# SUMMARY OF PRESIDENTIAL SEARCH PROCESS

CENTRAL STATS

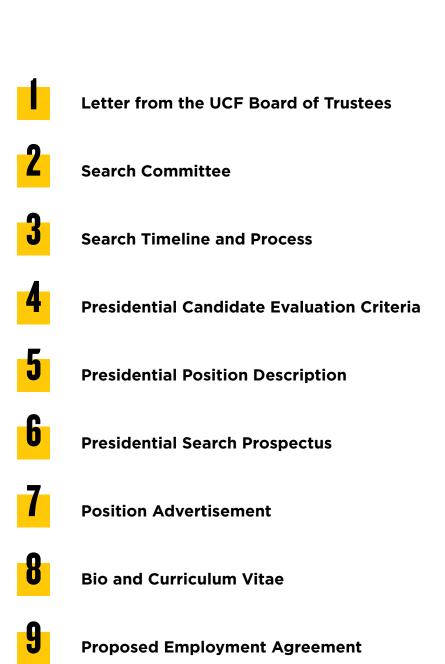
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CONDUCTED FOR THE FLORIDA BOARD OF GOVERNORS MARCH 23, 2020





## LETTER FROM THE UCF BOARD OF TRUSTEES

SECTION 1





UNIVERSITY OF CENTRAL FLORIDA

#### **Board of Trustees**

P.O. Box 160002 Orlando, FL 32816-0002

March 20, 2020

The Honorable Syd Kitson, Chair Florida Board of Governors 325 West Gaines Street, Suite 1614 Tallahassee, Florida 32399

RE: Confirmation of University of Central Florida President-Elect

Dear Chair Kitson:

I am pleased to request the Board of Governors final review and confirmation of Dr. Alexander N. Cartwright as the sixth president of the University of Central Florida. This request is made on behalf of the UCF Board of Trustees, following their unanimous vote and pursuant to Board of Governors Regulation 1.001(5)(c).

We submit this request with sincere thanks for your advice and support throughout this process. An equal measure of gratitude is due to Chancellor Criser for his commitment and counsel as we navigated the sudden challenges experienced in concluding the search under very unusual conditions. Governor Tim Cerio's dedicated service as a member of the search team was instrumental in helping us to reach a conclusion that has enabled us to bring you an immensely qualified president-elect for the Board's consideration. We are confident that Dr. Cartwright's experience and track record make him the right leader at this time for the University of Central Florida.

In our search, the UCF Board of Trustees and members of the presidential search committee sought to recruit a proven leader of the highest integrity and academic qualifications, one whose passion for the university's mission and the students it serves would inspire and engage faculty, staff, students and community members, as well current and prospective donors. We wanted someone who would also quickly earn the respect and support of the Board of Governors and Florida's elected leaders. We hope you will agree that our considerable due diligence in this regard, over several months, has brought this state a higher education visionary whose credentials to lead UCF are impeccable.

In looking for a next president, the search committee and trustees sought leadership characteristics and abilities that included, among others:

- a commitment to student success in all areas of the collegiate experience;
- a demonstrated record of building and nurturing strong and effective leadership teams;
- a history of success developing relationships and strategic partnerships with community organizations, local industry leaders, state government officials, key stakeholders and other educational institutions, among others;

• a record of building and fostering close relationships with local government officials, corporations, nonprofits, foundations and cultural organizations;

• the ability to attract new revenue sources, and to thoughtfully manage and grow resources in times of financial constraint;

- experience in fundraising and developing relationships with alumni, foundations, corporations and individual donors, including success in securing major and planned gifts;
- a deep understanding of and ability to lead in a unique multisite metropolitan research university environment;
- experience leading a large, complex organization and the ability to understand how the university's unique
- history, assets and mission can translate and be leveraged into effective strategies and measurable outcomes that align with new and emerging priorities; and,

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UNIVERSITY OF CENTRAL FLORIDA

**Board of Trustees** P.O. Box 160002 Orlando, FL 32816-0002

• a leadership style that emphasizes transparency and encourages openness in dealings with others, acceptance of diverging perspectives, a consultative decision-making style, collaboration and inclusion among all constituents and stakeholders and fairness in strategic decision-making.

I am confident that we have selected a president for UCF who fully possesses these leadership strengths. Dr. Cartwright is a distinguished academic leader with a wealth of experience at high performing research universities, most recently as president of an institution that is a member of the prestigious Association of American Universities.

With this letter of request, we hereby ask the Board of Governors to consider and confirm Dr. Alexander N. Cartwright at its March 25, 2020 meeting. Additional information, in compliance with the requirements of Board of Governors Regulations 1.001(5) (c) and 1.002(1) (d) (v), is enclosed.

While we very much regret the circumstances that make an in-person interview impossible, please know that the UCF Board of Trustees certainly appreciates the accommodations being made to enable us to proceed. This is a moment of vital importance for the university, one where it is critical that our new president be present and able to lead as soon as possible.

With our thanks to the Board of Governors, I remain,

Sincerely,

Beverly Seay, Chair.

Board of Trustees - University of Central Florida

# **SEARCH COMMITTEE**

SECTION 2





### BEVERLY J. SEAY

Chair, UCF Board of Trustees

**Beverly Seay** is an entrepreneurial senior executive with global experience and a Fortune 500 track record in domestic and global business operations with a unique blend of strengths to include startup, turnaround, high growth and acquisition. She currently enjoys advising and connecting companies,

universities and investors in modeling and simulation, cybersecurity, blockchain and computing technologies. Leadership roles include the startup of the Nebraska Applied Research Institute focused on Cyber Physical Systems for Building and Utility Control Systems and the CAE Global Integrated Enterprise Solutions Group. From 1990-2011, she built the SAIC Modeling and Simulation systems business unit from startup, including an acquisition, internal merger and spinout. Inducted into the National Center for Simulation Hall of Fame and selected as one of Florida's most influential business leaders by Florida Trend, Seay is a recognized leader in innovative and creative technologies with strong university ties through personal commitment and industry collaboration.

She is a member of the University of Central Florida (UCF) Board of Trustees (2013-present). She is past and present chair of the Deans' Industry Advisory Boards at the UCF College of Engineering and Computer Science and the Georgia Tech College of Computing. She is also vice-chair of the board of Association of Governing Boards of Universities and Colleges (AGB) (2015-present).

As chair of the Florida Simulation Summit (2015-present), Seay works with the Orange County Mayor's office and the National Center for Simulation to increase awareness of Modeling and Simulation technologies and their applications in industries such as healthcare, entertainment, transportation, education and defense.

