, 1978-81
Research Committee of the Graduate Council, 1982-85
General Research Board, 1986-87
Campus Senate Committee on Research, 1987-88
Large Animal Care and Use Committee, 1987-89
Campus Appeals Committee, 1990-91
Animal Care and Use Committee, 1991-1994
Graduate Council, 1992-1995
Campus Senate, 1995-1997

3. University of South Florida (only major committees recorded-I gave up keeping track in 2006)

College of Arts and Sciences Chair's Steering Committee, 2001- 2004
Vice President for Research Search Committee, 2002
Implementation of FAST Accounting System Committee 2002-2003
President's *ad hoc* Chair's Advisory Committee 2002-
Ad hoc committee to restructure the senate-2004
Ad hoc class scheduling committee-2004
Ad hoc committee on SCH calculations
Provost's advisory committee 2004
CAS Dean's search committee 2004
FAST faculty input group 2003-2004
Faculty Senate 2005-2011
Construction Manager for Minor Projects Approval

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Website:
<http://shell.cas.usf.edu/rohrlab/index.html>

RESEARCH INTERESTS

Ecology, climate science, disease ecology, conservation, ecotoxicology

EDUCATION

2002 Ph.D., Ecology & Behavior - Binghamton University, Advisor: Dale Madison
1997 M.A. Teaching Biology - Binghamton University
1996 B.A. Biology & Environmental Studies (double major) - Binghamton University

RELEVANT POSITIONS HELD

2011- **ASSOCIATE PROFESSOR, UNIVERSITY OF SOUTH FLORIDA**
AFFILIATIONS: DEPARTMENT OF INTEGRATIVE BIOLOGY (2007-), PATEL
SCHOOL OF GLOBAL SUSTAINABILITY (2011-), OFFICE OF
SUSTAINABILITY (2011-)

- Conduct ecological and environmental research, teach parasitology lecture and lab and graduate-level introductory and advanced biological statistics

2007-2011 **ASSISTANT PROFESSOR, UNIVERSITY OF SOUTH FLORIDA**
AFFILIATIONS: DEPARTMENT OF INTEGRATIVE BIOLOGY (2007-), PATEL
SCHOOL OF GLOBAL SUSTAINABILITY (2011-), OFFICE OF
SUSTAINABILITY (2011-)

- Conduct ecological and environmental research, teach parasitology lecture and lab and graduate-level introductory and advanced biological statistics

2004-2007 **RESEARCH ASSOCIATE, PENN STATE UNIVERSITY,**
COLLABORATORS/ADVISORS: PETER HUDSON & KE CHUNG KIM
AFFILIATIONS: CENTER FOR INFECTIOUS DISEASE DYNAMICS, PENN
STATE INSTITUTES OF THE ENVIRONMENT, DEPARTMENT OF
ENTOMOLOGY, CENTER FOR BIODIVERSITY RESEARCH

- Investigated interactions among biodiversity, parasites, and anthropogenic change

2006 **INSTRUCTOR, ECOLOGY 597B – ADVANCES IN ECOLOGY, PENN STATE**
UNIVERSITY

- Co-taught a course addressing advances in ecology. My lectures emphasized advances in biodiversity and multivariate statistics

- 2006 **INSTRUCTOR, ENTOMOLOGY 497E – INSECT FIELD ECOLOGY AND NATURAL HISTORY, PENN STATE UNIVERSITY**
- Co-taught an experiential field ecology course that highlighted insect dynamics, diversity, and adaptations
- 2005 **INSTRUCTOR, ENTOMOLOGY 595E – INSECT NATURAL HISTORY, PENN STATE UNIVERSITY**
- Co-taught graduate-level field course on insect collection, identification, and biodiversity analyses
- 2002-2004 **POST-DOCTORAL RESEARCH ASSOCIATE, UNIVERSITY OF KENTUCKY, ADVISORS: PHILIP CROWLEY AND ANDY SIH**
- Investigated the effects of pesticides on freshwater biodiversity
- 2001 **INSTRUCTOR, BIOL. 366 - ECOLOGICAL AND BEHAVIORAL LABORATORY AND FIELD METHODS, BINGHAMTON UNIVERSITY**
- Designed and instructed a course to educate 16 undergraduates on the processes of ecological and behavioral research
- 1994-1995 **INTERN, MONROE COUNTY ENVIRONMENTAL MANAGEMENT COUNCIL**
- Researched environmental topics and wrote numerous publications used by the Monroe County Legislature (listed below)

PEER-REVIEWED CONTRIBUTIONS TO RESEARCH

([§]UNDERGRADUATE STUDENT, ^{*}GRADUATE STUDENT, [†]POSTDOC)

IN PRINT OR PRESS:

64. **Rohr, J.R.**, Martin, L.B. 2012. Reduce, reuse, recycle scientific reviews. *Trends in Ecology and Evolution* in press
63. Jennings, D.E.^{*}, Edwards, G.B. **Rohr, J.R.** Associations between ground-surface spiders and other arthropods in mesic flatwoods. *Florida Entomologist* in press
62. **Rohr, J.R.**, Halstead, N.T.^{*}, Raffel, T.R.[†] 2012. The herbicide atrazine, algae, and snail populations. *Environmental Toxicology and Chemistry* in press
61. Venesky, M.D.[†], Mendelson, J.R., Sears, B.F.^{*}, Stiling, P.D., **Rohr, J.R.** 2012. Selecting for tolerance against pathogens and herbivores to enhance the success of reintroduction and translocation programs. *Conservation Biology* in press
60. Johnson, P.T.J., **Rohr, J.R.**, Hoverman, J.T. Kellermanns, E., Bowerman, J., Lunde, K.B. 2012. Host life history explains interspecific variation in disease risk. *Ecology Letters* 15: 235-242
59. Jennings, D.E.^{*}, Congelosi, A.M.[§], **Rohr, J.R.** 2012. Insecticides reduce survival and the expression of traits associated with carnivory of carnivorous plants. *Ecotoxicology* 21: 569-575
58. Staley, Z.^{*}, **Rohr, J.R.**, Harwood, V.J. 2011. A test of direct and indirect effects of agrochemicals on the survival of fecal indicator bacteria. *Applied and Environmental Microbiology* 77: 8765-8774

57. Sears, B.F.* , **Rohr, J.R.**, Allen, J.E., Martin, L.B. 2011. The economy of inflammation: when is less more? *Trends in Parasitology* 27: 382-387
56. McMahon, T.* , Crumrine, P., Halstead, N., Johnson, S., Raffel, T.R.[†], Romansic, J.[†], **Rohr, J.R.** 2011. The fungicide chlorothalonil is nonlinearly associated with corticosterone levels, immunity, and mortality in amphibians. *Environmental Health Perspectives* 119: 1098-1103
55. Lekberg, Y., Meadow, J., **Rohr, J.R.**, Redecker, D., Zabinski, C.A. 2011. Importance of dispersal and thermal environment for mycorrhizal communities: Lessons from Yellowstone National Park. *Ecology* 92: 1292-1302
54. Romansic, J.M.[†], Johnson, P.T.J., Searle, C.L.* , Johnson, J.E., Tunstall, T.* , Han, B.A., **Rohr, J.R.**, Blaustein, A.R. 2011. Individual and combined effects of multiple pathogens on Pacific treefrogs. *Oecologia* 166: 1029-1041
53. Schotthoefer, A.M., **Rohr, J.R.**, Cole, R.A., Koehler, A.V., Johnson, C.M., Johnson, L.B., Beasley, V.R. 2011. Effects of wetland and landscape variables on parasite communities of *Rana pipiens*: links to anthropogenic changes. *Ecological Applications* 21: 1257-1271
52. Jennings, D.E.* , **Rohr J.R.** 2011. A review of the conservation threats to carnivorous plants. *Biological Conservation* 144: 1356-1363
51. **Rohr, J.R.**, Dobson, A.P., Johnson, P.T.J., Kilpatrick, A.M., Paull, S.H.* , Raffel, T.R., Ruiz-Moreno, D., Thomas, M.B. 2011. Frontiers in climate change-disease research. *Trends in Ecology and Evolution* 26: 270-277 (invited submission)
50. Raffel, T.R.[†], Lloyd-Smith, J.O., Sessions, S.K., Hudson, P.J., **Rohr, J.R.** 2011. Does the early frog catch the worm? Disentangling potential drivers of a parasite age-intensity relationship in tadpoles. *Oecologia*. 165: 1031-1042
49. **Rohr, J.R.**, Halstead, N.T.* , Raffel, T.R. [†] 2011. Modelling the future distribution of the amphibian chytrid fungus: The influence of climate and human-associated factors. *Journal of Applied Ecology*. 48: 174-176 (invited submission)
48. **Rohr, J.R.**, Sesterhenn, T.* , Stieha, C.* 2011. Will climate change reduce the effects of a pesticide on amphibians?: Partitioning effects on exposure and susceptibility to pollution. *Global Change Biology*. 17: 657-666
47. Raffel, T.R.[†], Michel, P.J.[§], Sites, E.W.[§], **Rohr, J.R.** 2010. Does temperature drive chytrid infections in newt populations? Associations with leaf litter, vegetation and shade. *Ecohealth* 7: 526-536
46. Raffel, T.R. [†], Johnson, P.T.J., Paull, S.H. * , **Rohr, J.R.** 2010. Symposium 16, Towards a general theory for how climate change will affect infectious disease. *Bulletin of the Ecological Society of America* 91: 467-473
45. Staley, Z.* , **Rohr, J.R.**, Harwood, V.J. 2010. The effect of agrochemicals on indicator bacteria densities in outdoor mesocosms. *Environmental Microbiology*. 12: 3150-3158
44. Leslie, T.W.* , Biddinger, D.J., **Rohr, J.R.**, Fleischer, S.J. 2010. Conventional and seed-based insect management strategies similarly influence non-target coleopteran communities in maize. *Environmental Entomology*. 39: 2045-2055

43. **Rohr, J.R.**, Raffel, T.R.[†], Hall, C.[§] 2010. Developmental variation in resistance and tolerance in a multi-host-parasite system. *Functional Ecology*. 24: 1110-1121
42. Jennings, D.E.* , Krupa, J.J., Raffel, T.R.[†], **Rohr, J.R.** 2010. Evidence for competition between carnivorous plants and spiders. *Proceedings of the Royal Society B: Biological Sciences*. 277: 301-308 **highlighted in Science Magazine**
41. Raffel, T.R.[†], Hoverman, J.T.[†], Halstead, N.T., Michel, P.[§], **Rohr, J.R.** 2010. Parasitism in a community context: Trait-mediated interactions with competition and predation. *Ecology*. 91: 1900-1907
40. **Rohr, J.R.**, McCoy, K.A.[†] 2010. Preserving environmental health and scientific credibility: A practical guide to reducing conflicts of interest. *Conservation Letters*. 3: 143-150
39. Martin, L.B., Hopkins, W.A., Mydlarz, L.D., **Rohr, J.R.** 2010. The effects of anthropogenic global change on immune functions and disease resistance. *Annals of the New York Academy of Sciences: The Year in Ecology and Conservation Biology*. 1195: 129-148 (invited submission)
38. **Rohr, J.R.**, Raffel, T.R.[†] 2010. Linking global climate and temperature variability to widespread amphibian declines putatively caused by disease. *Proceedings of the National Academy of Sciences of the United States of America*. 107: 8269-8274
37. **Rohr, J.R.**, McCoy, K.A.[†] 2010. A qualitative meta-analysis reveals consistent effects of atrazine on freshwater fish and amphibians. *Environmental Health Perspectives*. 118: 20-32
36. Raffel, T.R.[†], Sheingold, J.L.[§], **Rohr, J.R.** 2009. Lack of pesticide toxicity to *Echinostoma trivolvis* eggs and miracidia. *Journal of Parasitology*. 95: 1548-1551
35. **Rohr, J.R.**, Mahan, C.G., Kim, K. 2009. Response of arthropod biodiversity to foundation species declines: the case of the eastern hemlock. *Forest Ecology and Management*. 258: 1503-1510
34. Clements, W.H., **Rohr, J.R.** 2009. Community responses to contaminants: Using basic ecological principles to predict ecotoxicological effects. *Environmental Toxicology and Chemistry*. 28: 1789-1800
33. **Rohr, J.R.**, Raffel, T.R.[†], Sessions, S.K. 2009. Digenetic trematodes and their relationship to amphibian declines and deformities. In: Amphibian Biology. vol. 8. Amphibian Decline: Diseases, Parasites, Maladies, and Pollution. series editor Heatwole, H. & Wilkinson, J.W. Surrey Beatty & Sons, Chipping Norton, NSW, Australia, pp 3067-3088
32. **Rohr, J.R.**, Raffel, T.R.[†], & Swan, A.[§], Hudson, P.J. 2009. Parasites, info-disruption, and the ecology of fear. *Oecologia*. 159: 447-454
31. Delphia, C.M.* , **Rohr, J.R.**, Stephenson, A.G., De Moraes, C.M., Mescher, M.C. 2009. Effects of genetic variation and inbreeding on volatile production in a field population of horsetnettle. *International Journal of Plant Sciences*. 170: 12-20
30. Raffel, T.R.[†], Le Gros, R.J.[§], Love, B.C., **Rohr, J.R.**, Hudson, P.J. 2009. Parasite age-intensity relationships in red-spotted newts: Does immune memory influence salamander disease dynamics? *International Journal for Parasitology*. 39: 231-241

29. **Rohr, J.R.**, Raffel, T.R.[†], Romansic, J.[†], McCallum, H., Hudson, P.J. 2008. Evaluating the links between climate, disease spread, and amphibian declines. *Proceedings of the National Academy of Sciences of the United States of America*. 105: 17436-17441
28. **Rohr, J.R.**, Schotthoefer, A.M., Raffel, T.R.[†], Carrick, H.J., Halstead, N., Hoverman, J.T.[†], Johnson, C.M., Johnson, L.B., Lieske, C., Piwoni, M.D., Schoff, P.K., Beasley, V.R. 2008. Agrochemicals increase trematode infections in a declining amphibian species. *Nature*. 455: 1235-1239 **Featured on the cover**
27. Raffel, T.R.[†], Martin, L.B., **Rohr, J.R.** 2008. Parasites as predators: unifying natural enemy ecology. *Trends in Ecology and Evolution*. 23: 610-618 (invited submission)
26. **Rohr, J.R.**, Raffel, T.R.[†], Sessions, S.K., Hudson, P.J. 2008. Understanding the net effects of pesticides on amphibian trematode infections. *Ecological Applications*. 18: 1743-1753
25. Tooker, J.F.[†], **Rohr, J.R.**, Abrahamson, W.G., De Moraes, C.M. 2008. Gall insects can avoid and alter indirect plant defenses. *New Phytologist*. 178: 657-671 **A featured article with an accompanying commentary**
24. **Rohr, J.R.**, Kim, K., Mahan, C. 2007. Developing a monitoring program for invertebrates: guidelines and a case study. *Conservation Biology*. 21: 422-433
23. Leslie, T.W.* , Hoheisel, G.A.* , Biddinger, D.J., **Rohr, J.R.**, Fleischer, S.J. 2007. Transgenes sustain epigeal biodiversity in diversified vegetable farm systems. *Environmental Entomology*. 36: 234-244
22. Lekberg, Y.[†], Koide, R.T., **Rohr, J.R.**, Aldrich-Wolfe, L., & Morton, J.B. 2007. Role of niche theory and dispersal in the composition of arbuscular mycorrhizal fungal communities. *Journal of Ecology*. 95: 95-105
21. **Rohr, J.R.**, Kerby, J.* , Sih, A. 2006. Community ecology theory as a framework for predicting contaminant effects. *Trends in Ecology and Evolution*. 21: 606-613 (invited submission) **Featured on the cover**
20. Raffel, T.R.[†], **Rohr, J.R.**, Kiesecker, J.M., Hudson, P.J. 2006. Negative effects of changing temperature on amphibian immunity under field conditions. *Functional Ecology*. 20: 819-828
19. Dobson, A.P, Cattadori, I. Holt, R.D., Ostfeld, R.S., Keasing, F., Krichbaum, K.* , **Rohr, J.R.**, Perkins, S.E., Hudson, P.J. 2006. Sacred cows and sympathetic squirrels: The importance of biological diversity to human health. *PLoS Medicine*. 3: 714-718
18. **Rohr, J.R.**, Sager, T.* , Sesterhenn, T.* , Palmer, B.D. 2006. Exposure, post-exposure, and density-mediated effects of atrazine on amphibians: Breaking down net effects into their parts. *Environmental Health Perspectives*. 114: 46-50 **Featured on the cover**
17. **Rohr, J.R.**, Crumrine, P.* 2005. Effects of an herbicide and an insecticide on pond community structure and processes. *Ecological Applications*. 15: 1135-1147
16. **Rohr, J.R.**, Palmer, B.D. 2005. Aquatic herbicide exposure increases salamander desiccation risk eight months later in a terrestrial environment. *Environmental Toxicology and Chemistry*. 24: 1253-1258

15. **Rohr, J.R.**, Park, D.[†], Sullivan, A.M.* , McKenna, M.* , Propper, C.R., Madison D.M. 2005. Operational sex ratio in newts: field responses and characterization of a constituent chemical cue. *Behavioral Ecology*. 16: 286-293
14. **Rohr, J.R.**, Elskus, A.A., Shepherd, B.S., Crowley, P.H., McCarthy, T.M.* , Niedzwiecki, J.H.* , Sager, T.* , Sih, A., Palmer, B.D. 2004. Multiple stressors and salamanders: Effects of an herbicide, food limitation, and hydroperiod. *Ecological Applications*. 14: 1028-1040
13. Sullivan, A.M.* , Madison, D.M., **Rohr, J.R.** 2004. Variation in the antipredator responses of three sympatric plethodontid salamanders to predator-diet cues. *Herpetologica*. 60: 401-408
12. **Rohr, J.R.**, Madison, D.M., Sullivan, A.M.* 2003. On temporal variation and conflicting selection pressures: A test of theory using newts. *Ecology*. 84: 1816-1826
11. **Rohr, J.R.**, Elskus, A.A., Shepherd, B.S., Crowley, P.H., McCarthy, T.M.* , Niedzwiecki, J.H.* , Sager, T.* , Sih, A., Palmer, B.D. 2003. The lethal and sublethal effects of atrazine, carbaryl, endosulfan, and octylphenol on the streamside salamander, *Ambystoma barbouri*. *Environmental Toxicology and Chemistry*. 22: 2385-2392
10. Sullivan, A.M.* , Madison, D.M., & **Rohr, J.R.** 2003. Behavioural responses by red-backed salamanders to conspecific and heterospecific cues. *Behaviour*. 140: 553-564
9. **Rohr, J.R.**, Madison, D.M. 2003. Dryness increases predation risk in eft: Support for an amphibian decline hypothesis. *Oecologia*. 135: 657-664
8. **Rohr, J.R.** 2002. Temporal and spatial variation in newt (*Notophthalmus viridescens*) response to non-injured and injured conspecifics. Dissertation, Binghamton University
7. **Rohr, J.R.**, Madison, D.M. 2002. *Notophthalmus viridescens* (Eastern Red-Spotted Newt) Predation. *Herpetological Review*. 33: 122-123
6. **Rohr, J.R.**, Madison, D.M., Sullivan, A.M.* 2002. The ontogeny of chemically-mediated antipredator behaviours in newts (*Notophthalmus viridescens*): Responses to injured and non-injured conspecifics. *Behaviour*. 139: 1043-1060
5. **Rohr, J.R.**, Madison, D.M., Sullivan, A.M.* 2002. Sex differences and seasonal trade-offs in response to injured and non-injured conspecifics in red-spotted newts, *Notophthalmus viridescens*. *Behavioral Ecology and Sociobiology*. 52: 385-393
4. Madison, D.M., Sullivan, A.M.* , Maerz, J.C.* , McDarby, J.H., **Rohr, J.R.** 2002. A complex, cross-taxon, chemical releaser of anti-predator behavior in amphibians. *Journal of Chemical Ecology*. 28: 2251-2262
3. **Rohr, J.R.**, Madison, D.M. 2001. A chemically-mediated trade-off between predation risk and mate search in newts. *Animal Behaviour*. 62: 863-869
2. **Rohr, J.R.**, Madison, D.M. 2001. Do newts avoid conspecific alarm substances: the predation hypothesis revisited. In: *Chemical Signals in Vertebrates* (Ed. by Marchlewska-Koj, L. & Müller-Schwarze, D.), NY: Kluwer Academic/Plenum Publishers. 295-304
1. **Rohr, J.R.** 1997. Who likes who: Helping students understand the scientific method. *Engaging Educators Across the Disciplines*. 1997: 28-32

Co-authored Technical Reports:

- Monroe County Environmental Management Council, 1997. The use of road deicing salt on state roads in Monroe County, Monroe County, NY
- Monroe County Environmental Management Council, 1996. A historical review of the Monroe County Environmental Management Council: 25th Anniversary, Monroe County, NY
- Monroe County Environmental Management Council, 1996. Preservation of environmentally sensitive areas in Monroe County, Monroe County, NY
- Monroe County Environmental Management Council, 1995. Survey of waste hauler practices in Monroe County, Monroe County, NY

Submitted (pre-prints available upon request):

- McMahon, T.A.* , Bernal, X.E., Brannelly, L.A.* , Chatfield, M.W.H. †, Richards-Zawacki, C.L., **Rohr, J.R.** Non-amphibian hosts and potential vectors for the deadly amphibian chytrid fungus. *Proceedings of the National Academy of Sciences of the United States of America* (in revisions)
- McMahon, T.A.* , Halstead, N.T., Johnson, S. Raffel, T.R.†, Romansic, J.M.†, Crumrine, P.W., **Rohr, J.R.** Fungicide-induced declines of freshwater biodiversity modify ecosystem functions and services. *Ecology Letters* (in revisions)
- Raffel, T.R.†, Romansic, J.M.†, Halstead, N.T., McMahon, T.A.* , Venesky, M.D. †, **Rohr, J.R.** Disease and thermal acclimation in a more variable and unpredictable climate. *Nature Climate Change*
- Liu, X., **Rohr, J.R.**, Yiming, L. Climate, vegetation, introduced hosts and trade shape a global wildlife pandemic. *PLoS Biology*
- Rohr, J.R.**, Palmer, B.D. Evidence that climatic shifts within the non-critical range can cause species declines: Interactions among moisture, temperature, and an herbicide. *Global Change Biology*
- Venesky, M.D. †, Sauer, E. §, **Rohr, J.R.** Complex associations among diversity, density, and *Batrachochytrium dendrobatidis* infections in tadpoles. *Ecology Letters*
- Sears, B.F*, Schlunk, A.D.§, **Rohr, J.R.** Adaptive host selection by trematode cercariae. *Biology Letters*
- Koprivnikar, J. Johnson, P.T.J., Marcogliese, D.J. Orlofske, S.A.* , Raffel, T.R.†, **Rohr, J.R.** Macroparasite infections of amphibians: What can they tell us? *Ecohealth* (in revisions)
- Hickey, C.W., Brasfield, S., Fritz, A., Helm, R., Johnson, P., **Rohr, J.R.** Environmental hazardous substances and global climate change: Implications for natural resource damage assessment, restoration, and rehabilitation. *Environmental Toxicology and Chemistry*
- Leslie, T.W., **Rohr, J.R.**, Biddinger, D.J., Hulting, A.J., Mortensen, D.A., Fleischer, S.J. Carabidae community dynamics across a forest-agriculture ecotone. *Environmental Entomology*
- McCoy, M.W.†, Martin, L.B., Johnson, P.T.J., **Rohr, J.R.** Decomposing resistance and tolerance to natural enemies. *American Naturalist*
- Crumrine, P.W., Miller, A.D.§, **Rohr, J.R.** Impacts of larval odonates and pesticides on the survival of *Echinostoma trivolvis* cercariae. *Journal of Parasitology*
- McMahon, T.A.* , Bavis, R.W., **Rohr, J.R.** Acidic water causes abnormalities and mortality in the neotropical frog species *Epipedobates tricolor* (Anura: Dendrobatidae). *Amphibia Reptilia*

In Preparation:

McMahon, T.A.* , Romansic, J.M.† , **Rohr, J.R.** Negative effects of chlorothalonil and atrazine on the growth of the pathogenic fungus *Batrachochytrium dendrobatidis* in culture and on tadpoles

GRANTS AND FELLOWSHIPS

Awarded:

- \$ 374,938 “EARLY CAREER: The hazards of extreme climatic events: Predicting impacts on water quality, US EPA (PI: Jason R. Rohr) TBA, received a call from the program officer that it was funded, awaiting official written documentation
- \$ 241,000 USDA National Needs Graduate Program Proposal: Training the next generation of under-represented and cross-disciplinary scholars at the frontiers of agricultural sustainability and biosecurity, USDA (PI: Jason R. Rohr, Co-PIs: Steven Johnson, Valeria Harwood, Henry Mushinsky) 1/2012-12/2017
- \$ 50,000 Transformational reductions in human schistosomiasis by modifying agricultural practices, University of Florida IFAS Research Innovation Grants (PIs: Beilinski Santos, Steven Johnson, Jason R. Rohr [author]) 10/2010-9/2011
- \$ 9,950 How important is phylogeny in dictating the strength of competition?, University of South Florida Internal Grant (PI: Jason R. Rohr) 5/2009-4/2010
- \$ 398,946 Predicting the effects of agricultural practices on waterborne human pathogens, livestock helminthes, and the health of rural water-bodies, USDA, (PIs: Jason R. Rohr, Valerie Harwood) 12/2008-11/2012
- \$ 599,353 Understanding the role of climate change and land use modifications in facilitating pathogen invasions and declines of ectotherms, US EPA, (PIs: Jason R. Rohr and Andrew Blaustein, Co-PI: Thomas R. Raffel) 9/2008-8/2011
- \$ 13,804 ROA supplement to Collaborative Research: Community ecology as a framework for understanding disease dynamics, NSF, (PIs: Jason R. Rohr, Patrick Crumrine) 5/2007-8/2007
- \$ 7,500 REU supplement to Collaborative Research: Community ecology as a framework for understanding disease dynamics, NSF, (PIs: Jason R. Rohr, John Romansic, Tom R. Raffel) 5/2008-8/2008
- \$ 6,680 REU Supplement to Collaborative Research: Community ecology as a framework for understanding disease dynamics, NSF, (PIs: Jason R. Rohr, Peter J. Hudson, Tom R. Raffel) 4/2007-8/2007
- \$ 398,899 Using food web theory to predict ecosystem responses to agrochemicals, USDA, (PI: Jason R. Rohr; Co-PI: Peter J. Hudson) 10/2006-9/2011
- \$ 450,138 Collaborative Research: Community ecology as a framework for understanding disease dynamics, NSF, (PIs: Jason R. Rohr and Stanley K. Sessions; Co-PI: Peter J. Hudson) 1/2006-12/2009

- \$ 89,996 Developing an invertebrate diversity monitoring and management plan for Gettysburg National Military Park, National Park Service, (PI: Ke Chung Kim, Co-PI: Jason R. Rohr) 9/2005-8/2007
- \$ 14,974 Linking soil microbial diversity to seasonality of root production and root age, Penn State University Seed Grant, (PIs: Roger T. Koides, Co-PIs: David M Eissenstat and Jason R. Rohr) 1/2006-12/2006
- \$ 94,888 Biodiversity inventory of Fort Indiantown Gap National Guard and Training Center, Department of Military and Veteran Affairs, (PI: Ke Chung Kim, Co-PI: Jason R. Rohr) 7/2005-6/2006
- \$ 62,645 Biodiversity assessment and monitoring of Fort Indiantown Gap National Guard and Training Center, Department of Military and Veteran Affairs, (PI: Ke Chung Kim, Co-PI: Jason R. Rohr) 7/2005-6/2006
- \$ 1,000 The impacts of disease on Kentucky's declining amphibians, Kentucky Academy of Science Athey Grant, 2004-2005 (PI: Jason R. Rohr, Co-PI: Tim Sesterhenn)
- \$ 9,600 Dissertation Fellowship for the 2001-2002 academic year
- \$ 2,000 Binghamton University Summer Research Grant, 2000
- \$ 1,350 Sum of five travel grants, 2000-2002

Pending (in review or to be resubmitted):

- \$ 397,362 COLLABORATIVE RESEARCH: What lies beneath: how coinfections by virulent pathogens affect amphibian host communities, NSF (Co-PI: Jason R. Rohr, PI: Pieter Johnson, Co-PIs: Andrew Blaustein, Cherie Briggs)

PRESENTATIONS

Invited Talks and Seminars (Rohr was presenter unless noted):

- 2011 Society for Environmental Toxicology and Chemistry Meeting, Boston, Platform Session "Fungicides: Occurrence, Environmental Fate, and Toxicity"
- Society for Environmental Toxicology and Chemistry Meeting, Boston, Platform Session "Amphibian and Reptile Ecotoxicology: Interactions Among Contaminants and Other Stressors"
- University of South Florida, Environmental Research Interdisciplinary Symposium
- Virginia Tech University, Ecology and Evolutionary Biology Seminar Series
- MI H2Objective Conference: Research Shaping Michigan's Water Future, Michigan's University Research Corridor Symposium Series, Detroit, MI
- STAR Grant Progress Review Meeting, Washington, D.C.
- Society for Environmental Toxicology and Chemistry sponsored Pellston Workshop on the "Influence of Global Climate Change On the Scientific Foundation and Application of Environmental Toxicology and Chemistry", Racine, WI
- Tulane University, Department of Ecology and Evolutionary Biology