Seay has a BS in Mathematics and MS in Computers, Information and Control Engineering from the University of Michigan.



### ALEX MARTINS

Vice Chair, UCF Board of Trustees

**Alex Martins**, who has spent 32 years in professional sports management and rejoined the Magic in June 2005, was promoted to chief executive officer on December 7, 2011. He previously served as president for more than one year and was the team's chief operating officer from 2006-10. Martins also serves as

CEO of SED Development, LLC, an affiliate of the Magic, which is currently planning an entertainment mixed-use development across Church Street from the Amway Center. Martins represents the Magic as the team's Alternate Governor to the NBA Board of Governors, as well as managing partner of the Lakeland Magic, Orlando's affiliate in the NBA G League. Martins is a member of the NBA's Team Media Advisory Committee, Labor Relations Advisory Committee and Business & Basketball Committee.

Martins, who served in various senior-level management capacities with the Magic between 1989-98 and as the organization's executive vice president of marketing and franchise relations in 2005-06, oversees all operations of the club.

During the past 13 years, Martins led the Magic in a transformation of its business operations, while overseeing a ticket sales, premium sales and corporate partnership effort, which saw the most successful business year in the history of the franchise in the 2010-11 season. The transformation process received the recognition of the SportsBusiness Journal, which named the Magic as a finalist for Professional Sports Team of the Year, the only NBA team to be named a finalist that year.

Similarly, Martins has spearheaded the transformation of the current Magic basketball operations department, with the hiring and management of the current basketball administration leadership.

Included in the franchise's success has been the largest season ticket base in franchise history in 2010-11 (14,200) and the most successful corporate sales effort in franchise history in 2014-15. Amongst these records is the largest increase in attendance in the NBA over that five-year period.

Martins was instrumental in helping to secure the new state-of-the-art Amway Center in Orlando. The Amway Center is part of a public community venues program that also includes a new Performing Arts Center and a renovation of the Citrus Bowl Stadium. The new Amway Center opened in October 2010. The facility was named a finalist for the SportsBusiness Journal's Sports Facility of the Year Award for two consecutive years and captured the award in 2012. Additionally, the Magic also contributed \$20 million toward and constructed five community recreation centers throughout Orange County, Florida, as part of its commitment to build the new Amway Center. The Amway Center was also honored in 2013 with the Customer Experience Award during TheStadiumBusiness Awards presentation held in association with TheStadiumBusiness Summit in Manchester, England.

At the annual NBA Sales and Marketing Meetings, the Magic organization has been awarded the "New Full Season Ticket Award" twice for being No. 1 in the NBA in new full season tickets sold, a "90 Percent Renewal Award" for being just one of five teams to achieve a 90 percent or higher season ticket renewal rate in 2007, a "Sponsorship Account Performance Award" for the extraordinary number of accounts secured by the corporate partnerships department and the "Retailer of the Year Award" twice, for the team's retail sales performance.

Martins originally joined the Magic as director of publicity/media relations in April 1989. In September of 1996, he was promoted to senior director of communications. He also previously served as the Chairman of the Board of

### ALEX MARTINS

Vice Chair, UCF Board of Trustees

the Magic Action Team Community Fund. The Magic Action Team Fund developed into the Orlando Magic Youth Foundation, which has distributed nearly \$24 million to local nonprofit organizations during the last 29 years, including more than \$1 million last season. Additionally, Martins served on the developmental board of the DeVos Sport Business Management Program at the University of Central Florida. The program has been funded through a \$9 million endowment by Rich and Helen DeVos and awards dual Masters degrees in Sport Management and Business Administration.

Martins also has served as the senior vice president of marketing and branding for the NBA's New Orleans Hornets, vice president of communications and public affairs with the NFL's Cleveland Browns and vice president of sports ventures with the Tavistock Group. At Tavistock, Martins served as tournament director of The Tavistock Cup, a PGA Tour-sanctioned event.

Martins started his career as a student assistant in the Villanova sports information department, assisted in the Philadelphia 76ers public relations department and was also the assistant sports information director at Georgetown University (1988-89).

Martins currently serves as the Vice Chair to the UCF Board of Trustees, also serving as Chair of the Finance and Facilities Committee. He is also past chairman of the Metro Orlando Economic Development Commission and The Central Florida Partnership, as well as past chairman of the Orlando Community Construction Corporation, the entity responsible for the construction of the Dr. Phillips Center for the Performing Arts. Martins also has served on the board of directors of the Orlando/Orange County Convention & Visitors Bureau and the Central Florida Commission on Homeless. He currently serves on the Central Florida board of directors for Seaside National Bank & Trust, and on the Governor's Council of the Orlando Economic Partnership.

In April 2015, Martins received the James B. Greene Economic Development Award, which is the highest honor bestowed by the Orlando Economic Development Commission, and recognizes an individual whose work has contributed substantially to the economic prosperity of the region. In 2013, he was awarded the 2013 Charles Andrews Memorial Hospitality Award for Community Leadership by the Central Florida Hotel and Lodging Association. The award is CFHLA's highest honor recognizing an individual's achievements and contributions to the Central Florida hospitality industry as well as the community at large.

Following the tragedy at Pulse nightclub in June 2016, Martins was chosen by the City of Orlando to Chair the board of directors for the largest fund for victims of the shooting, the city- sponsored OneOrlando fund.

Martins earned his MBA from the University of Central Florida, where he is a member of the College of Business Administration's Hall of Fame and recipient of the University's Distinguished Alumnus Award. He also serves on the Dean's Executive Council for the College of Business Administration at UCF, and was honored with the opportunity to serve as Commencement Speaker at UCF in August 2008.

A native of Kearny, New Jersey, Martins earned a Bachelor of Science degree in business administration from Villanova, where he graduated from in 1986. He resides in Orlando, Fla., with his wife, Juliet, and daughters, Sophia (15) and Gabrielle (13).



### WILLIAM SELF, PH.D.

Member, UCF Board of Trustees and Associate Professor, College of Medicine

**Bill Self** currently serves as the Chair of the Faculty Senate and vice chair of the Advisory Council of Faculty Senates. Dr. Self is an Associate Professor in the Burnett School of Biomedical Sciences. Bill received his Bachelor of Science

in Microbiology with high honors from the University of Florida in 1993, followed by his Ph.D. in 1998 in which he studied the role of molybdenum in the transcriptional regulation of genes involved in energy metabolism in Escherchia coli. He then moved on to the National Heart, Lung and Blood Institute under the guidance of Dr. Thressa C. Stadtman (NAS member) at the NIH in Bethesda, Maryland, where he studied anaerobic microbiology and biochemistry to help build a solid foundation for future independent research.