- University of South Florida, College of Public Health, Global Health Seminar Series
 USDA Water and Watershed & Agricultural Water Science Program Project Directors
 Meeting, Washington, DC, presented by graduate student
- 2010 Illinois State University, School of Biological Sciences
 University of Colorado, Department of Ecology and Evolutionary Biology (***graduate student selection as invited speaker for the Fall semester***)
 Ecological Society of America National Meeting, Pittsburgh, PA, Symposium:
 Towards a General Theory for How Climate Change will affect Infectious Disease
 (gave intro. and moderated discussion)
 Ecological Society of America National Meeting, Pittsburgh, PA, Symposium:
 Towards a General Theory for How Climate Change will affect Infectious Disease
 (postdoc gave talk)
 American Society of Parasitologists National Meeting, Colorado Springs, CO,
 Symposium: Causes and Consequences of Helminth Infections in Amphibians
 University of Florida, Gulf Coast Research and Education Center
 National Synthesis Workshop: Pathogens (Bacteria, Viruses and Protozoa) in Rural
 and Agricultural Water and Watersheds (Ithaca, NY, postdoc presented)
 Vanderbilt University, Department of Microbiology and Immunology
 Belmont University, Department of Biology
 USDA-NIFA Water and Watershed Annual Awardee Meeting (Hilton Head, SC; co-PI
 presented)
- 2009 Penn State University, School of Forest Resources
 American Society of Agronomy – Crop Science Society of America – Soil Science
 Society of America Joint International Meeting (Pittsburgh, PA), USDA-CSREES-
 NRI Managed Ecosystems Annual Awardee Meeting
 University of Central Florida, Department of Biology
 Society for Conservation Biology Meeting (Flagstaff, AZ), Organized Symposium:
 “Infectious Disease and Conservation in North America”
 Ecological Society of America Meeting (Albuquerque, NM), Organized Oral Session:
 “Climate Change Science in Conservation Planning”
 US EPA National Meeting on the “Plight of Ecosystems in a Changing Climate:
 Impacts on Services, Interactions, and Responses” (Seattle, WA)
 Archbold Biological Station (Lake Placid, FL)
 Emporia State University (Emporia, KS), Department of Biological Sciences
 (***graduate student selection as invited speaker for the Spring semester***)
- 2008 Joint Meeting of Ichthyologists and Herpetologists (Montreal, Canada), Organized
 Symposium: “Biodiversity and agricultural sustainability in North America”
 Southeast Partners in Amphibian and Reptile Conservation Annual Meeting (Athens,
 GA)
- 2007 Ecological Society of America Meeting (San Jose, CA), Organized Oral Session:
 “Disease emergence and amphibian decline: using ecology to understand patterns
 and promote restoration” (co-author presented)
 Smithsonian Environmental Research Center
 Oklahoma State University, Department of Zoology
 University of South Florida, Department of Biology
 USGS- and EPA-sponsored International Meeting: Understanding agriculture’s
 effects on amphibians and reptiles in a changing world (St. Louis, MO).

Indiana University, School of Public and Environmental Affairs

- 2006 University of California at Davis, joint seminar: Wildlife, Fish and Conservation
Biology Department and Environmental Science and Policy Department
International Conference on the Ecology and Evolution of Infectious Diseases (State
College, PA), invited to moderate and give a 10 min. synthesis of the organized
session entitled "Parasites in field systems"
Penn State University, Department of Entomology
Fordham University, Biology Department
Indiana University, joint seminar: Department of Biology and School of Public and
Environmental Affairs
International Conference on Mycorrhiza, Granada, Spain, (given by collaborator)
Mid-Atlantic Mosquito Control Association Meeting, Harrisburg, PA
- 2005 University of California at Davis, Environmental Science and Policy Department
Duquesne University, Department of Biological Sciences
Center for Infectious Disease Dynamics, State College, PA
Pennsylvania Invertebrate Biodiversity Project Meeting, State College, PA
Penn State University, Intercollege Program in Ecology
University of Virginia, Blandy Experimental Farm
NIH-sponsored National Meeting: Atrazine and the health of humans and wildlife:
State of the science and future research needs, Iowa City, IA
- 2004 Penn State University, Department of Entomology
- 2003 Binghamton University, Department of Biological Sciences
University of California at Davis, Environmental Science and Policy Department
University of Kentucky, Department of Biology
- 2001 University of Kentucky, Department of Biology

Presentations at National and International Meetings

(Rohr was presenter unless noted):

- 2011 Society for Environmental Toxicology and Chemistry, Boston, MA (1 talk)
Ecological Society of America Meeting, Austin, TX (5 talks, 1 given by me, 3 by PhD
students, and 1 by my colleague)
Declining Amphibian Populations Task Force California/Nevada Working Group
Meeting, Yosemite National Park, CA (former postdoc gave talk)
Society for Integrative and Comparative Biology, Salt Lake City, UT (poster given by
colleague)
- 2010 Entomological Society of America, San Diego, CA (talk given by grad. student)
American Society for Microbiology, San Diego, CA (talk given by grad. student)
International Symposium on Aquatic Animal Health, Tampa, FL (poster given by
grad. student)
Ecological Society of America, Pittsburgh, PA (postdoc gave two posters)
American Society of Parasitologists Meeting, Colorado Springs, CO (poster given by
grad. student)
American Society for Microbiology, San Diego, CA (talk given by grad. student)

- 2009 Ecological Society of America Meeting, Albuquerque, NM, (two talks given by my postdocs and a poster given by my grad. student)
American Ornithologist Union (a talk and a poster given by colleagues)
Society for Integrative and Comparative Biology, Boston, MA (talk given by my grad. student)
- 2008 Society for Environmental Toxicology and Chemistry, Tampa, FL (two talks)
Ecological Society of America meeting, Milwaukee, WI (three talks, none were presented by Rohr)
Annual USDA Managed Ecosystems Project Director meeting, Madison, WI (poster)
- 2007 International Meeting on Amphibian Declines & Chytridiomycosis: Translating Science into Urgent Action, Tempe, AZ (poster given by my postdoc)
Meeting of the Entomological Society of America, San Diego, CA. (two talks given by collaborators)
Annual Penn State-Cornell Mini-symposium in Chemical Ecology, State College, PA. (given by collaborator)
USGS- and EPA-sponsored International Meeting: Understanding agriculture's effects on amphibians and reptiles in a changing world, St. Louis, MO (poster)
- 2006 Ecological Society of America meeting, Memphis, TN (three total, one first authored)
International Conference on the Ecology and Evolution of Infectious Diseases, State College, PA (poster)
- 2005 Ecological Society of America Meeting, Montreal, Canada
Entomological Society of America meeting, Ft. Lauderdale, FL (given by collaborator)
- 2004 Entomological Society of America meeting, Salt Lake City, UT. (given by collaborator)
- 2003 Society of Environmental Toxicology and Chemistry meeting, Austin, TX
Society of Environmental Toxicology and Chemistry meeting, Austin, TX
Entomological Society of America meeting, Cincinnati, OH. (given by collaborator)
Ecological Society of America meeting, Savannah, GA
Animal Behaviour Society meeting, Bloomington, IN
- 2001 Animal Behaviour Society meeting, Corvallis, OR
Society for the Study of Amphibians and Reptiles meeting, Indianapolis, IN
- 2000 Ninth International Symposium on Chemical Signals in Vertebrates, Kraków, Poland (given by PhD advisor)

ADVISING AND TRAINING

Postdoctoral Advisees:

Dr. Matthew Venesky: 2011 – Present (PhD from University of Memphis)

Dr. Thomas Raffel: 2006 – 2011 (PhD from Penn State University, presently a visiting faculty member at Dickinson College)

Dr. Krista McCoy: 2009 – 2010 (PhD from University of Florida, presently a postdoc at the University of Florida)
Dr. Mike McCoy: 2009 – 2010 (PhD from University of Florida, presently a postdoc at the University of Florida)
Dr. John Romansic: 2007 – 2009 (PhD from Oregon State University, presently working for the USGS)
Dr. Denise Piechnik: 2007 – 2009 (co-advised with Ke Chung Kim; PhD from UC Davis, presently a postdoc at Penn State University)
Dr. Jason Hoverman: 2007 (PhD from University of Pittsburgh, presently a postdoc at the University of Colorado)

Graduate Advisees:

David Jennings, graduated Fall 2011 (postdoc at the University of Maryland)
Jeremy Cohen (PhD candidate)
Jenise Brown (PhD candidate)
Christina (Nicole) Ortega (MS candidate)
Neal Halstead (PhD candidate)
Brittany Sears (PhD candidate, University of South Florida Presidential Fellow)
Taegan McMahon (PhD candidate)
Zach Staley (PhD candidate; co-advised with Dr. Valerie Harwood)

Technicians:

Monica McGarrity 2011
Kristen Parker 2011-2012
Neal Halstead 2007 – 2011 (Masters from University of South Florida)

Undergraduate Advisees:

Trained and supervised over 80 undergraduate research assistants

Undergraduate Honors Theses

Callyn Hall (2009)
Andrea Schlunk (2009)
Natassia Watson (2011) African American female
Veronique Etienne (2011) Haitian female
Staci Reed (in progress)
Joseph Simon (in progress)

Graduate Committees:

Loren Byrne. Penn State University. ad hoc member, PhD received in Aug. 2006, Assistant Professor at Roger Williams University, RI
Timothy Leslie. Penn State University. ad hoc member, PhD received in Dec. 2007, Lecturer at Long Island University, NY
Lance Arvidson, University of South Florida, MS received 2008
Joshua Kuhlman, University of South Florida, MS received May 2010
Anna Deyle, University of South Florida, MS candidate

Heather Jezorek, University of South Florida, PhD candidate
Keith Stokes, University of South Florida, PhD candidate
Andrea Liebl, University of South Florida, PhD candidate
Courtney Coon, University of South Florida, PhD candidate
Samantha Mulvany, University of South Florida, PhD candidate
Paul Thurman, University of South Florida, PhD candidate
Chris Staley, University of South Florida, PhD candidate
Chris Haggerty, University of South Florida, PhD candidate
Lauren Vanmaurik, University of South Florida, MS candidate
Danielle Noaker, University of South Florida, MS candidate
Martyna Boruta, University of South Florida, PhD candidate
Amber Brace, University of South Florida, PhD candidate

AWARDS/HONORS

- University of South Florida Outstanding Research Achievement Award 2009
- Featured articles in *Nature* (top-ranked general science journal), *Trends in Ecology and Evolution* (number one ranked journal in ecology), *Environmental Health Perspectives* (ranks 2cd among 132 environmental sciences journals), and *New Phytologist*
- Featured research in textbooks: *Ecology* 2cd edition by Cain, Bowman, and Hacker
 - Two of my papers featured on pages 6 and 7 of the text
 - A separate paper cited in the online companion website Chapter 13.1:
<http://sites.sinauer.com/ecology2e/cc13.1.html>
- Binghamton University Graduate Award for Excellence in Research, 2002
- Planned and implemented a free diversity conference for students, faculty, and staff, Binghamton Univ., 2000
- Broome County Earth Star Award, Binghamton, NY, 1996

RESEARCH SKILLS/KNOWLEDGE

Proficient at both laboratory and field experimental design, and numerous statistical analyses, such as parametric, nonparametric, multivariate, and power analyses; general and generalized statistical models, null model analyses, permutation tests, information-theoretic model selection, ordination techniques, path analysis and structural equation modeling

SCHOLARLY SERVICE

- Review Editor for *Ecohealth* (2010-Present)
- Ad hoc referee for NSF grants (19)
- Served as chair of the Integrative Biology Seminar Committee (4 semesters, 2008-2010, member from 2011-)
- Member of University IACUC committee (2010-)
- Member of University Grievance Committee (2010-)
- Served on USEPA FIFRA Scientific Advisory Panel for the “Determination of the Ecological Significance of Atrazine Effects on Primary Producers in Surface Water Streams in the Corn and Sorghum Growing Region of the United States (Part II)”, Washington D.C., 2009
- Served on the University of South Florida’s Internal Grant Review Panel for Environmental Science submissions, 2008
- Reviewed manuscripts for the following journals (number in parentheses indicates number of times I have reviewed):

American Naturalist (2), Amphibia-Reptilia (1), Behaviour (4), Behavioral Ecology and Sociobiology (2), Biology Letters (2), Comparative Biochemistry and Physiology (1), Chemosphere (2), Conservation Biology (4), Copeia (3), Ecography (1), Ecohealth (4), Ecological Applications (11), Ecological Entomology (1), Ecology (5), Ecology Letters (3), Ecosphere (1), Ecotoxicology (3), Environmental Health Perspectives (1), Environmental Pollution (1), Environmental Science and Technology (1), Environmental Toxicology and Chemistry (12), Ethology (2), Evolutionary Applications (1), Functional Ecology (2), Global Change Biology (3), Herpetologica (1), Herpetological Conservation and Biology (1), Hydrobiologia (1), Integrative Zoology (1), Journal of Applied Ecology (6), Journal of Animal Ecology (3), Journal of Ethology (1), Journal of Experimental Zoology Part A: Ecological Genetics and Physiology (1), Journal of Herpetology (1), Journal of National Science Foundation of Sri Lanka (1), Journal of Zoology (1), Oecologia (8), Oikos (1), Parasitology Research (2), Proceedings of the National Academy of Sciences (7), Proceedings of the Royal Society of London B (5), Science (2), Science of the Total Environment (1)

- Conducted tours of Binghamton University's Nature Preserve, 1995-2002
- Designed, built, and tracked the development of a wetland, Binghamton, NY, 1993-2002
- Planned and implemented a free ethnic, sexual and cultural diversity conference for students, faculty, and staff, Binghamton Univ., 2000
- Coordinated regional and campus activities for Earth Week, Binghamton Univ., 1996
- Director of the Environmental Awareness Module, Binghamton Univ., 1995-1996
- Coordinator of Binghamton Environmental Action Resource, Binghamton Univ., 1995-1996

PROFESSIONAL AFFILIATIONS (past and present)

Society for Environmental Toxicology and Chemistry, Society for Conservation Biology, Ecological Society of America, Animal Behavior Society, Sigma Xi, Society for the Study of Amphibians and Reptiles, National Association of Biology Teachers

SELECTED MEDIA COVERAGE

Research mentioned in "Downwind: Big Ag at Your Door" by Clare Howard

- <http://100r.org/2012/02/downwind/>
- Quoted in "Frog Wars" 2012 by Dashka Slater, Mother Jones Magazine, Jan. + Feb. issue, p 44-49
- <http://motherjones.com/environment/2011/11/tyrone-hayes-atrazine-syngenta-feud-frog-endangered?page=1>

McMahon et al. 2011 Environmental Health Perspectives Effects of the fungicide chlorothalonil on amphibians

- St. Pete Times: <http://www.tampabay.com/news/environment/wildlife/usf-study-concludes-that-common-fungicide-is-deadly-to-frogs/1162355>
- <http://news.usf.edu/article/templates/?z=134&a=3313>
- <http://www.tampabay.com/news/environment/wildlife/usf-study-concludes-that-common-fungicide-is-deadly-to-frogs/1162355>
- <http://www.baysoundings.com/fall10/Stories/Fungicide-Toxic-to-Tadpoles-USF-Researcher-Shows.asp>
- <http://www.dailykos.com/story/2011/04/12/965121/-The-most-commonly-used-fungicide-kills-frogs>

- <http://madduxpress.com/2011/04/12/usf-study-common-fungicide-lethal-for-frogs-23402>
- <http://www.tboblogs.com/index.php/life/comments/usf-biologists-show-a-common-fungicide-kills-frogs/>
- <http://www.beyondpesticides.org/dailynewsblog/?p=5197>
- <http://wdin.blogspot.com/2011/04/top-stories-usf-study-concludes-that.html>
- http://www.sciencenews.org/view/feature/id/62649/title/In_field_or_backyard,_frogs_face_threats

Jennings and Rohr 2011 *Biological Conservation* Review of the conservation threats to carnivorous plants

- <http://www.bbc.co.uk/news/science-environment-13000505>
- <http://news.uk4net.com/2011/04/11/risky-time-for-carnivorous-plants/>
- <http://breakingnews24hrs.net/science/the-future-of-the-overzealous-collectors-threatened-by-carnivorous-plants/>
- [oogle.com/carnivorous-plants-future-threatened-by-overzealous-collectors-and-loss-of-habitat](http://google.com/carnivorous-plants-future-threatened-by-overzealous-collectors-and-loss-of-habitat)
- blogs.smithsonianmag.com/.../back-away-from-the-carnivorous-plant/

Comment on a study examining maternal and environmental effects of mercury exposure on amphibians

- <http://pubs.acs.org/cen/news/89/i14/8914scene5.html>

Controversy and atrazine

- NY Times: <http://www.nytimes.com/gwire/2010/08/26/26greenwire-enviro-groups-cheer-as-scientist-bombards-agri-18199.html>

Searching for potentially extinct amphibians

- National Geographic: http://news.nationalgeographic.com/news/2010/08/photogalleries/100810-ten-lost-extinct-amphibians-frogs-science-environment-pictures/#/lost-frogs-golden-toad_24389_600x450.jpg

Jennings et al. 2010 *Proceedings of the Royal Society of London B* Carnivorous plants and spiders

- msnbc.com: http://www.msnbc.msn.com/id/38991313/ns/technology_and_science-science/
- Fox News: <http://www.foxnews.com/scitech/2010/09/03/plants-spiders-compete-food/>
- Science Magazine: <http://news.sciencemag.org/sciencenow/2010/05/clash-of-the-kingdoms.html>
- http://podcasts.aaas.org/science_news/SciencePodcast_100514_ScienceNOW.mp3
- National Geographic: <http://news.nationalgeographic.com/news/2010/08/100821-wolf-spiders-carnivorous-plants-competition-science/>
- BBC News: http://news.bbc.co.uk/2/hi/science_and_environment/10108083.stm
- Live Science: http://www.livescience.com/php/multimedia/imagedisplay/img_display.php?s=animals&c=news&l=on&pic=spider-on-sundew-anderson-100903-02.jpg&cap=The+carnivorous+sundew+and+the+wolf+spider+eat+the+same+prey+in+the+wild.+Credit%3A+Christopher+V.+Anderson%2C+University+of+South+Florida.&title=
- USF: <http://usfweb3.usf.edu/absolutenm/templates/?a=2313&z=113>
- <http://www.physorg.com/news192952612.html>
- <http://news.softpedia.com/news/Animals-and-Plants-Found-in-Direct-Competition-for-the-First-Time-141862.shtml>

- <http://www.ukwirednews.com/articles.php/58885-Plants-and-spiders-compete-for-the-same-food-supply>
- <http://www.thedailystar.net/newDesign/news-details.php?nid=138888>
- <http://www.ethiopianreview.com/news/106955>

Rohr and McCoy 2010 *Conservation Letters*

- Huffington Post: <http://huffpostfund.org/stories/2010/07/weighing-safety-weed-killer-drinking-water-epa-relies-heavily-industry-backed-studie>
- ScienceNews:
http://www.sciencenews.org/view/generic/id/58945/title/Atrazine_paper%E2%80%99s_challenge_Who%E2%80%99s_responsible_for_accuracy%3F
- University of South Florida: <http://usfweb3.usf.edu/absolutenm/templates/?a=2303&z=113>
- http://www.panna.org/resources/panups/panup_20100514
- World News:
http://article.wn.com/view/2010/05/06/Conflicts_of_Interest_Affect_Conservation_Science/
- <http://www.physorg.com/news192386893.html>
- <http://www.openyoureyesnews.com/2010/05/07/conflicts-of-interest-affect-conservation-science/>

Rohr and Raffel 2010 *Proceedings of the National Academy of Sciences of the United States of America*

- National Science Foundation:
http://nsf.gov/news/news_summ.jsp?cntn_id=116819&org=NSF&from=news
- University of South Florida: <http://usfweb3.usf.edu/absolutenm/templates/?a=2255&z=113>
- Florida Board of Governors: http://www.flbog.org/pressroom/newsclips_detail.php?id=8482
- WALO radio show in Puerto Rico (4/28/2010)
- Environmental Research Web: <http://environmentalresearchweb.org/cws/article/news/42483>
- http://www.democraticunderground.com/discuss/duboard.php?az=view_all&address=115x243049
- http://www.outlookseries.com/N7/Science/3983_Thomas_Raffel_USF_El_Nino_Temperature_Variability_Amphibian_Declines_Thomas_Raffel_Jason_Rohr.htm
- <http://news.herphut.com/?p=99>
- <http://carbon-based-ghg.blogspot.com/2010/05/linking-global-climate-and-temperature.html>

The herbicide atrazine and policy

- “To Ban or Not to Ban: A Review of Atrazine from Both Sides of the Atlantic” Web-transmitted Partnership Call sponsored by The Collaborative on Health and the Environment,
http://www.healthandenvironment.org/partnership_calls/6784
- <http://huffpostfund.org/stories/2009/10/reversal-bush-policy-epa-launches-new-study-atrazine%E2%80%99s-health-effects>
- <http://huffpostfund.org/stories/2009/10/reversal-bush-policy-epa-launches-new-study-atrazine%E2%80%99s-health-effects>

Rohr and McCoy 2010 *Environmental Health Perspectives*

- Front page of Local and State section of the St. Petersburg Times
- National Public Radio WGPU Gulf Coast Live Radio show 10/5/2009
- National Public Radio WUSF Morning Edition 10/7/2009
- <http://usfweb3.usf.edu/absolutenm/templates/?a=1732&z=31>
- <http://news.science360.gov/>

- <http://www.usnews.com/articles/science/2009/09/30/common-weed-killer-impacts-wildlife.html>
- <http://www.tampabay.com/news/science/studies-show-evidence-that-atrazine-harms-fish-and-amphibians-usf/1040138>
- <http://www.ecoworld.com/animals/atrazine-weed-killer-hurts-fish-frogs.html>
- <http://www2.tbo.com/content/2009/oct/01/usf-study-says-popular-weed-killer-can-harm-amphib/news-breaking/>
- http://switchboard.nrdc.org/blogs/jsass/nrdc_releases_new_atrazine_rep.html

University of South Florida Magazine January 2009: <http://shell.cas.usf.edu/rohrlab/data/usf-mag-winter-09-Rohr-amphibians.pdf>

Amphibians and Climate

- <http://www.scientificamerican.com/article.cfm?id=frog-killing-chytrid-fungus-climate-fluctuations&SID=mail&sc=emailfriend>

Rohr et al. 2008 *Proceedings of the National Academy of Sciences of the United States of America*

- In the Journals on NPR: http://scienceblogs.com/illconsidered/2008/11/gw_news_november_16_2008.php
- National Geographic News: http://news.nationalgeographic.com/news/2008/12/081201-global-warming-frogs_2.html
- University of South Florida : <http://usfweb3.usf.edu/absolutenm/templates/?a=918&z=31>
- Mongabay.com: <http://news.mongabay.com/2008/1113-frogs.html>
- Esciencenews: <http://esciencenews.com/articles/2008/11/12/global.warming.link.amphibian.declines.doubt>
- Sciencedaily: <http://esciencenews.com/articles/2008/11/12/global.warming.link.amphibian.declines.doubt>
- Eureka alert: http://www.eurekalert.org/pub_releases/2008-11/ps-qwl111208.php
- E! Science News: <http://esciencenews.com/articles/2008/11/12/global.warming.link.amphibian.declines.doubt>

Rohr et al. 2008 *Nature*

- National Public Radio: <http://www.npr.org/templates/story/story.php?storyId=96282292>
- Nature podcast (12 minutes 40 seconds in): <http://www.nature.com/nature/podcast/>
- Science Magazine: <http://sciencenow.sciencemag.org/cgi/content/full/2008/1029/2>
- Nation Science Foundation: http://www.nsf.gov/news/news_summ.jsp?cntn_id=112539&org=NSF&from=news
- Science News: http://www.sciencenews.org/view/generic/id/38161/title/Farm_chemicals_can_indirectly_hammer_frogs_
- Scientific American: <http://www.sciam.com/article.cfm?id=world-without-frogs>
- RSC Chemistry World: <http://www.rsc.org/chemistryworld/News/2008/October/29100802.asp>
- Biological Research Information Center: http://bric.postech.ac.kr/biotrend/science/science_view.php?nNum=141300&nPageNum=1&nType_id=3&szSearchKey=

Rohr et al. 2006 *Environmental Health Perspectives*

- The Scientist "Climate change and frog deaths": <http://www.the-scientist.com/2008/01/1/53/1/>

- Top Story on ScienceDaily.com on 3/26/07 "Salamanders suffer delayed effects of common herbicide": <http://www.sciencedaily.com/releases/2007/03/070323104654.htm>
- FirstScience.com: http://www.firstscience.com/home/news/atmospheric-science/salamanders-suffer-delayed-effects-of-common-herbicide-page-2-1_17039.html
- ECT News Network: <http://www.ectnews.com/perl/webstory/?id=2898430>
- Penn State News and Penn State Live: <http://www.psu.edu/ur/2007/salamander.htm>
- Pesticide Action Network North America and Biology News Net: http://www.biologynews.net/archives/2007/03/24/salamanders_suffer_delayed_effects_of_common_herbicide.html
- Environment New Service: <http://www.ens-newswire.com/ens/mar2007/2007-03-27-09.asp#anchor6>
- Wildlife Disease Information Node: <http://wdin.blogspot.com/2007/03/salamanders-suffer-delayed-effects-of.html>
- Press-News.org: <http://press-news.org/97-salamanders-suffer-delayed-effects-of-common-herbicide.html>

KATHLEEN M. SCOTT, Ph.D.

Associate Professor

**Department of Biology
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Degrees

- Ph.D. Biology. Pennsylvania State University at University Park, 1998.
- B.S. Microbiology /Molecular Biology. University of Michigan at Ann Arbor, 1991.

Thesis

- Ph.D. Inorganic carbon use by hydrothermal vent sulfur chemoautotrophic bacteria.

Research Interests

- Physiological ecology of chemolithoautotrophs.
- Marine and freshwater biogeochemistry.

Honors

- University of South Florida (USF) Outstanding Undergraduate Teaching Award, 2007.
- USF Research Rising Star, 2005.
- New Researcher Grant, USF, 2004.
- Innovative Teaching Award, USF, 2004.
- Braddock Fellowship, Department of Biology, Pennsylvania State University. 1992 - 1995.
- NSF Predoctoral Fellowship, 1992 - 1995.

Professional Experience

- Associate Professor, University of South Florida, August 2009-present.**
- Assistant Professor, University of South Florida, August 2003-present.**
- Research Assistant, Harvard University, July 2000 - July 2003.**
Co-Principal Investigator: Dr. Colleen Cavanaugh.
- Postdoctoral Fellow, Harvard University, July 1998 – July 2000.**
Co-Principal Investigator: Dr. Colleen Cavanaugh.
- Graduate Research Assistant, Pennsylvania State University, September 1992 - July 1998.**
Thesis Advisor: Dr. Charles Fisher.
- Undergraduate Research Fellow, Woods Hole Oceanographic Institute, Summer 1990.**
Project Advisor: Dr. Paul Dunlap.
- Undergraduate Researcher, University of Michigan, Fall 1988 - Spring 1992.**
Project Advisor: Dr. Harry Douthit.

Publications

- Mangiapia M., **Scott K.M.** (2012). Costs to build a cell from CO₂ using the Calvin-Benson-Bassham versus reductive citric acid cycles as predicted from genome-enabled metabolic maps. In prep.
- Menning K. J., Menon R., **Scott K.M.** (2012). Enzymatic and pharmacological evidence for primary transport of dissolved inorganic carbon by deep-sea chemolithoautotrophic proteobacterium *Thiomicrospira crunogena*. In prep.
- Thomas P. J., Boller A. J., Cavanaugh C. M., Tabita F. R., **Scott K.M.** (2011). Isotope fractionation by RubisCO from metabolically versatile proteobacteria. In prep.
- Boller A. J., Thomas P. J., Cavanaugh C. M., **Scott K. M.** (2011). Isotope fractionation by RubisCO from marine diatom *Skeletonema costatum*. In prep.
- Quasem, I., USF Genomics Class of 2006, USF Genomics Class of 2007, USF Genomics Class of 2008, and **Scott K.M.** (2011). The citric acid cycle of *Thiomicrospira crunogena*: An oddity amongst the Proteobacteria. In prep.
- Dobrinski K. and **Scott K.M.** (2011). Transcription response by sulfur chemolithoautotroph *Thiomicrospira crunogena* to dissolved inorganic carbon limitation. Journal of Bacteriology. Accepted for publication.
- **Scott K. M.**, Dobrinski K., Boller A., Le Bris N. (2011). Response of hydrothermal vent vestimentiferan *Riftia pachyptila* to differences in habitat chemistry. Marine Biology 159:435-442.
- Hendrix W., Rocha A. M., Padmanabhan K., Choudhary A., **Scott K.**, Mihelcic J. R. and Nagiza F Samatova (2011). DENSE: Efficient and Prior Knowledge-driven Discovery of Phenotype-associated Protein Functional Modules. BMC Systems Biology 5:172.
- Boller A. J., Thomas P. J., Cavanaugh C. M., **Scott K. M.** (2011). Low stable carbon isotope fractionation by coccolithophore RubisCO. Geochimica et Cosmochimica Acta 75: 7200-7207.
- Kerfeld C. and **Scott K. M.** (2011). Using BLAST to teach 'E-value-tionary' concepts. PLoS Biol. 9(2): e1001014.
- **Scott K. M.**, Fox G., and Girguis P. R. (2011). Measuring isotope fractionation by autotrophic microorganisms and enzymes. In "Methods in Methane Metabolism", Methods in Enzymology, 494:281-99. ed. S. Ragsdale. Elsevier Inc., Cambridge.
- Ditty, J. L., Kvaal, C. A., Axen, S., Kim, E., Kerfeld, C. A., Bailey, C., Britton, R. A., Goodner, B. W., Freyermuth, S. K., Gordon, S. G., Heinhorst, S., Johns, M. A., Reed, K., Sanders-Lorenz, E. R., **Scott, K.**, Xu, Z. (2010). Incorporating Genomics and Bioinformatics across the Life Sciences Curriculum. PLoS Biol 8(8): e1000448. doi:10.1371/journal.pbio.1000448
- Dobrinski K., Boller A., and **Scott K. M.** (2010). Expression and function of four carbonic anhydrase homologs in deep-sea hydrothermal vent chemolithoautotroph *Thiomicrospira crunogena*. Applied and Environmental Microbiology 76: 3561-3567.