Since arriving at UCF in 2003, he has continued studies of metalloenzymes from clostridia, especially Clostridium difficile, and also expanded to study newly identified catalytic antioxidant nanomaterials (cerium oxide nanoparticles) in collaboration with Dr. Sudipta Seal (NSTC). He has published over 70 research articles, and this work has been highly cited in recent years (H- index of 38 with over 6,000 citations). He has given 14 invited talks at national/international conferences and universities in the past seven years, served as a panel chair twice at international conferences, and served on 12 NIH study sections and six NSF study sections since 2009. He has authored/co-authored over 60 conference presentations and been awarded seven patents (with four more still pending) since 2009. Several of these patents were licensed in 2017.

Besides his extensive research and service to the profession, Dr. Self has also been heavily involved in service to UCF, including serving eight years on Senate Joint Committees and Councils and seven years as a Faculty Senator. Dr. Self served as Chair of the Undergraduate Council for two years and has served on the Steering Committee, also for five years including two years as the Faculty Senate chair. Dr. Self also served as a Provost Faculty Fellow two years ago.

He and his wife of 24 years, Marianne, spend quite a bit of time raising their four teenage sons. They especially like spending time outdoors boating, fishing, and snorkeling in southwest Florida with family and in the Keys.



### TIMOTHY M. CERIO

Member, Florida Board of Governors

**Timothy M. Cerio** is an attorney in Tallahassee, Florida, and focuses his practice on regulatory and health care law; government investigations; administrative law, including representation of clients in quasi-judicial proceedings; and complex litigation in state and federal courts. From 2015 to 2016, Cerio

served as the General Counsel to Governor Rick Scott. As General Counsel, Cerio was the chief legal advisor to the Governor and the Executive Office of the Governor's legal liaison to all state and local agencies. After completing his service, Cerio formed his own law firm, Timothy M. Cerio, LLC, and he remains of counsel to the GrayRobinson law firm.

In March 2017, Governor Scott appointed Cerio to the Florida Constitution Revision Commission. The "CRC" is convened once every 20 years for the purpose of reviewing Florida's constitution and proposing amendments for voter consideration. From 2013 to 2015, Cerio was a member of the Judicial Nominating Commission for the First District Court of Appeal. Cerio is currently a member of the Board of Directors of the James Madison Institute, Florida's premiere think tank dedicated to promoting economic opportunity for all Floridians.

Cerio previously served as general counsel and chief of staff of the Florida Department of Health. With over 16,000 employees and a \$2.8 billion budget, the Florida Department of Health is responsible for regulating all licensed health care practitioners and delivering public health services throughout the State of Florida.

Cerio earned his bachelor's degree in political science from the University of Florida in 1990 and his law degree with honors from the University of Florida College of Law in 1995. He has served as president of both the University of Florida Alumni Association and the UF College of Law Alumni Council, and he continues to serve on the Florida Blue Key Alumni Advisory Board.

Cerio has been married to his high school sweetheart, Jayne, for 25 years, and they have three amazing children.



### MICHAEL Georgiopoulos, ph.d.

Dean, College of Engineering and Computer Science

**Michael Georgiopoulos** is the dean of the College of Engineering and Computer Science (CECS) at the University of Central Florida. Dr.

Georgiopoulos leads one of the largest colleges of its kind in the nation, with more than 11,500 students and 400 faculty members and staff.

Dr. Georgiopoulos became the college's sixth dean in July 2013, after serving one year as interim dean. Since then, undergraduate student enrollment increased by more than 50 percent and graduate student enrollment increased by more than 35 percent. The faculty population has expanded by more than 40 percent. The college's research enterprise has grown to an annual research awards portfolio exceeding \$50 million, increasing by more than 100 percent. The philanthropic giving to the college, as part of the IGNITE campaign, surpassed \$80 million. In 2018-2019 more than 2,000 engineering and computer science degrees have been conferred adding to the college's 37,000+ alumni.

Dr. Georgiopoulos joined the UCF faculty in 1986 in the college's Department of Electrical Engineering and Computer Science. He has served in, and has been honored for, his many roles at UCF. In 2010, he was named a UCF Pegasus Professor – the university's most prestigious faculty award – recognizing extraordinary contributions to the UCF community through teaching, research and service.

He is widely known in the UCF community for his leadership of UCF's EXCEL program, a science, technology, engineering and math (STEM) talent expansion program funded by the National Science Foundation (NSF). Since it began in 2006, UCF's EXCEL program has resulted in an approximate 40 percent increase in student success, and has been lauded and recognized by UCF and the NSF.

In 2011-2012, Dr. Georgiopoulos served as interim assistant vice president of Research. His research area of expertise is machine learning with special emphasis on neural network algorithms. His research portfolio includes more than 50 grants and contracts as principal investigator or collaborator, some of which were multi-million-dollar efforts. He has advised the research of more than 100 students of all degree levels.

He has published and presented his research findings in more than 250 papers in various professional journals, book chapters and international conferences. In addition, he has served as associate editor of Neural Networks, associate editor of IEEE Transactions on Neural Networks, and technical co-chair of the 2011 International Joint Conference on Neural Networks.

In 2014, Dr. Georgiopoulos was inducted into the University of Connecticut's Academy of Distinguished Engineers. He holds a master's and a doctoral degree in electrical engineering from the University of Connecticut; and a Diploma from the National Technical University of Athens.



### VICTORIA LOERZEL, Ph.d., RN, OCN

Associate Professor, College of Nursing

**Victora Loerzel** is the Beat M. and Jill L. Kahli Endowed Professor in Oncology Nursing. Dr. Loerzel's primary research interests include older persons with

cancer, quality of life, symptom self-management, and cognitive representations of symptoms and illness. Her primary research goal is to assist older adults to self-manage treatment-related side effects and optimize health at all stages of the cancer trajectory by developing new and innovative methods to educate them about symptom self- management options. Secondary research interests include educating nursing students about oncology and end of life topics.

Dr. Loerzel earned her BSN from Florida Atlantic University, an MSN from Case Western Reserve University, Payne Bolton School of Nursing, and a PhD from the University of Central Florida.



### STELLA SUNG, D.M.A.

SEARCH COMMITTEE

Pegasus Professor, College of Arts and Humanities

**Stella Sung** is a national and international award- winning composer, whose compositions are performed throughout the United States and abroad.