- **Scott K. M.**, Sievert S. M., Klotz M. G., Chain P. S. G., Hauser L. J., Hemp J., Hügler M., Land M., Lapidus A., Larimer F. W., Lucas S., Malfatti S. A., Meyer F., Paulsen I. T., Ren Q., Simon J., and the USF Genomics class (2008). Genome of the epsilonproteobacterial chemolithoautotroph *Sulfurimonas denitrificans*. *Applied and Environmental Microbiology* 74: 1145-1156.
- **Scott, K.M.**, Henn-Sax, M., Longo, D., and Cavanaugh, C.M. (2007) Kinetic isotope effect and biochemical characterization of form IA RubisCO from the marine cyanobacterium *Prochlorococcus marinus* MIT9313. *Limnology and Oceanography* 52: 2199-2204.
- **Scott, K.M.** and Cavanaugh, C.M. (2007) CO₂ uptake and fixation by endosymbiotic chemoautotrophs from the bivalve *Solemya velum*. *Applied and Environmental Microbiology* 73: 1174-1179.
- **Scott K.M.**, Sievert SM, Abril FN, Ball LA, Barrett CJ, Blake RA, Boller AJ, Chain PS, Clark JA, Davis CR, Detter C, Do KF, Dobrinski KP, Faza BI, Fitzpatrick KA, Freyermuth SK, Harmer TL, Hauser LJ, Hugler M, Kerfeld CA, Kong WW, Land M, Lapidus A, Larimer FW, Longo DL, Lucas S, Malfatti S, Massey SE, Martin DD, McCuddin Z, Meyer F, Moore JL, Ocampo LH, Paul JH, Paulsen IT, Reep DK, Ren Q, Ross RL, Sato PY, Thomas P, Tinkham LE, Zeruth GT (2006) The genome of the deep-sea vent chemolithoautotroph *Thiomicrospira crunogena*. *Plos Biology* 4: 1-17.
- Dobrinski, K., Longo, D., and **Scott, K.M.** (2005) A hydrothermal vent chemolithoautotroph with a carbon concentrating mechanism. *Journal of Bacteriology* 187: 5741-5766.
- **Scott, K.M.** (2005) Allometry of gill masses, gill surface areas, and foot biomass $\delta^{13}\text{C}$ values of the chemoautotroph-bivalve symbiosis *Solemya velum*. *Mar. Biol.* 147: 935-941.
- **Scott, K.M.**, Schwedock, J., Schrag, D. P., and Cavanaugh, C.M. (2004) Influence of form IA RubisCO and environmental dissolved inorganic carbon on the $\delta^{13}\text{C}$ of the clam-chemoautotroph symbiosis *Solemya velum*. *Environmental Microbiology* 6: 1210-1219.
- Schwedock, J., Harmer, T.L., **Scott, K.M.**, Hektor, H.J. Seitz, A.P., Fontana, M.C., Distel, D.L., and Cavanaugh, C.M. (2004) Characterization and expression of genes from the RubisCO gene cluster of the chemoautotrophic symbiont of *Solemya velum*: *cbbLSQO*. *Archives of Microbiology* 182: 18-29.
- **Scott, K.M.**, Lu, X., Cavanaugh, C.M., and Liu, J. (2004) Optimal methods for estimating kinetic isotope effects from different forms of the Rayleigh distillation equation. *Geochimica et Cosmochimica Acta* 68: 433-442.
- **Scott, K.M.** (2003) A $\delta^{13}\text{C}$ -based carbon flux model for the hydrothermal vent chemoautotrophic symbiosis *Riftia pachyptila* predicts sizeable CO₂ gradients at the host-symbiont interface. *Environmental Microbiology* 5: 424-432.
- Robinson, J.J., **Scott, K.M.**, Swanson, S.T., O'Leary, M.H., Horken, K., Tabita, F.R., and Cavanaugh, C.M. (2003) Kinetic isotope effect and characterization of form II RubisCO from the chemoautotrophic endosymbionts of the hydrothermal vent tubeworm *Riftia pachyptila*. *Limnology and Oceanography* 48: 48-54.

- Smith, E., **Scott, K.M.**, Nix, E., Korte, C., and Fisher, C. (2000) Growth and condition of seep mussels (*Bathymodiolus childressi*) at a Gulf of Mexico brine pool. *Ecology* **81**: 2392-2403.
- **Scott, K.M.**, Bright, M., Macko, S.A., and Fisher, C.R. (1999) Carbon dioxide use with different affinities by chemoautotrophic endosymbionts of the hydrothermal vent vestimentiferans *Riftia pachyptila* and *Ridgeia piscesae*. *Marine Biology* **135**: 25-34.
- **Scott, K.M.**, and Fisher, C.R. (1998) The burden of independence: Inorganic carbon utilization strategies of the sulfur chemoautotrophic hydrothermal vent isolate *Thiomicrospira crunogena* and the symbionts of hydrothermal vent and cold seep vestimentiferans. *Cahiers de Biologie Marine* **39**: 379-381.
- Nix, E., Fisher, C., Vodenichar, J., and **Scott, K.** (1995) Physiological ecology of a mussel with methanotrophic endosymbionts at three hydrocarbon seep sites in the Gulf of Mexico. *Marine Biology* **122**: 605-617.
- **Scott, K.**, and Fisher, C. (1995) Physiological ecology of sulfide metabolism in hydrothermal vent and cold seep vesicomyid clams and vestimentiferan tube worms. *American Zoologist* **35**: 102-111.
- MacDonald, I., Guinasso, N., Sassen, R., Brooks, J., Lee, L., and **Scott, K.M.** (1994) Gas hydrate that breaches the sea floor on the continental slope of the Gulf of Mexico. *Geology* **22**: 699-702.
- **Scott, K.M.**, Fisher, C.R., Vodenichar, J.S., Nix, E., and Minnich, E. (1994) Inorganic carbon and temperature requirements for autotrophic carbon fixation by the chemoautotrophic symbionts of the giant hydrothermal vent tube worm, *Riftia pachyptila*. *Physiological Zoology* **67**: 617-638.

Grant Proposals Funded

- USDA Cooperative State Research and Extension Service: US Department of Agriculture Higher Education Challenge Grants Program. 2008-2010. \$73,400. "Searching the deep sea for clues to enhance agricultural carbon fixation: An undergraduate research program to isolate, characterize, and sequence novel autotrophs".
- **JGI/DOE Community Sequencing Program. 9 genome sequences.**
"Thiomicrospiras: Ubiquitous sulfur-oxidizing autotrophs from an undersampled lineage of Gammaproteobacteria".
- NSF-MCB-Cellular Systems; MCB-Genes and Genome Systems, National Science Foundation. 2007-2011. \$635,509 (2 mos/yr summer support for K. Scott). "CAREER: The carbon concentrating mechanism of the deep-sea hydrothermal vent chemolithoautotroph *Thiomicrospira crunogena*". University of South Florida.
- USDA Cooperative State Research and Extension Service: US Department of Agriculture Higher Education Challenge Grants Program. 2005-2006. \$47,239. "Sequence and Consequence: A hands-on approach to bioinformatics research for undergraduates".
- USF New Researcher Grant. 2004-2005. \$8,735. "Genes of a hydrothermal vent bacterium induced by low concentrations of carbon dioxide: Adaptations to the Proterozoic-to-Phanerozoic CO₂ crisis".

- USF Innovative Teaching Grant. 2004. \$5,000. “Making the genomic era a cornucopia for undergraduate biology education”.
- Microbial Genome Program, Department of Energy. 2003-2004. Draft-level genome sequence of *Thiomicrospira crunogena* and *Thiomicrospira denitrificans*. Co-written with Stefan Sievert. “Nomination of *Thiomicrospira crunogena* and *Thiomicrospira denitrificans* for genome sequencing by the Department of Energy”.
- Biological Oceanography, National Science Foundation. 2003-2006. \$319,553. Co-written with C. Cavanaugh. “Molecular and biochemical basis for stable carbon isotopes in marine autotrophs using Form IC and Form ID RubisCO”.
- Biological Oceanography, National Science Foundation. 2000-2003. \$397,879. Co-written with C. Cavanaugh. “Molecular and biochemical basis for stable carbon isotopes in marine autotrophs using Form IA RubisCO”.
- West Coast and Polar Regions Undersea Research Center, National Undersea Research Program. 1998-2000, \$117,481 and 6 ALVIN dives. Co-written with C. Cavanaugh. “Environmental, physiological, and molecular factors influencing stable carbon isotope ratios of deep-sea chemoautotrophic symbioses”.

Grant Proposals Pending

- Biological Oceanography, National Science Foundation. 2013-2016. \$364,417. “*In vivo* and *in vitro* carbon isotope fractionation by RubisCO from cosmopolitan bloom-forming coccolithophore *Emiliana huxleyi*”. Includes 2 months of summer support for K. Scott for all three years.
- Integrative Organismal Systems, National Science Foundation. Co-written with Peter Girguis. “IOS preliminary proposal: Collaborative Research: Environmental and internal influences on the relative activities of the Calvin-Benson-Bassham and reductive citric acid cycles”.

Invited Presentations

- “Role of Carbonic Anhydrase in a Chemolithoautotroph”. Summer 2010, University of Florida.
- “A Bellyful of Bicarbonate: Surprising Carbon Concentrating Mechanisms in Deep-Sea Vent Bacteria”. Winter 2010, Harvard University.
- “Stable Carbon Isotope Values of Chemoautotrophic Symbioses: Biochemistry, Anatomy, and Some Unresolved Questions”. Winter 2009, Observatoire Oceanographique, Banyuls, France.
- “Genome-Informed Insights into the Carbon Concentrating Mechanism of Hydrothermal Vent Bacterium *Thiomicrospira crunogena*”. Winter 2009, Observatoire Oceanographique, Banyuls, France.
- “Isotope Discrimination by Marine RubisCO Enzymes”. Fall 2009, California Institute of Technology.
- “Isotope Discrimination by Phylogenetically Distinct RubisCO Enzymes”. Summer 2008, Gordon Research Conference: The Molecular Basis of C1 Metabolism.
- “Genomics Curriculum Development”. Fall 2007, Department of Energy-Joint Genome Institute Undergraduate Research Program in Microbial Genome Annotation Workshop.

- “Marine Microbial Carbon Fixation”. Fall 2007, University of Southern Mississippi Bennett Symposium.
- “Marine Microbial Carbon Fixation”. Spring 2007, Woods Hole Oceanographic Institution.
- “Adaptations for chemolithoautotrophy at deep-sea vents apparent from the genome of *Thiomicrospira crunogena*”. Summer 2006, Munster, Germany. International Society for Microbial Sulfur Metabolism.
- “The completed genome of *Tms. crunogena*: A system optimized for autotrophy at the deep-sea hydrothermal vents”. Spring 2006. ASM General Meeting.
- “A carbon concentrating mechanism in a deep-sea chemoautotroph”. Fall 2004. The Fifth International Symposium on Inorganic Carbon Utilization by Aquatic Photosynthetic Organisms.
- “Stable Carbon Isotope ratios of chemoautotrophic symbioses: Enzymatic and morphological factors”. Fall 2003. University of South Florida College of Marine Science.
- “Different choices for different lifestyles: Inorganic carbon uptake by chemoautotrophic bacteria from hydrothermal vents and elsewhere”. Fall, 2003. University of Southern Mississippi.
- “Form IA RubisCO from chemoautotrophic bacteria: Kinetic isotope effects”. Summer, 2002. Gordon Research Conference: The Molecular Basis of C1 Metabolism.
- “Carbon fixation by chemoautotrophic bacteria from deep-sea hydrothermal vents and elsewhere”. Spring, 2003. The University of South Florida.
- “Carbon dioxide uptake and fixation by chemoautotrophic bacteria from hydrothermal vents and elsewhere”. Spring, 2002. Woods Hole Oceanographic Institution.
- “Strangers in the night, exchanging gases: What $\delta^{13}\text{C}$ values tell us about gas exchange in chemoautotrophic symbioses”. Winter, 2002. Clark University.
- “Carbon dioxide uptake and fixation by chemoautotrophic bacteria from the hydrothermal vents and elsewhere”. Fall, 2001. Second International Symposium on Hydrothermal Vent Biology.
- “Inorganic carbon uptake by chemoautotrophic bacteria”. Winter, 2000. Woods Hole Oceanographic Institution.
- “Extracellular CO_2 and HCO_3^- use by symbiotic and free-living hydrothermal vent sulfur chemoautotrophs”. Fall, 2000. Third International Congress on Symbiosis.
- “Stable carbon isotope values of organisms at deep-sea vents”. Winter, 2000. San Francisco State University.
- “Carbon fixation by symbiotic and free-living hydrothermal vent chemoautotrophs”. Fall, 1999. Harvard University.
- “Inorganic carbon use at in situ pressure by the endosymbionts of the deep sea hydrothermal vent tubeworm, *Riftia pachyptila*.” Spring, 1996. Eberly College of Science Graduate Honors Seminar.

Symposia Chaired

- “Genomics of Sulfur-Oxidizing Bacteria”. Co-chaired with Stefan Sievert. ASM General Meeting, May 2006.

Conference Presentations

- I. Quasem and **K. Scott** (2010). Complete oxidative citric acid cycle in an obligate chemolithoautotroph. Gordon Research Conference: The molecular basis of C1 metabolism.
- M. Mangiapia and **K. Scott** (2010). From CO₂ to Cell: Energetic Cost of the Calvin Benson Bassham and Reductive Citric Acid Cycles Based on Genome Data. Gordon Research Conference: The molecular basis of C1 metabolism.
- **K. Scott**, K. Dobrinski, A. Boller, K. Menning, I. Quasem, and P. Thomas (2009). The ship goes down with all hands: Impact of the hydrothermal vent habitat on the chemolithoautotrophic endosymbionts from the vestimentiferan tubeworm *Riftia pachyptila*. General Meeting, American Society for Microbiology.
- K. Menning, K. Dobrinski, and **K. Scott** (2009). Identifying the components of the carbon concentrating mechanism of deep-sea hydrothermal vent chemolithoautotrophic bacterium *Thiomicrospira crunogena*. General Meeting, American Society for Microbiology.
- I. Quasem and **K. Scott** (2009). Comparative genomics of the citric acid cycle in Proteobacteria. General Meeting, American Society for Microbiology.
- K. Dobrinski and **K. Scott** (2008). Gene transcription associated with a chemolithoautotrophic carbon concentrating mechanism. Gordon Research Conference: The molecular basis of C1 metabolism.
- A. Boller, P. Thomas, C. M. Cavanaugh, and **K. Scott** (2008). Isotope discrimination by RubisCO from *Skeletonema costatum*. Ocean Sciences Meeting, American Geophysics Union/American Society for Limnology and Oceanography.
- P. Thomas, A. Boller, B. Tabita, C. M. Cavanaugh, and **K. Scott** (2008). Isotope discrimination by form IC RubisCO from *Rhodobacter sphaeroides*. Ocean Sciences Meeting, American Geophysics Union/American Society for Limnology and Oceanography.
- K. Dobrinski and **K. Scott** (2007). Genes encoding the carbon concentrating mechanism of the hydrothermal vent chemolithoautotroph *Thiomicrospira crunogena*. General Meeting, American Society for Microbiology.
- J. Paul, J. Mobberly, and **K. Scott** (2006). A prophage in the hydrothermal vent obligate chemoautotroph *Thiomicrospira crunogena*. American Society for Limnology and Oceanography.
- I. L. G. Newton, F. J. Stewart, T. Woyke, P. M. Richardson, K. W. Barry, J. C. Detter, D. C. Bruce, S. Sullivan, **K. M. Scott**, J. A. Eisen, and C. M. Cavanaugh (2006). The *Calyptogena magnifica* symbiont draft genome: An obligate, maternally transmitted endosymbiont with extensive metabolic capabilities. General Meeting, American Society for Microbiology.
- A. Boller, P. Thomas, C. Cavanaugh, and **K. M. Scott**. (2006). Kinetic isotope effects of form IC/D Rubisco enzymes. General Meeting, American Society for Microbiology.
- K. Dobrinski and **K. M. Scott**. (2006). Optimized protocol for introducing DNA into the gamma proteobacterial sulfur chemolithoautotroph *Thiomicrospira crunogena*. General Meeting, American Society for Microbiology.
- D. Longo, S. Guerin, and **K. M. Scott**. (2004). A Chemolithoautotroph with a Carbon Concentrating Mechanism. General Meeting, American Society for Microbiology.

- **K. M. Scott**, J. Schwedock, and C. M. Cavanaugh. (2002). Form IA RubisCO from chemoautotrophic bacteria: Kinetic isotope effects. Annual Meeting, American Society for Limnology and Oceanography.
- **K. M. Scott**, J. J. Robinson, and C. M. Cavanaugh. (2000). Kinetic parameters of RubisCOs from chemoautotrophic symbioses. Annual Meeting, American Society for Limnology and Oceanography.
- **K. M. Scott**, J. J. Robinson, and C. M. Cavanaugh. (1999). Influence of Form I and Form II Rubisco and environmental dissolved inorganic carbon on stable carbon isotope values in chemoautotrophic bacteria. Juan de Fuca Results Symposium.
- **K. M. Scott**, J. J. Robinson, D. T. Nguyen, J. Schwedock, and C. M. Cavanaugh. (1999). Form I and Form II Rubisco in chemoautotrophic bacteria: Influence on stable carbon isotope values?? General Meeting, American Society for Microbiology.
- **K. M. Scott** and C. R. Fisher. (1998). Inorganic carbon use by symbiotic and free-living hydrothermal vent sulfur chemoautotrophs. Gordon Research Conference on the Molecular Basis of Microbial One-Carbon Metabolism.
- **K. M. Scott**, M. Bright, and C. R. Fisher. (1997). The burden of independence: Inorganic carbon utilization strategies of the sulfur chemoautotrophic hydrothermal vent isolate *Thiomicrospira crunogena* and the symbionts of hydrothermal vent and cold seep vestimentiferans. 1st International Conference on Hydrothermal Vent Biology.
- **K. M. Scott** and C. R. Fisher. (1997). Affinities for inorganic carbon and forms used by the autotrophic symbionts of hydrothermal vent vestimentiferans. 2nd International Congress on Symbiosis.
- **K. M. Scott** and C. R. Fisher. (1996). Inorganic carbon utilization at 204 atmospheres by the endosymbionts of the deep sea hydrothermal vent tubeworm, *Riftia pachyptila*. Symbiosis 96!
- C. R. Fisher, I. A. Urcuyo, D. Julian, and **K. M. Scott**. (1996). Hydrothermal vent and cold seep vestimentiferan tubeworms: Very similar symbiotic associations, very different physiological ecologies. Symbiosis 96!
- **K. M. Scott** and C. R. Fisher. (1996). Affinity for inorganic carbon, and the forms of inorganic carbon used, by the autotrophic symbionts of hydrothermal vent vestimentiferans. Annual Meeting, Society for Integrative and Comparative Biology.
- **K. M. Scott**, J. Vodenichar, and C. R. Fisher. (1993). Inorganic carbon substrate of the chemoautotrophic symbionts of *Riftia pachyptila*. Annual Meeting, American Society for Zoology.
- E. Nix, **K. M. Scott**, and C. R. Fisher. (1993). In situ growth of SM1a: An undescribed mytilid fueled by gas. Annual Meeting, American Society for Zoology.

Research Cruise Participation

- 2007: December 25 – January 20, Clipperton Transform Fault, East Pacific Rise
- 1999: August 23 - September 6, Endeavor Segment, Juan de Fuca Ridge
April 15 - May 5, Clipperton Transform Fault, East Pacific Rise
- 1998: July 29 - August 9, Endeavor Segment, Juan de Fuca Ridge
- 1997: July 9 - 18, Louisiana Slope, Gulf of Mexico
September 6 - 27, Endeavor Segment, Juan de Fuca Ridge

- 1996: February 9 - March 27, Clipperton Transform Fault, East Pacific Rise
October 12 - 20, Endeavor Segment, Juan de Fuca Ridge
- 1995: March 21 - April 12, Clipperton Transform Fault, East Pacific Rise
July 8 - 20, Endeavor Segment, Juan de Fuca Ridge
September 18 - 30, Louisiana Slope, Gulf of Mexico
December 7 - 21, Clipperton Transform Fault, East Pacific Rise
- 1994: July 1 - 15, Endeavor Segment, Juan de Fuca Ridge
September 25 - October 5, Louisiana Slope, Gulf of Mexico (**Chief Scientist**)
November 6 - December 5, Clipperton Transform Fault, East Pacific Rise
- 1993: June 23 - July 14, Louisiana Slope, Gulf of Mexico
- 1992: March 23 - April 24, Clipperton Transform Fault, East Pacific Rise
May 22 - 27, Alaminos Canyon, Gulf of Mexico
August 9 - 22, Louisiana Slope, Gulf of Mexico

Professional Society Participation

- International Society for Microbial Ecology
- American Society for Limnology and Oceanography
- American Society for Microbiology
- Union of Concerned Scientists

Service to the field

- **American Society for Microbiology/Joint Genome Institute Functional Genomics Institute.** July 2010 and 2011. Co-chaired a 4-day workshop to assist professors from colleges and universities worldwide in the implementation of functional genomics-related curriculum innovations.
- **American Society for Microbiology Spring Bioinformatics Institute.** Spring 2009 – present. Co-chaired a 4-day workshop to assist professors selected from colleges and universities worldwide in the implementation of bioinformatics-related curriculum innovations.
- **Department of Energy-Joint Genome Institute Undergraduate Research Program in Microbial Genome Annotation.** Fall 2007 – present. Pilot faculty collaborator for curriculum development and implementation.
- **University-National Oceanographic Laboratory System Deep Submergence Science Committee,** member, Fall 2004-2008.

Proposal Review Participation

- NSF IOS Proposal Reviewer, Spring 2009
- NSF DEB Proposal Reviewer, Spring 2009
- NSF IOS Proposal Reviewer, Fall 2008
- NSF MIPS Proposal Reviewer, Spring 2008
- NSF Genes and Genomes Proposal Reviewer, Spring 2007
- USF Innovative Teaching Program, Spring 2006
- USF Internal Awards Program, Fall 2005

- NSF Marine Geology and Geophysics, Fall 2005
- NOAA Undersea Research Program, Fall 2005
- NSF Biological Oceanography, Spring 2005
- NSF Microbial Observatories Proposal Reviewer, Fall 2004
- NSF Systematics Proposal Reviewer, Fall 2003

Proposal Panel Review Membership

- NSF MCB Fall 2010
- DOE Biological Systems Research on the Role of Microbial Communities in Carbon Cycling, Spring 2010
- NASA Exobiology Review Panel Member, Spring 2010
- JGI/DOE Community Sequencing Program Panel Member, Spring 2007
- NASA Exobiology Review Panel Member, November 2003

Manuscript Review Participation

- Frontiers in Microbial Physiology and Metabolism, Associate Editor

Manuscript Review Participation (ad hoc)

- Plos One
- Geobiology
- Environmental Microbiology
- Limnology and Oceanography
- Deep Sea Research
- Journal of Bacteriology
- Plant Physiology
- Functional Plant Biology
- Microbiology

Courses Taught

- GLY 6739, *Global Biogeochemistry*, USF, Team-taught, Fall 2008 and 2009.
- BSC 5931, *Topics in Microbial Ecology*, USF, Fall 2007 and 2008.
- BSC 5931, *Genomics*, USF, Fall 2004–9.
- BSC 4937, *Global Climate Change: Impacts on Marine Ecosystems*, USF, Fall 2006.
- MCB 4404, *Microbial Physiology and Genetics*, USF, Spring 2004–10.
- MCB 4404L, *Microbial Physiology and Genetics Lab*, USF, Spring 2004–10.
- BSC 6907, *Coral Physiology*, USF, Fall 2003.
- Thesis Supervisor for Mary Mangiapia, Fall 2009-present.
- Dissertation Supervisor for Rene Weisner, PhD student, Fall 2008-present.
- Thesis Supervisor for Kristy Menning, MS student, Fall 2007-present.
- Thesis Supervisor for Ishtiaque Quasem, MS student, Fall 2007-present.
- Dissertation Supervisor for Amanda Boller, PhD student, Spring 2005-present.
- Thesis Supervisor for Phaedra Thomas, MS student, Fall 2005-Summer 2008.
- Dissertation Supervisor for Kim Dobrinski, PhD student, Fall 2004-Summer 2009.
- Committee member (non-chair) for four USF Masters and seven PhD students, Fall 2003-present.

- Mentor for twenty-one undergraduate researchers, USF, Fall 2003-present.
- Mentor for four undergraduate researchers, Harvard University, Fall 1998 – Summer 2003.
- Graduate Teaching Assistant (TA) and Guest Lecturer, *Physiological Ecology*, Pennsylvania State University (PSU), Spring 1998.
- TA, *Cells and Molecules*, PSU, Spring 1997.
- TA, *Function and Development of Organisms*, PSU, Fall 1996.
- Mentor for two undergraduate researchers, PSU, Spring 1996 - Spring 1998.

Thesis Completion by My Research Group

- “The citric acid cycle of *Thiomicrospira crunogena*: An oddity amongst the Proteobacteria”. MS Thesis, Ishtiaque Quasem. Successfully defended, Fall 2009.
- “*Thiomicrospira crunogena*: A hydrothermal vent chemolithoautotroph with a carbon concentrating mechanism”. PhD Thesis, Kimberly Dobrinski. Successfully defended, Summer 2009.
- “Isotope discrimination by form IC RubisCO enzymes”. MS Thesis, Phaedra Thomas. Successfully defended, Summer 2008.

Outreach Participation

- **USF Darwin Day, Winter 2012.** “Convergent evolution at the bottom of the ocean: How to turn a worm into a plant”.
- **USF Lunch with a Scholar Program, Winter 2009.** “Plants that Bleed and CO₂ Vacuums: The Counterintuitive world of Deep-Sea Hydrothermal Vents”.
- **Summer Project for a High School Student, Summer 2008.** Mentored Grace Vaziri on a two-week project to decipher chemotaxis by *Thiomicrospira crunogena*.
- **USF Summer Workshop on Genomics for High School Science Teachers. Summer 2008 and 2009.** Chaired and presented a two-week summer workshop for Hillsborough School District high school biology teachers on molecular evolution and the use of public genetic databases in curriculum development.
- **Science Fair Project Advisor, Fall 2004, Spring 2006.** Mentored Hannah Rutherford with her 8th grade science fair project, “Got *Thiomicrospira*? This bacterium can sniff and swim for nutrients under pressure”.
- **The Educational Cooperative Summer Institute at Dover Sherborne High School. Summer 2001.** Lectured on deep sea hydrothermal vents, and presented possible laboratory exercises, to high school teachers.
- **Eyes to the Future Program, Fall 1999-2001.** Scientist mentor for young women in middle and high school.
- **REVEL Program, Fall 1997.** Trained two high school teachers to be research assistants on a research cruise to the Juan de Fuca Ridge.

CURRICULUM VITAE

January 1st, 2012

Peter Stiling
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University of South Florida
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Education

B.S. - University of East Anglia, 1976
Ph.D. - University College, Cardiff, 1979

Academic Positions

2002-Present, Professor, University of South Florida
1996-2002, Associate Professor, University of South Florida
1990-1996, Assistant Professor, University of South Florida
1985-1990, Research Associate, Florida State University
1983-1985, Lecturer, University of the West Indies, Trinidad
1980-1983, Research Assistant, Florida State University

Awards

2008 Faculty Award for Research, Scholarly and Creative Excellence
2004 Winner – Best paper 2002-2003, Royal Entomological Society.
Peter Stiling, Anthony M. Rossi and Maria V. Cattell. 2003. Associational plant resistance mediated by natural enemies. *Ecological Entomology* 28: 587-592.
2003 President's Award for Faculty Excellence
2000-2001, Visiting Scientist, Smithsonian Institution
1995 Teaching Incentive Program Award

Grants in Support of Research

Received:

24. Testing the enemy release hypothesis using native and exotic cactus moths in Florida.
\$5,000 — University of South Florida, 2008-2009
23. Changes in biodiversity under elevated CO₂
\$348,000 — NIGEC 2004-2008
22. Quantifying seedling success of *Conseola corallicola*, the semaphore cactus, an imperiled species.
\$38,925 — Florida Department of Agriculture 2004 - 2007

21. Are current trophic dynamics models worth their salt? The relative roles of top-down and bottom-up effects along a salinity gradient in a Florida salt marsh.
\$350,487 — NSF 2003-2006
20. Insect herbivory, attack rates by natural enemies and leaf abscission under ambient and elevated CO₂.
\$445,951 — National Institute for Global Environmental Change. 2001-2004
19. The relative importance of top-down and bottom-up forces along a plant productivity/quality gradient in a Florida salt marsh: the utility of the HSS, trophodynamics, GGA and MS models.
\$210,000 — National Science Foundation. 2001-2004
\$6,000 — REU Supplement 2002
\$6,000 — REU Supplement 2003
18. Restoration of a rare cactus in the Florida Keys: the effects of an exotic cactus moth.
\$1,500 — Cactus and Succulent Society of America, 2000
17. The rate of spread of *Cactoblastis* moths on U.S. cacti and the degree of associated cactus mortality.
\$13,297 — United States Department of Agriculture, 2000
16. Re-establishing the semaphore cactus in the Florida Keys.
Florida Department of Agriculture
\$28,589 — 2000-2001
15. Insect herbivory, leaf abscission and leaf decomposition under elevated CO₂.
\$7,167 — Research and Creative Scholarship Award, University of South Florida, 1998
14. The importance of natural enemies to herbivores in Florida coastal communities.
\$990 — College of Arts and Sciences Faculty Development Grant, University of South Florida, 1998.
13. A strategy for the reintroduction of the endangered semaphore cactus, *Opuntia spinosissima* in the Florida Keys.
Florida Department of Agriculture
\$25,977 — 1998-1999
12. The defensive role of the sulfonium compound DMSP against insects feeding on saltmarsh plants. \$2,500 — University of Florida 1997

11. Research and restoration of *Opuntia spinosissima*.
Florida Department of Agriculture
\$28,500 — 1996 - 1997

10. Effects of elevated CO₂ on insect herbivory in a Florida scrub-oak ecosystem.
\$26,120 — National Science Foundation SGER 1996-1997.