As a recipient of a "Music Alive" award, a three- year award sponsored by New Music USA, the League of American Orchestras, ASCAP, the Aaron Copland

Fund, and the Andrew Mellon Foundation, Dr. Sung recently served as Composer-in-Residence (2013-16) with the Dayton (OH) Performing Arts Alliance (DPAA) (Dayton Philharmonic Orchestra, Dayton Ballet, and Dayton Opera). During the course of her three-year residency, she created new works for orchestra, ballet, and opera. The DPAA was one of five, nationally selected cohort recipients of the "Music Alive" award residencies, during which composers and orchestras collaborated to create new, innovative works that engaged communities and artists during the residencies.

Dr. Sung was the first Composer-in-Residence for the Orlando Philharmonic Orchestra, (2008- 2011), and continues to serve as Composer-in-Residence for Dance Alive National Ballet (Gainesville, FL).

Dr. Sung is also the director of the Center for Research and Education in Arts, Technology, and Entertainment (CREATE) at the University of Central Florida, and is Professor of Music in UCF's School of Visual Arts and Design (Digital Media), College of Arts and Humanities. Dr. Sung holds a "Pegasus" Professorship, the highest honor awarded to distinguished faculty members

at UCF and holds an Endowed "University Trustees Chair" professorship.

Since 2003, Dr. Sung has been using digital and multi-media applications in her concert and symphonic compositions, music for dance and ballet, and recent operas that include the use of advanced projection techniques and other stage design concepts using technology. With her current orchestral work, Oceana, she is working on creating an interactive virtual reality experience and has developed an interactive app to be used during concert performances.

Other current projects include The Secret River, with Pulitzer Prize-winning librettist Mark Campbell, commissioned by Opera Orlando (premiere Dec. 2021), and film score for a new film by award-winning documentary film-maker Lisa Mills.

Dr. Sung is the recipient of the 2007-2010 Phi Kappa Phi National Artists Award, as well as a 2009-10 "Meet the Composer" award. She is a two-time winner of a Florida Individual Artists Fellowship, sponsored by the Division of Cultural Affairs for the State of Florida, as well as the 2005 recipient of a Florida Artists Enhancement award. She was a Fellow at the prestigious MacDowell Colony, and was the recipient of the Norton Stevens Fellowship. Other awards have been from the National Endowment for the Arts, New Music USA, Meet the Composer, the German Ministry of Culture, the American Society of Composers, Authors, and Publishers (ASCAP), and the Division of Cultural Affairs of the State of Florida.

Dr. Sung is also an active composer for film, and was the composer and music supervisor for the score for the full-length documentary film, Voices in the Clouds, which received critical acclaim in national and international film festivals. Her music was featured in the short animation film, Atlas' Revenge, (based upon Dr. Sung's orchestral work of the same title), which was selected as the first-place winner at the 2010 SIGGRAPH conference (Time and Space category). She wrote the score for a new animated short film, Farmer Glorp, produced by the Character Animation students at the University of Central Florida (Class of 2016). The film was

### STELLA SUNG, D.M.A.

Pegasus Professor, College of Arts and Humanities

premiered in May 2016, with the Dayton Philharmonic Orchestra playing live at the Schuster Center in Dayton, OH, and is currently being screened at film festivals. She recently completed the score for Marching Forward, a new award-winning documentary film by Lisa Mills, tracing the performances of two high school bands from Orlando at the 1964 World's Fair with the Civil Rights movement as a backdrop to the film.

Premieres, performances, and commissions of Dr. Sung's work have included compositions for world-renowned cellist Yo-Yo Ma, the German Ministry of Culture (Rhineland-Pfalz), the Boston Landmarks Orchestra, the Dayton Philharmonic Orchestra (Dayton, OH), the Jacksonville Symphony Orchestra (Jacksonville, FL), the Orlando Philharmonic Orchestra (Orlando, FL), the Akron Symphony Orchestra (Akron, OH), the Gainesville Chamber Orchestra (Gainesville, FL), the Florida Symphony Youth Orchestra (Orlando, FL), the Florida Young Artists Orchestra (Orlando, FL), the Etowah Youth Orchestra (Gadsden, AL), the Azure Ensemble (NY), Dance Alive National Ballet (State touring ballet company of Florida), the Lyric Arts Trio (Kansas City, KA), saxophonist Claude Delangle (Conservatoire de Paris), guitarist Andrea Vettoretti (Rome, Italy), guitarist Eladio Scharrón (Orlando, FL), flautist Donna Wissinger (FL), the PRISM Saxophone Quartet (NY, NY), the Rollins College (Winter Park, FL), the 2000 Alabama All-State Festival Orchestra (Tuscaloosa, AL), and from the Buffet Crampon Clarinet company (Jacksonville, FL).

Major concert venues have included the West Lawn of the U.S Capitol (Washington, D.C), Carnegie Hall (New York, NY), Symphony Hall (Boston, MA), the Sydney Opera House (Sydney, Australia), the Schauspielhaus (Berlin, Germany), the Phillips Collection (Washington, D.C), Merkin Hall (New York, NY), the Nathan H. Wilson Center for the Performing Arts (Jacksonville, FL), the Jacoby Concert Hall (Jacksonville, FL), the Bob Carr Performing Arts Centre (Orlando, FL), the Curtis M. Phillips Center for Performing Arts (Gainesville, FL), the E.J. Thomas Center for the Performing Arts (Akron, OH), the Chrysler Center for Performing Arts (Norfolk, VA), the Van Weisel Hall (Sarasotra, FL), the Schuster Center (Dayton, OH), the Boston "Esplanade" Hatch Shell (Boston, MA), and other major concert venues.

Several documentary films have been made about Dr. Sung's work including a film by documentary film-maker Lisa Mills, which captures the world premiere performance of Dr. Sung's large orchestral work, The Circle Closes (2010). This film has garnered a Silver Medal Award from the 2011 Park City Film Music Festival (Park City, Utah), and a 2011 Bronze Telly Award. Dr. Sung's highly acclaimed composition for orchestra, Rockwell Reflections, was excerpted and made into a five-minute film also by Lisa Mills, and was selected for the Cultural Arts Award at the 2009 International MOFILM short film festival. Another award-winning documentary film about Sung's Concerto for Two Violins and Orchestra by film-maker Aaron Hosé, was selected for two Telly Awards (2007).

The music of Dr. Sung is published by the Theodore Presser Music Publishers (USA), Editions Henry Lemoine (France), Southern Music Company (Keiser, USA), and Sonic Star Music Productions (USA), and is currently available on Koch International Recordings, Naxos, Cambria Master Recordings, Sinfonica (Italy), Eroica Master Recordings, MSR, and Albany Records. Dr. Sung's compositions have been broadcast on radio stations worldwide including WGBH-Boston, WNYC-New York, KING FM radio (Seattle, WA), the Bavarian Radio (Munich, Germany), the Swedish National Radio, and Radio Vaticana (Rome, Italy).

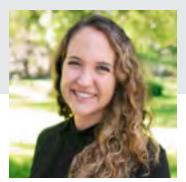
Dr. Sung holds the Bachelor of Music degree (piano performance) from the University of Michigan (Ann Arbor), the Master of Fine Arts degree (Composition) from the University of Florida, and the Doctor of Musical Arts degree (piano performance) from the University of Texas at Austin. Her piano teachers included Theodore

### STELLA SUNG, D.M.A.

Pegasus Professor, College of Arts and Humanities

Lettvin, Louis Nagel, Gary Wolf, and David Renner. She studied composition with John D. White, Edward Troupin, Donald Grantham, and Eugene Kurtz.

Dr. Sung has been recognized by the University of Florida as a Distinguished Alumna, an Alumna of Outstanding Achievement, and has also received a Distinguished Achievement Award from UF.



### MADELINE MILLS

Student Body Vice President

**Madeline Mills** is a senior majoring in political science pre- law with a minor in global peace and security. As a freshman at UCF, she immediately immersed herself in Lead Scholars, Student Government, and Greek life. She started her own garden organization her freshmen year and has traveled to Boston

and Chicago to represent her project, receive funding, and promote a solution to food insecurity on college campuses.

She has been awarded philanthropic awards and has been recognized nationally as the top servant leader at the University of Central Florida. She worked as the Mentorship Program Coordinator and Director of Innovation in SG and was the Vice President of Philanthropy for her sorority, Pi Beta Phi. She is the Student Body Vice President for the University of Central Florida, overseeing various committees and campus-wide initiatives. Mills is passionate about making her campus more sustainable and creating an inclusive campus for all students.



### TIMOTHY HILL '18

Graduate Student and Member, President's Leadership Council

**Tim Hill** is a graduate student at UCF completing a dual degree master's program in Public Administration and Criminal Justice. Tim also works as a graduate teaching assistant within UCF Experiential Learning and is a member

of the 2019-2020 UCF President's Leadership Council.

Tim graduated in summer 2018 with a Bachelor's of Science in Public Administration and a minor in Emergency Management and Homeland Security. As an undergraduate, he served as a Legislative Scholar in the Office of Senator Randolph Bracy.

Through his role as a Scholar, Tim learned about the Florida legislative process and interacted with elected officials to help him develop a strong professional network.

Tim is a past president of the International City and County Management Association (ICMA) UCF Student Chapter. He is also a member of Pi Alpha Alpha Public Service Honor Society and the Winter Park Alumni Chapter of Kappa Alpha Psi Fraternity, Inc.



### CYNDIA MORALES Muñiz, Ed.d.

Director, HSI Culture and Partnerships, UCF

**Cyndia Morales Muñiz** is Director of HSI Culture and Partnerships. In this role, she provides strategic leadership and stewards national partnerships

that advance UCF's Hispanic Serving Institution (HSI) objectives. Dr. Muñiz works with senior leadership and leads cross-functional teams of faculty and staff from various units to promote an inclusive and effective HSI campus culture.

Dr. Muñiz joined the UCF community in 2008 as a doctoral student and has since worked in the College of Undergraduate Studies, College of Graduate Studies and the division of Student Development and Enrollment Services. In 2015, she founded the Latino Faculty and Staff Association (LaFaSA) with two UCF colleagues and established the CREAR Futuros Mentoring Program in partnership with the Hispanic Federation, Inc., and UCF's Latino Graduation Celebration – Nuestra Graduación.

Dr. Muñiz earned a bachelor's degree in Sociology at Binghamton University, a master's degree in Sociology at St. John's University and a Doctoral degree in Educational Leadership at UCF. Her efforts and accomplishments have been recognized by UCF, the Hispanic Chamber of Commerce of Metro Orlando, the Puerto Rican Chamber of Central Florida, La Prensa Newspaper, the Orlando Business Journal, the Women's Executive Council of Orlando, the Council for Latino Workplace Equity and the College Board.



### KATHLEEN Plinske, ed.d.

Executive Vice President and Provost, Valencia College

**Kathleen Plinske** serves as Executive Vice President and Provost and as Campus President of the Osceola, Lake Nona, and Poinciana Campuses at

Valencia College in Orlando, Florida. Prior to joining Valencia in 2010, Dr. Plinske began her career at McHenry County College, a community college in her hometown of Crystal Lake, Illinois. She was hired as an Instructional Media Specialist in 2001 and moved into a number of different roles over the next nine years, including Vice President of Institutional Effectiveness, and ultimately, Interim President.

A graduate of the Illinois Mathematics and Science Academy, Dr. Plinske attended Indiana University-Bloomington as a Herman B Wells Scholar, earning a Bachelor of Arts in Spanish and Physics with highest distinction and honors. A member of Phi Beta Kappa, she completed a Master of Arts in Spanish from Roosevelt University, a Doctorate in Educational Technology from Pepperdine University, and a Master of Business Administration from the University of Florida. Dr. Plinske has continued her studies of Spanish language and culture at Instituto Tecnológico y de Estudios Superiores de Monterrey, México, at the Don Quijote Escuela de Español in Granada, España, at Middlebury Language Schools in Middlebury, Vermont, and through her travels to Ecuador, México, Perú, Puerto Rico, and the Dominican Republic.

Actively involved in her community, Dr. Plinske has served as Board Chair of the Education Foundation of Osceola County and as President of the Rotary Club of Lake Nona. She has also served on the Board of CareerSource Central Florida, the Osceola Center for the Arts, Junior Achievement of Osceola County, and the Lake Nona Education Council. She has taught the honors leadership course for Valencia College and graduate courses in educational leadership for the University of Central Florida and Pepperdine University.

In 2010, Dr. Plinske was recognized as one of 24 emerging leaders in the world by Phi Delta Kappa. She was named 2012 Woman of the Year by the Orlando Business Journal in its 40 Under 40 competition and the 2012 Outstanding Young Alumna by Indiana University. She received the 2013 Alumni Distinguished Leadership Award from the Illinois Mathematics and Science Academy, and in 2014, received the Compadre Award from the Hispanic Business Council of the Kissimmee/Osceola Chamber of Commerce and the Don Quijote Hispanic Community Champion Award from the Hispanic Chamber of Commerce of Metro Orlando. Dr. Plinske was selected as an Aspen Presidential Fellow in 2016, was selected as Pepperdine University's Distinguished Alumna in 2017, and has been recognized by the University of Florida as an outstanding young alumna.

Dr. Plinske is happily married to her husband, Larry W. Tyree, who shares her love for golf, the Chicago Cubs, and their dog, Cooper.