9. Variation in herbivore population sizes: Reciprocal transplant experiments to compare the effects of host quality, host genotype, natural enemies and the formation of demes in a four-trophic level system.
\$200,000 — National Science Foundation, 1993-1996
\$4,750 — REU supplement 1995
\$4,250 — REU supplement 1994

8. Protecting the endangered cactus, *Opuntia spinosissima*, from attack by the cactus eating moth *Cactoblastis cactorum*.
\$7,500 — Research and Creative Scholarship Award, University of South Florida. 1991

7. Protecting the endangered cactus, *Opuntia spinosissima*, from attack by the cactus eating moth *Cactoblastis cactorum*.
\$5,000 — Catherine H. Beattie Fellowship for Derek Johnson , Center for Plant Conservation. 1991

6. Protecting the endangered cactus, *Opuntia spinosissima*, from attack by the cactus eating moth *Cactoblastis cactorum*
\$9,000 — U. S. Fish and Wildlife Service. 1991-1993

5. Protecting the endangered cactus, *Opuntia spinosissima*, from attack by the cactus eating moth *Cactoblastis cactorum*.
\$4,000 — Katherine Ordway Stewardship Endowment, The Nature Conservancy. 1991

4. Persistence in a salt-marsh insect community: experiments with local populations. (with Donald Strong)
\$299,406
National Science Foundation. 1990–1993
REU supplement \$4,725.00 — 1993
REU supplement \$3,850 — 1992

3. Transfers of leaf-miner eggs between leaves, trees, and species of oak trees: tests of the deme-formation hypothesis for a mobile insect. (with Daniel Simberloff)
\$199,994 — National Science Foundation. 1990–1993

2. Insect herbivory in tropical rain forests.
\$6,737 — University of the West Indies. 1984

1. Interspecific Competition between *Spartina* stem borers.
\$78,993 — National Science Foundation. 1983-1986

Membership in Professional Societies

Fellow of the Royal Entomological Society of London
Member of the Entomological Society of America
Member of the Florida Entomological Society
Member of the Ecological Society of America

Scientific Papers Reviewed for:

American Entomologist, Annals of the Entomological Society, Biological Control, BioScience Ecological Entomology, Ecology, Environmental Entomology, Florida Entomologist, Florida Wildlife, Journal of Animal Ecology, Journal of Biogeography, Journal of Experimental Marine Biology, Kansas Journal of Entomology, Oecologia (Editor 1997–2001), Oikos.

Grants Reviewed for:

Florida Non-Game Wildlife Program.
National Science Foundation: Animal Behavior panel; Population biology panel;
Ecology panel (panel member October 1995, October 2001, April 2003, December 2009)
United States Department of Agriculture
Sea Grant

Undergraduate Students

Alex Collazos	1991	Angela Infante	2002	Shalane Ponsell	2006
Christine Hilleary	1991	Gwen Oberholtzer	2002	Pauline Thai	2006
Beth Moses	1991	Jeannie O'Reilly	2002	Daniel Robinson	2006
Kate Frey	1992	Deborah Tharpe	2002	Jessical Allen	2007
Terri Woods	1992	(Honors Student)		Amanda Ditson	2007
Kristin Jaegger	1993	Amy Joslyn	2002	Hamid Hoveida	2007
Ray Kraker	1993	Elena Taktikos	2002	Carl Franconi	2007
Leetha Menon	1993	Lydia Overheim	2002	Rachel Vistein	2007
Clara Moreno	1993	Sara Giunta	2002	Caitlyn Palmby	2008
Cathleen Carter	1994	Ashley Vandercar	2003	Dianne Harshberger	2008
Kerry Hennenfent	1995	Sarah Rosenbloom	2003	Will Mashburn	2008
Jody Kent	1995	Mextli Lermont	2003	Leah Pope	2008
Alicia Kerstyn	1996	Kara Winston	2004	JoAnne Brown	2010
(Honors Student)		Christina Harris	2004		
Anne Kruppa	1996	Sylvia Lukasiewicz	2004		
Kate Malloy	1999	Georgina Johnson	2004		
Callie Bales	2000	Heather Faulkner	2004		

James Millett	2000	Toni Gordon	2004
Sara Jordan	2000	Arnaldo Villafranca	2004
Jeffrey Lyon	2000	Ciro Vasquez	2004
Melanie Vickerd	2001	Samvid Owivedi	2004
William Deshong	2001	Shaun Simmons	2005
Bonnie Watson	2001	Andy Paluch	2005
Stephanie Morse	2001	Mike Hennings	2005
Lori Thompson	2001	Matt Dumouchel	2005
Heidi Hughes	2001	Crystal Berarducci	2006

Graduate Students

Masters

Derek Johnson	1991-1994
Ken Ferguson	1991-1994
Eric Hudson	1993-1995
Daniel Moon	1995-1996
Ben Motten	1995-1999
Dawn Hart	1995-2000
Laura Altfeld	2000-2003
Maria Albarracin	2002-2005
Amanda Baker	2002-2006
Lance Arvidson	2007-2008
Conrad Berganza	2010-
Danielle Noaker	2010-

Doctoral

Todd Bowdish	1993-1997
Maria Cattell	1994-2001
Daniel Moon	1997-2001
Mark Barrett	2000-2004
Tatiana Cornelissen	2001-2006
Laura Altfeld	2003-2006
Heather Jezorek	2005-
Kerry Bohl	2005-
Keith Stokes	2007-
Jennifer Maul	2009-
Christy Foust	2010-
Ralph Perkerson	2010-

Additional Graduate Student Committees

Dawn Wilson	1990-1996	Brent Burman	2001-2005
Rita Longnecker	1990-1993	Shannon Gonzales	2001-2005
Laura Knowles	1990-1993	Keith Stokes (UNF)	2003-2007
Brad Robinson	1990-1994	Neal Halstead	2004-2007
Keeney Hayes	1991-1996	Katie Basiotis	2005-2007
Brad Robbins	1992-1998	Laura Beddinger	2005-
Tiffany Doan	1992-1997	Teresa Piacenza	2005-2008
Dan Schmutz	1992-1997	Jessica Platt (UF)	2007-2009
Eric Sutton	1993-1996	Tammy Foster	2007-
Amy Haddock	1993-1996	David Jennings	2007-
Alex Collazos	1993-1998	Sarah Barry	2008-2011
Alan Brooks	1994-2002	Jackie Guzy	2008-2010
Karen Hill	1994-2000	Michael Middlebrooks	2008-
Stig Ravdal	1995-1999	Jennifer Peterson	2009-
George Navratil	1995-2000	Hank Custin	2009-2010

Amy Erickson	1995-2003	Courtney Coon	2009-
Kristin Penney	1997-2001	Chris Haggerty	2011-
Sam Jacobsen	1998-2002		
Chris Anderson	1998-2001		
Tammy Foster	1998-2002		
Chris Cornelisen	2000-2003		

Post-doctoral Associates

Dr. Anthony Rossi 1991-1997

Dr. Daniel Moon 2001 – 2003

Dr. Hong Liu 2003-2005

Dr. Rebecca Forkner 2004-2006

Invited Seminars & Symposia

- Entomological Society of America Annual Meeting, San Diego, California, December 2010.
- Florida Entomological Society Annual Symposium, Jupiter, Florida, July 2010.
- Smithsonian Environmental Research Center, Edgewater, Maryland, May 2010.
- University of South Florida, Tampa, Florida, Departmental Seminar, January 2010.
- University of Notre Dame, South Bend, Indiana, October 2009
- Association of Tropical Biology and Conservation, Invasive Species Symposium, Yunnan China, July 2006 (co-author)
- University of Florida, Gainesville, Florida, February 2006.
- University of Florida Tropical Research & Education Center, Homestead, Florida, October 2005.
- University of Houston, Houston, Texas, October 2004.
- Brisbane, Australia, August 2004, International Entomology Congress (two symposia).
- Beijing International Symposium on Biological Invasions, Beijing, China, June 2004 (co-author)
- University of California, Davis, California, May 2004.
- University of Georgia, Athens, Georgia, April 2004.
- USDA Biological Control of Weeds Laboratory, Fort Lauderdale, Florida, February 2004.
- Rare Plant Task Force meeting, Bok Tower Gardens, Lake Wales, Florida November 2003.
- NIGEC National Meeting, Indianapolis, Indiana, October 2003.
- Zacatecas, Mexico, September 2003 (IX Mexican and VII International Congress on Cactus Pear).
- University of Minnesota, Minneapolis, Minnesota, April 2003 (Invasion Biology Research Consortium Symposium).

- University of Maryland, College Park, Maryland, April 2003.
- University of Miami, Miami, Florida, April 2003.
- Entomological Society of America National Meeting, Fort Lauderdale, Florida, November 2002 (2 symposia).
- University of Florida, Gainesville, Florida, October 2002.
- NIGEC National Meeting, Cocoa Beach, Florida, November 2002, Local Organizer
- International Atomic Energy Agency of the U.N., Vienna, Austria, July 2002 (co-author).
- U.S. Department of Energy, Global Education Program, Gainesville, Florida, June 2002.
- NIGEC National Meeting, Duke University, North Carolina, November 2001,
- Cactoblastis Workshop, Clearwater, Florida, September 2000 (local organizer)
- University of North Florida, Jacksonville, Florida, March 2000.
- Entomological Society of America, Southeastern Branch Meeting, Mobile, Alabama, February 2000.
- Entomological Society of America National Meeting, Las Vegas, Nevada. November 1998.
- Entomological Society of America National Meeting, Nashville, Tennessee. December 1997.
- University of California, Berkeley, California, May 1997
- Ecological Society of America National meeting, Knoxville, Tennessee. August 1994.
- Entomological Society of America National meeting, Baltimore, Maryland. December 1992.
- University of Illinois, Champaign-Urbana, Illinois, May, 1991.
- Entomological Society of America National Meeting, Louisville, Kentucky. December 1988.
- Variable insect populations and their control. University of Florida, Gainesville, October, 1988.
- International Congress of Entomology, Vancouver, Canada. July 1988.
- International Entomophagous Insects Workshop, Washington, D.C. April, 1987.
- Florida Entomological Society, Clearwater, Florida. August, 1986.

Other Seminars

- Entomological Society of America, Southeast Regional Meeting, Puerto Rico, March 2011 (second author, poster).
- Ecological Society of America, Albuquerque, New Mexico, August 2009 (Second Author – 2 posters)
- Ecological Society of America, Savannah, Georgia 2003.
- British Ecological Society/Ecological Society of America, Orlando, Florida, April 2000 (poster).
- Entomological Society of America, Atlanta, Georgia, December 1999 (second author, and poster).
- Ecological Society of America, Spokane, Washington, August 1999 (second author).

- Ecology Society of America, Baltimore, Maryland, August 1998.
- Restoration Ecology Society, Fort Lauderdale, Florida, November 1997.
- Ecological Society of America, Albuquerque, New Mexico, August 1997.
- Ecological Society of America, San Antonio, Texas, August 1991.
- Entomological Society of America, New Orleans, Louisiana, December 1990.
- Florida Entomological Society, Clearwater, Florida, August 1989.
- International Entomophagous Insects Workshop, Riverside, California, March 1989.
- Florida Entomological Society, Daytona Beach, Florida, August 1988.
- Entomological Society of America, Boston, Massachusetts, December 1987.
- International Auchenorrhyncha Workshop, Waageningen, Netherlands. 1978.

Scientific Publications

Journal Articles:

In review

1. Keith Stokes, Peter Stiling, Matthew Gilg and Anthony M. Rossi. 2011. The gall midge *Asphondylia borrichiae* Rossi and Strong (Diptera:Cecidomyiidae): an indigenous example of host-associated sympatric genetic divergence. *Journal of Evolutionary Ecology*.

Published:

112. Heather Jezorek, Peter Stiling and James Carpenter. 2011. Ant predation on an invasive herbivore: can an extrafloral nectar-producing plant provide associational resistance to *Opuntia* individuals. *Biological Invasions* 13: 2261–2273.
111. Tatiana Cornelissen and Peter Stiling. 2011. Similar responses of insect herbivores to leaf fluctuating asymmetry. *Arthropod Plant Interactions* 5: 59-69.
110. Heather Jezorek, Peter Stiling and James Carpenter. 2010. Targets of an invasive species: Oviposition preference and larval performance of *Cactoblastis cactorum* on fourteen North American opuntoid species. *Environmental Entomology* 39: 1884-1892.
109. Peter Stiling, Rebecca Forkner and Bert Drake. 2010. Long term exposure to elevated CO₂ in a Florida scrub-oak forest increases herbivore densities but has no effect on other arthropod guilds. *Insect Conservation and Diversity* 3: 152-156.
108. Peter Stiling. 2010. Death and decline of a rare cactus in Florida. *Castanea* 75: 190-197.
107. Tatiana Cornelissen and Peter Stiling. 2010. Small variations over large scales: fluctuating asymmetry over the range of two oak species. *International Journal of Plant Sciences* 171: 303-309.
106. Tatiana Cornelissen and Peter Stiling. 2009. Spatial, bottom-up and top-down

- effects on the abundance of a leafminer. *Ecography* 32: 459-467.
105. Peter Stiling, Daniel Moon, Anthony Rossi, Bruce Hungate and Bert Drake. 2009. Seeing the forest for the trees: long term exposure to elevated CO₂ increases some herbivore densities. *Global Change Biology* 15: 1895-1902.
 104. Baker, A. J. and P. Stiling. 2009. Comparing the effects of the exotic cactus-feeding moth, *Cactoblastis cactorum* (Berg) (Lepidoptera: Pyralidae) and the native cactus-feeding moth, *Melitara prodenialis* (Walker) (Lepidoptera: Pyralidae) on two species of Florida *Opuntia*. *Biological Invasions* 11: 619-624.
 103. Laura Altfield and Peter Stiling. 2009. Effects of aphid-tending Argentine ants, nitrogen enrichment and early season herbivory on insects hosted by a coastal shrub. *Biological Invasions* 11: 183-191.
 102. Tatiana Cornelissen and Peter Stiling. 2008. Clumped distribution of oak leaf miners between and within plants. *Journal of Basic and Applied Ecology* 9: 67-77.
 101. Hong Liu, Peter Stiling and Robert Pemberton. 2007. Does enemy release matter: for invasive plants? Evidence from a comparison of insect herbivore damage among invasive, non-invasive and native congeners. *Biological Invasions* 9: 773-781.
 100. Peter Stiling and Tatiana Cornelissen, 2007. How does elevated carbon dioxide (CO₂) affect plant-herbivore interactions? A field experiment and meta-analysis of CO₂ – mediated changes on plant chemistry and herbivore performance. *Global Change Biology* 13: 1823-1842.
 99. Mark A. Barrett and Peter Stiling. 2007. Relationships among Key deer, insect herbivores and plant quality. *Ecological Research* 22: 268-273.
 98. Anthony M. Rossi, Melissa Murray, Kelly Hughes, Martin Kotowski, Daniel C. Moon and Peter Stiling. 2006. Non-random distribution of parasitoids: implications for community structure and host survival. *Ecological Entomology* 31: 557-563.
 97. Mark A. Barrett and Peter Stiling. 2006. Key deer impacts on hardwood hammock habitats near to urban areas. *Journal of Wildlife Management* 70: 1574-1579.
 96. Hong Liu, Robert Pemberton and Peter Stiling. 2006. Native and introduced pollinators promote a self-incompatible invasive woody vine (*Paederia foetida* L.) in Florida. *Journal of the Torrey Botanical Society* 133: 303-311.
 95. Mark A. Barrett, Phillip Frank and Peter Stiling. 2006. Impacts of endangered Key deer herbivory on imperiled pine rockland vegetation: a conservation dilemma? *Animal Diversity and Conservation* 29: 165-178.
 94. Hong Liu, Peter Stiling, Robert Pemberton and Jorge Pena. 2006. Insect herbivore faunal diversity among invasive, non-invasive and native congeners and implications for the enemy release hypothesis. *Florida Entomologist* 89: 475-484.
 93. Hong Liu and Peter Stiling, 2006. Testing the enemy release hypothesis: a review and meta-analysis. *Biological Invasions* 8: 1535-1545.
 92. Terre Albarracin and Peter Stiling. 2006. The relative roles of top-down and bottom-up factors along a salinity gradient in a Florida salt marsh. *Ecology* 87: 2673-2679.
 91. Mark A. Barrett and Peter Stiling. 2006. Effects of key deer herbivory on forest structure in the lower Florida Keys. *Biological Conservation* 129: 100-108
 90. Mark A. Barrett and Peter Stiling. 2006. Long-term changes in plant communities