### JOHN EULIANO

Chair, UCF Foundation Board

SEARCH COMMITTEE

**John Euliano** has more than 30 years of executive experience in proprietary postsecondary education and as a private investor and entrepreneur. Euliano is currently the chair of the UCF Foundation Board of Directors and a member of the UCF Athletic Director's cabinet.

He has served as senior vice president of Florida Technical College and president of Southern Technical College. As a co-founder in Rainmaker Private Equity, he works with companies in the financial technology, gaming and health care industries. He also sits on several nonprofit and for- profit industry boards.

Euliano has a bachelor's degree in Organizational Management from Warner Southern College and a master's degree and education specialist degree in Computer Technology in Education from Nova Southeastern University.



### ANDRE GARCIA, Ph.d. '08

Member, UCF Alumni Board

**Andre Garcia** is a Senior Manager of Advanced Programs at Collins Aerospace. Andre is an expert in cockpit design for combat aircraft. He has published

extensively in the areas of multi-modal display interfaces, neurophysiological measures for pilot state monitoring, and attention switching across regions of space. His work current focuses on the research and development required for the combat cockpit of the future for manned, unmanned, and optionally manned aircraft including the Army's Future Vertical Lift and the Air Force and Navy's Next Gen Air Dominance 6th generation fighter concepts.

Dr. Garcia graduated from the University of Central Florida in 2008 with a degree in Psychology and a minor in Behavioral Forensics. After UCF, he went on to get his masters (2010) and doctorate (2014) in Human Factors Engineering from George Mason University. Dr. Garcia then worked at the Army Research Lab's Simulation and Training Technology Center and then as a human factors engineer at Northrop Grumman's Aerospace Systems sector working on a number of combat aircraft systems, including the B-2, Trainer-X, E-2D Hawkeye, and a number of other classified programs. Dr. Garcia is a graduate of UCF's Executive MBA program (2016) and also has a certificate in Aerospace Program Management from CalTech and number of certificates in Systems Engineering, Program Management, and Science and Technology from Defense Acquisition University.

Dr. Garcia has been engaged and involved with UCF for many years. He helped start the Washington, D.C. Alumni Chapter in 2009, and when he moved back helped start the College of Sciences alumni chapter and served as its first chair. Dr. Garcia then served on the Dean's advisory board for the College of Sciences and has been on the board of UCF Alumni since 2016. He was selected as one of UCF's "30 Under 30" in the 2015 inaugural class. Dr. Garcia has recently been involved with the new Puerto Rico Research Hub at UCF and serves as its first board chair.

Dr. Garcia has been married to his wife, Tina, for six years, and they have a one-year old son, William. They live in Lake Nona.



### BARBARA M. JENKINS, Ed.d. '83 '86 '96

Superintendent, Orange County Public Schools

**Barbara Jenkins** has been dedicated to serving the needs of students for 30 years. She was named superintendent for Orange County Public Schools in 2012.

Under Dr. Jenkins' leadership, the district won the prestigious 2014 Broad Prize for Urban Education. The prize earned half- a-million dollars for student scholarships from the Eli and Edythe Broad Foundation. The district also received the Governor's Sterling Award in 2014 and 2015 and the Sustained Excellence Award in 2017 for its exemplary performance using research-based best practices in its business.

In 2016, OCPS received District Accreditation from AdvancED for its best practices in the education field. OCPS has repeatedly been recognized by the College Board for increasing access to Advanced Placement course work, while simultaneously maintaining or increasing the number of students earning exam scores for college credit.

Dr. Jenkins is a recognized education leader. In January 2017, she received a presidential appointment as a director of the National Board of Education Sciences. She serves on the executive board of directors of the Council of the Great City Schools, Chiefs for Change, The Wall Street Journal CEO Council and the Florida Council of 100. She is past president of the Florida Association of District School Superintendents.

In 2017, she was named the Florida Superintendent of the Year and one of four finalists for the national title. The Association of Latino Administrators and Superintendents named her Hispanic-Serving School District Superintendent of the Year and the Florida Association for Career and Technical Education named her CTE Superintendent of the Year.

Recognized for her commitment and influence, both the Orlando Sentinel and Orlando Magazine have named her as one of the 10 most powerful people in Central Florida on multiple occasions; Orlando Magazine ranked her number one in Education among its 2018 "50 Most Powerful." The Orlando Business Journal honored her as a CEO of the Year in 2015. In 2014, she was named the Visionary Award recipient by the Girl Scouts of Citrus Council and the Central Florida Woman of the Year by the Women's Executive Council.

Deeply engaged in the community, Dr. Jenkins serves on the boards of United Arts of Central Florida, Orlando Economic Partnership, Florida Hospital, Central Florida Regional Commission on Homelessness and the Orange County Youth Mental Health Commission.



### DAVID ODAHOWSKI

President and CEO, Edyth Bush Charitable Foundation

**David Odahowski** is a lawyer, community leader, and private foundation executive.

For nearly four decades, he has been at the intersection of the private,

public, and nonprofit sectors creating innovative civic solutions helping people help themselves. As President, Chief Executive Officer, and Board Member of the Edyth Bush Charitable Foundation, he is a champion for philanthropic freedom and the importance of well managed and governed nonprofits.

Odahowski has demonstrated leadership in various professional and community organizations. He is currently a Community Development Partner and Board Member of the Florida Chamber Foundation. At the Florida Chamber Foundation, he has been actively involved in the research, development, and implementation of Florida 2030, Florida's strategic plan for high-paying jobs, vibrant communities, and global competitiveness. He is also an Advisor to the Edyth Bush Institute for Philanthropy and Nonprofit Leadership at the Rollins College, Roy E. Crummer Graduate School of Business.

Odahowski is a Founder and Former Board Chair of the Florida Philanthropic Network, the state's regional association of grantmakers. He has had leadership, governance, or advisory roles in many nonprofit organizations including Nemours Children's Hospital, Florida's Blood Center, United Arts of Central Florida, Central Florida Foundation, and the Southeast Council on Foundations. He is a frequent speaker and writer on philanthropic issues. He has completed the Management Certificate Program at the Rollins College Crummer Graduate School of Business.

Odahowski graduated with Honors from the University of Wisconsin-Stevens Point in 1978 with a Bachelor of Science degree in political science. Upon his graduation, he received the James H. Albertson Award, the University's highest honor for recognition of outstanding leadership, scholarship, and campus citizenship to the University.

In 1981, Odahowski graduated from the Hamline University School of Law in St. Paul, Minnesota. While at the Law School, he served as Editor-in-Chief of the Hamline Journal of Public Law, and as a law clerk for the Minnesota Workers Compensation Court of Appeals and the Minnesota Senate Labor Committee. Two weeks before he graduated from law school, he became the Executive Director for the Wasie Family Office and The Wasie Foundation. He served on the boards of various nonprofits and was active in the Minnesota Council on Foundations.

A Floridan since 1990, Odahowski is married with three adult children and an adorable grandson. He enjoys all of the outdoor activities afforded by Florida's beautiful climate, including cycling, hiking, tennis, and art festivals.

# SEARCH TIMELINE AND PROCESS

SECTION 3



UNIVERSITY OF CENTRAL FLORIDA

### PRESIDENTIAL SEARCH TIMELINE

October 21, 2019	A Request for Quotation (RFQ) for a search consultant went out.
October 23, 2019	The Presidential Search Committee was announced.
November 5, 2019	<ul> <li>The Presidential Search Committee met to:</li> <li>Introduce committee members</li> <li>Charge the committee</li> <li>Provide EEO and legal training</li> <li>Discuss campus and community involvement in the search</li> <li>Receive search firm presentations and select Storbeck/Pimentel &amp; Associates</li> </ul>
November 20, 2019	<ul> <li>The Presidential Search Committee met to:</li> <li>Receive a search process update from Storbeck/Pimentel &amp; Associates</li> <li>Receive a summary of listening sessions</li> <li>Provide input on presidential qualities and characteristics</li> <li>Discuss marketing plan and advertisement</li> </ul>
November 20, 2019	Listening sessions: • UCF Board of Trustees • Student Leaders • Open Forum (College of Medicine)
November 21, 2019	Listening sessions: • Faculty Senate • USPS Staff Council • Open Forums (main campus)
December 4, 2019	<ul><li>Foundation Executive Committee</li><li>Chair Seay provided a search update</li></ul>
December 9, 2019	Business Leaders Listening Session
December 9, 2019	Arts & Culture and Non-Profit Organizations Listening Session
December 9, 2019	UCF Volunteer Leaders Listening Session
December 9, 2019	UCF Downtown Open Forum

December 9, 2019	<ul> <li>The Presidential Search Committee met to:</li> <li>Receive a summary of listening sessions to date.</li> <li>Review and approve a marketing plan</li> <li>Review and approve the advertisement.</li> <li>Discuss next steps</li> </ul>
January 15, 2020	President's Senior Cabinet Listening Session
January 15, 2020	Dean's Council Listening Session
January 15, 2020	President's Advisory Staff Listening Session
January 15, 2020	Faculty Focus Group
January 15, 2020	Main Campus Open Forum
January 15, 2020	UCF Downtown Open Forum
January 15, 2020	Rosen College of Hospitality Management Open Forum
January 16, 2020	The Presidential Search Committee met to receive a summary of listening sessions, and receive a marketing plan update, a prospectus update, and timeline update.
January 17, 2020	<ul><li>UCF Board of Trustees Teleconference</li><li>Chair Seay provided a search update</li></ul>
February 6, 2020	<ul><li>UCF Foundation Board Meeting</li><li>Chair Seay provided a presidential search update to the Foundation Board of Directors.</li></ul>
February 12, 2020	The Presidential Search Committee met to receive the Presidential Executive Compensation Analysis, review Presidential Candidate Evaluation Criteria, and review Online Survey Feedback
February 20, 2020	UCF BOT approved the Presidential Evaluation Criteria and compensation analysis
March 3, 2020	The Presidential Search Committee met to review candidate materials submitted for consideration. The Presidential Search Committee identified and selected seven candidates to schedule for initial interviews.
March 5, 2020	The Presidential Search Committee interviewed seven semi-finalists, and, after a public comment session, recommended three (3) unranked applicants for the Board of Trustees' consideration: Cato Laurencin, David Brenner and Vistasp Karbhari.

#### SEARCH TIMELINE AND PROCESS

March 9, 2020	Vistasp Karbhari withdrew his application.
March 9, 2020	Background checks were initiated for Cato Laurencin and David Brenner on March 9*.
March 16, 2020	The Presidential Search Committee met to receive an update and to consider new candidates, reconsider candidates who were interviewed by the committee, but not advanced to the campus interview phase or, reconsider those who were reviewed but were not invited to interview on March 5th.
March 16, 2020	Background check for Alex Cartwright was initiated on March 16*.
March 18, 2020	The Presidential Search Committee met to consider the application of Alexander N. Cartwright, Ph.D., conduct an interview of the applicant, and to vote to forward his name to the UCF Board of Trustees as a finalist.
March 18, 2020	David Brenner withdrew his application.
March 19, 2020	Finalists Cato T. Laurencin, M.D., Ph.D. and Alexander N. Cartwright, Ph.D. held virtual open forums with UCF faculty, students, staff and cabinet.
March 20, 2020	<ul> <li>The UCF Board of Trustees held their formal interviews with Cato T.</li> <li>Laurencin, M.D., Ph.D. and Alexander N. Cartwright, Ph.D.</li> <li>The UCF Board of Trustees heard the results of the reference checks and background investigations of Cato T. Laurencin, M.D., Ph.D. and Alexander N. Cartwright, Ph.D.</li> <li>The UCF Board of Trustees reviewed the results of campus and community surveys, held a discussion, and voted to select Dr.</li> <li>Alexander Cartwright to be the President-elect.</li> </ul>
March 23, 2020	The UCF Board of Trustees submitted required materials to the Florida Board of Governors related to confirmation of the President-elect.
March 25, 2020	The President-elect will appear before the Florida Board of Governors by teleconference for interview and consideration for confirmation as the 6th President of the University of Central Florida.

\* Storbeck/Pimentel & Associates conducted extensive background investigations on final candidates, including: Federal and local/various state and county civil litigation history (7 years); Federal and local/various state and county civil litigation history (7 years); credit history and department of motor vehicle checks; social security number trace; national criminal search; global risk report check; multi-state sex offender search; and degree verification (all degrees). Storbeck/Pimentel & Associates also conducted media reviews to identify potential controversial areas of concern, and obtained various signed authorizations regarding the accuracy of the candidates' CV/resume and any other information provided to Storbeck/Pimentel & Associates, on behalf of the client.