- influenced by key deer herbivory. *Natural Areas Journal*. 26: 235-243
89. Diane TeStrake, Amy Haddock Keagy and Peter D. Stiling. 2006. Fungi associated with *Borrchia frutescens* (Asteraceae); Insect galls and endophytes. *Sida* 22: 755-763.
 88. Daniel C. Moon and Peter Stiling. 2006. Trade off in oviposition strategy: choosing poor quality host plants reduces mortality from natural enemies for a salt marsh planthopper. *Ecological Entomology* 31: 236-241.
 87. Tatiana Cornelissen and Peter Stiling. 2006. Responses of different herbivore guilds to nutrient addition and enemy exclusion. *Ecoscience* 13: 66-74
 86. Tatiana Cornelissen and Peter Stiling. 2006. Does low nutritional quality act as a plant defense? An experimental test of the slow-growth, high-mortality hypothesis. *Ecological Entomology* 31: 32-40.
 85. Bruce A Hungate, Dale W. Johnson, Paul Dijkstra, Graham Hymus, Peter Stiling, J. Patrick Megonigal, Alisha Pagel, Jaina L. Moan, Frank Day, Jiahong Li, C. Ross Hinkle and Bert G. Drake. 2006. Nitrogen cycling during seven years of atmospheric CO₂ enrichment in a scruboak woodland. *Ecology* 87: 26-40.
 84. Laura Altfeld and Peter Stiling. 2006. Argentine ants strongly affect some but not all common insects on *Baccharis halimifolia*. *Environmental Entomology* 35: 31-36.
 83. Myra C. Hall, Peter Stiling, Daniel C. Moon, Bert G. Drake and Mark D. Hunter. 2006. Elevated CO₂ increases the long-term decomposition rate of *Quercus myrtifolia* leaf litter. *Global Change Biology* 12: 568-577.
 82. Daniel C. Moon and Peter Stiling. 2005. Effects of nutrients and parasitism on the density of a salt marsh planthopper suppressed by within trophic level interactions. *Ecological Entomology* 30: 642-649.
 81. Myra C. Hall, Peter Stiling, Bruce Hungate, Bert G. Drake and Mark D. Hunter. 2005. Effects of elevated CO₂ and herbivore damage on litter quality in a scrub oak ecosystem. *Journal of Chemical Ecology* 31: 2343-2356.
 80. Peter Stiling and Tatiana Cornelissen. 2005. What makes a successful biological control agent? A meta-analysis of biological control agent performance. *Biological Control* 34: 236-246.
 79. Tatiana Cornelissen and Peter Stiling. 2005. Sex biased herbivory: a meta-analysis of effects of gender on plant-herbivore interactions. *Oikos* 111: 488-500.
 78. Peter Stiling and Daniel Moon. 2005. Are trophic dynamics models worth their salt? The relative roles of top-down and bottom-up effects along a salinity gradient in a Florida salt marsh. *Ecology* 86: 1730-1736.
 77. Peter Stiling and Daniel C. Moon. 2005. Quality or quantity: the direct and indirect effects of host plants on herbivores and their natural enemies. *Oecologia* 142: 413-420.
 76. Tatiana Cornelissen and Peter Stiling. 2005. Perfect is best: leaf fluctuating asymmetry reduces herbivory by leaf miners. *Oecologia* 142: 45-56.
 75. Myra C. Hall, Peter Stiling, Daniel C Moon, Bert G. Drake, and Mark D. Hunter. 2005. Effects of elevated CO₂ on foliar quality and herbivore damage in a scrub

- oak system. *Journal of Chemical Ecology* 31: 267-286.
74. Daniel C. Moon and Peter Stiling. 2004. The influence of a salinity and nutrient gradient on coastal vs. upland tri-trophic interactions. *Ecology* 85: 2709-2716.
 73. Peter Stiling, Daniel C. Moon, and Doria Gordon. 2004. Endangered cactus restoration: mitigating the non-target effects of a biological control agent (*Cactoblastis cactorum*) in Florida. *Restoration Ecology* 12: 604-609.
 72. Anthony M. Rossi, Peter Stiling, Daniel C. Moon, Maria V. Cattell and Bert Drake. 2004. Induced defensive response of myrtle oak to insect herbivory in ambient and elevated CO₂. *Journal of Chemical Ecology* 30: 1143-1152.
 71. Maria V. Cattell and Peter Stiling. 2004. Tri-trophic interactions and trade-offs in herbivore fecundity on hybridizing host plants. *Ecological Entomology* 29: 255-263.
 70. Peter Stiling, Daniel Moon, Graham Hymus and Bert Drake. 2004. Differential effects of elevated CO₂ on acorn density, weight, germination, and predation among three oak species in a scrub-oak forest. *Global Change Biology* 10: 228-232.
 69. Peter Stiling. 2004. Biological control not on target. *Biological Invasions* 6: 151-159.
 68. Bruce A. Hungate, Peter Stiling, Paul Dijkstra, Dale W. Johnson, C. Ross Hinkle, and Bert G. Drake. 2004. Reversible effect of elevated CO₂ on nitrogen fixation. *Science* 304: 1291.
 67. Svata M. Louda and Peter Stiling. 2004. Biological control, a double-edged sword in conservation and restoration. *Conservation Biology* 18: 50-53.
 66. Tatiana Cornelissen, Peter Stiling and Bert Drake. 2004. Elevated CO₂ decreases leaf fluctuating asymmetry and herbivory by leaf miners on two oak species. *Global Change Biology* 10: 26-37.
 65. Dale W. Johnson, Bruce A. Hungate, Paul Dijkstra, Graham Hymus, Peter Stiling and Bert Drake. 2003. Effects of elevated CO₂ on soil and plant nutrient status in a scrub oak forest. *Ecological Applications* 13: 1388-1399.
 64. Peter Stiling, Anthony M. Rossi and Maria V. Cattell. 2003. Associational plant resistance mediated by natural enemies. *Ecological Entomology* 28: 587-592. Winner – Best paper 2002-2003 Award, Royal Entomological Society.
 63. Daniel C. Moon and Peter Stiling. 2003. The influence of legacy effects and recovery from perturbations in a tritrophic salt marsh complex. *Ecological Entomology* 28: 457-466.
 62. Peter Stiling, Daniel C. Moon, Mark D. Hunter, Anthony M. Rossi, Graham J. Hymus and Bert G. Drake. 2003. Elevated CO₂ lowers relative and absolute herbivore density across all species of a scrub oak forest. *Oecologia* 134: 82-87.
 61. Peter Stiling. 2002. Potential non-target effects of a biological control agent, prickly pear moth, *Cactoblastis cactorum* (Berg) (Lepidoptera: Pyralidae), in North America, and possible management actions. *Biological Invasions* 4: 273-281.
 60. Stephen D. Hight, Jim E. Carpenter, Ken A. Bloem, Stephanie Bloem, Robert R. Pemberton and Peter Stiling. 2002. Expanding geographical range of *Cactoblastis cactorum* (Lepidoptera: Pyralidae) in North America. *The Florida Entomologist* 85:

527-529.

59. Daniel C. Moon and Peter Stiling. 2002. The influence of species identity and herbivore feeding mode on top-down and bottom-up effects in a salt marsh system. *Oecologia* 133: 243-253.
58. Daniel C. Moon and Peter Stiling. 2002. Top-down, bottom-up, or side-to-side?: within-trophic-level interactions modify trophic dynamics of a saltmarsh herbivore. *Oikos* 98: 480-490.
57. Graham J. Hymus, Jean-Yves Pontauiller, Peter Stiling and Bert Drake. 2002. Seasonal variability in the effect of elevated CO₂ on ecosystem leaf area index in a scrub-oak ecosystem. *Global Change Biology* 8: 931-940.
56. Daniel C. Moon and Peter Stiling. 2002. The effects of salinity and nutrients on a tri-trophic salt marsh system. *Ecology* 83: 2465-2476.
55. Peter Stiling, Maria Cattell, Daniel C. Moon, Anthony Rossi, Bruce Hungate, Graham Hymus, and Bert Drake. 2002. Elevated atmospheric CO₂ lowers herbivore abundance but increases leaf abscission rates. *Global Change Biology* 8: 658-667.
54. Peter Stiling and Daniel C. Moon. 2001. Protecting rare Florida cacti from attack by the exotic cactus moth, *Cactoblastis cactorum* (Lepidoptera: Pyralidae). *Florida Entomologist* 84: 506-509.
53. Daniel C. Moon, Anthony M. Rossi, and Peter Stiling. 2000. The effects of abiotically-induced changes in host plant quality and morphology on a salt marsh planthopper and its parasitoid. *Ecological Entomology* 25: 325-331
52. Peter Stiling, Anthony M. Rossi, and Doria Gordon. 2000. The difficulties of single factor thinking in restoration: replanting a rare cactus in the Florida Keys. *Biological Conservation* 94: 327-333.
51. Susan Mopper, Peter Stiling, Kelli Landau, Daniel Simberloff and Peter van Zandt. 2000. Spatio temporal variation in leafminer population structure and adaptation to individual oak trees. *Ecology* 81: 1577-1587.
50. Peter Stiling and Todd I. Bowdish. 2000. Direct and indirect effects of plant clone and local environment on herbivore abundance. *Ecology* 81: 281-285.
49. Daniel C. Moon and Peter Stiling. 2000. Abiotically induced direct and indirect effects in a coastal salt marsh: assessing relative importance. *Ecology* 81: 470-481.
48. Peter Stiling, Anthony M. Rossi, Maria V. Cattell, and Todd I. Bowdish. 1999. Weak competition between coastal insect herbivores. *Florida Entomologist* 82: 599-608.
47. Alyssa Kerstyn and Peter Stiling. 1999. The effects of burn frequency on the density of insect herbivores in a Florida sandhill community. *Florida Entomologist* 82: 499-505.
46. Daniel C. Moon, Peter Stiling, and Maria V. Cattell. 1999. Experimental tests of trophic dynamics: taking a closer look. *Oecologia* 119: 275-28.
45. Peter Stiling, Anthony M. Rossi, Bruce Hungate, Paul Dijkstra, C. Ross Hinkle, W. M. Knott III, and Bert Drake. 1999. Decreased leaf-miner abundance in elevated CO₂: reduced leaf quality and increased parasitoid attack. *Ecological Applications*

9: 240 - 244.

44. Anthony M. Rossi, Peter Stiling, Maria V. Cattell, and Todd I. Bowdish. 1999. Evidence for host-associated races in a gall-forming midge: tradeoffs in potential fecundity. *Ecological Entomology* 24: 95-102.
43. Anthony M. Rossi and Peter Stiling. 1998. The interactions of plant clone and abiotic factors on a gall-making midge. *Oecologia* 116: 170-176.
42. Daniel Simberloff and Peter Stiling. 1998. How risky is biological control: response to J. H. Frank. *Ecology* 79: 1834-1836
41. Todd I. Bowdish and Peter Stiling. 1998. The influence of salt and nitrogen on herbivore abundance: direct and indirect effects. *Oecologia* 113: 400-405.
40. Derek M. Johnson and Peter Stiling. 1998. Rate of spread of *Cactoblastis cactorum* (Lepidoptera: Pyralidae) Berg, an exotic *Opuntia* -feeding moth, in Florida. *Florida Entomologist* 81: 12-22.
39. Peter Stiling and Anthony M. Rossi. 1997. Experimental manipulations of top-down and bottom-up factors in a tri-trophic system. *Ecology* 78: 1602-1606.
38. Eric E. Hudson and Peter Stiling. 1997. Incidental competition strongly affects the herbivorous insect community on *Baccharis halimifolia*. *Oikos* 79: 521-528.
37. Derek M. Johnson and Peter Stiling. 1996. Host specificity of *Cactoblastis cactorum* (Lepidoptera: Pyralidae) Berg, an exotic *Opuntia* -feeding moth, in Florida. *Environmental Entomology* 25: 743-748.
36. Peter Stiling and Anthony M. Rossi. 1996. Complex interactions of genotype and environment on insect herbivores and their enemies. *Ecology* 77: 2212-2218.
35. Daniel Simberloff and Peter Stiling. 1996. Risks of species introduced for biological control. *Biological Conservation* 78: 185-192.
34. Daniel Simberloff and Peter Stiling. 1996. How risky is biological control? *Ecology* (special feature) 77: 1965-1974
33. Kenneth. I. Ferguson and Peter Stiling. 1996. Non-additive effects of multiple natural enemies on aphid populations. *Oecologia* 108: 375-379.
32. Peter Stiling and Anthony M. Rossi. 1995. Coastal insect herbivore communities are affected more by local environmental conditions than by plant genotype. *Ecological Entomology* 20: 184-190.
31. Susan Mopper, Michael Beck, Daniel Simberloff and Peter Stiling. 1995. Local adaptation and agents of selection in a mobile insect. *Evolution* 49: 810-815.
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Course Taught

Principles of Ecology
Community Ecology
Environmental Science
Environmental Issues (new course developed in 1996)
Plant-Animal Interactions (new course developed in 2002)
Coastal Biology: mangrove and saltmarsh systems (co-taught in 2005)
Biology for Life (new course developed in 2006)

University Service***Departmental***

Planning Committee 1996-1998 (Chair), 2003-2006
Graduate Committee 1996-1997
Plant Ecology Search 1999 (Chair)
Instructor Search Committee 1998
Faculty Advisory Committee 1998-2001 (Chair, 1999-2001), 2004-2007

Curriculum Committee 2001-2002 (Chair)
Seminar Committee 1991-1993, 2005-2007

Division

Ecology Search Committee, 2007 (Chair, two positions)
Spatial Ecology Search Committee, 2008 (Chair)
Faculty Advisory Committee, 2007-2010, 2010-2013 (Chair)
Graduate Committee, 2010-2013

College

Tenure