## PRESIDENTIAL CANDIDATE EVALUATION CRITERIA

SECTION 4





#### **Presidential Candidate Evaluation Criteria**

The next UCF president will be passionate about the university's mission and students it serves and will create a bold and compelling vision for the future that will excite the campus community, motivate donors, secure the support of the Legislature, and inspire faculty and staff. The successful candidate will be a tireless advocate for the university and possess exceptional interpersonal skills including the ability to communicate effectively to a wide variety of constituents. In addition, the successful candidate will exhibit the following:

#### **Behavioral Traits**

- A high level of integrity
  - Possess a track record showing a high degree of personal and professional integrity, ethics and honesty; the intellectual, analytical and interpersonal qualities that will foster respect among the university's myriad constituencies.
- Commitment to inclusion and diversity
  - Demonstrate a strong commitment to diversity, equity and inclusive excellence. A track record of creating a culture where the entire campus community collectively understands and embraces their roles in contributing to the success of diverse student, faculty and staff populations.
- A commitment to student success in all areas of the collegiate experience
  - Knowledge of student performance metrics coupled with experience implementing strategies for enhancing student achievement across all academic levels; a commitment to employing innovative and forward-thinking initiatives and programs for improving academic engagement, promoting a student-centric environment and creating a supportive environment for first-generation college students.
- A willingness to make strategic choices, timely decisions, and responsive actions
  - Possess a collaborative and transparent leadership style and a track record of making decisions in an effective and timely manner.
- Desire and ability to include access and inclusion
  - A demonstrated commitment to ensuring the accessibility of the university to the local community, the region and the citizens of the state of Florida.
- Appreciation for the significant role of intercollegiate athletics in the life of the university
  - Have an appreciation for and ability to leverage the university's athletics program to strengthen UCF's identity as a national competitor and community partner.

#### Personality Traits

- A sense of commitment to undergraduate education, as well as a dedication to and understanding of graduate and professional education and research
  - Possess a strong commitment to academic excellence in undergraduate, graduate and professional education, research and scholarship, and the ability to inspire confidence and encourage achievement among students and faculty.
- A respect and concern for students
  - Possess a genuine passion for student success; a knowledge, understanding and appreciation for the diversity of students served by UCF, including the nontraditional student; demonstrated interpersonal skills and a history of interacting with students coupled with the ability to enhance the student experience inside and outside of the classroom.
- An understanding and respect for the roles and responsibilities of the faculty
  - Demonstrated understanding and evidence of respect for the roles and responsibilities of faculty in a multi-faceted university. An appreciation for the principles of shared governance, the faculty's contributions toward teaching, research and student success, and a record of success working in partnership with faculty.
- Tolerant of risk and encourages creativity and innovation
  - Have a proven record of strategic risk taking; the ability to foster an environment that embraces a shared culture of innovation and entrepreneurship.
- Courageous decision maker, who embraces the responsibility to make tough calls
  - Possess the courage and fortitude to make difficult decisions and a history of leading an organization through transition and times of change.
- Resilient, able to learn from failures and move constantly forward
  - Have a history of progressive management experience in complex organizations that demonstrates the candidate's intellectual curiosity, compassion and resilience. The ability to showcase and leverage the university's existing strengths and identify new opportunities for success.

#### **Organization and Context**

- Anticipatory thinker
  - Possess knowledge and awareness of current and future trends impacting higher education and experience leading and managing an organization in navigating a shifting landscape.
- A strong personal and professional academic background
  - Possess a distinguished record of executive-level accomplishments, preferably in higher education, and an understanding of and a strong commitment to excellence in teaching, scholarship and research.

- A demonstrated record of building, nurturing, and working with a high-caliber leadership team
  - Have a track record of building and nurturing strong and effective leadership teams; the ability to lead a high-performing team committed to the further growth of a complex organization over a sustained period. Demonstrate a collaborative and inclusive leadership style and the ability to serve as an effective delegator and developer of talent; a demonstrated interested in investing in the professional development of faculty and staff at all levels.
- A demonstrated record of partnership and spirit of entrepreneurship
  - A history of success developing relationships and strategic partnerships with a wide range of entities including community organizations, local industry leaders, state government officials, key university stakeholders and other educational institutions (K-12, community colleges, universities and colleges).
- The ability to acquire resources from a variety of sources, including fundraising
  - Possess the ability to thoughtfully manage and grow resources in times of financial constraint; experience in identifying and developing new revenue streams from public, private and governmental sources through a variety of strategies. Demonstrated experience developing relationships with alumni, foundations, corporations and individual donors. A history of success in securing major and planned gifts for the purpose of financially supporting the university in its endeavors.
- The ability to work with a variety of governmental agencies
  - Have a track record of building and fostering close relationships with local government officials, corporations, nonprofits, foundations and cultural organizations.
- A keen understanding of the unique mission and the ability to lead a multisite metropolitan research university
  - Possess experience leading a large, complex organization and the ability to understand the university's unique history, assets and mission; the ability to translate these into effective strategies and measurable outcomes on behalf of the university.
- Effective facilitator in cultures where governance is shared and buy-in is critical
  - Possess a leadership style that emphasizes transparency and encourages openness in dealings with others and acceptance of diverging perspectives; exhibits a consultative decision-making style to foster collaboration and inclusion amongst all constituents and stakeholders that emphasizes openness, fairness and strategic decision-making.

Approved by the UCF Board of Trustees on February 20, 2020.

# PRESIDENTIAL POSITION DESCRIPTION

SECTION 5





#### **Presidential Search**

The University of Central Florida's Board of Trustees seeks nominations and applications for the position of president. The next president will be an inspirational and forward-thinking leader who embraces UCF's mission and values and is passionate about leading a young, ambitious and emerging preeminent research university. As president, the successful candidate will serve as UCF's most ardent champion, ensuring that the university addresses Florida's needs today and creates the opportunities of tomorrow.

#### The University

Founded in 1963 to provide talent for Central Florida and the growing U.S. space program, the University of Central Florida has been making an impact on the state, the nation — and outer space — ever since. UCF is ranked by *U.S. News & World Report* as Florida's most innovative university and one of the nation's top 20 most innovative. Located in Orlando and securing \$192 million in research funding in fiscal year 2019, UCF is a major metropolitan research university in one of the country's fastest-growing regions and holds the Carnegie Foundation's highest designation in two categories: community engagement and very high research activity. Furthermore, as a testament to its commitment to diversity and serving diverse populations, UCF is also one of 14 universities nationwide designated as both a Hispanic Serving Institution and R1 university. As an emerging preeminent research university, UCF promotes economic development in the region by aiding in the transfer of technology and other discoveries between the university and industry to create next-generation ideas and products. From nanoscience and optics to simulation and forensic science, UCF researchers work together to have real-world impact, improving students' lives and their community.

UCF is also ranked as a best-value university by Kiplinger, as well as one of the nation's most affordable colleges by Forbes. With 13 colleges, including a College of Medicine, UCF offers more than 220 degree programs on its main campus, downtown campus, hospitality campus, health sciences campus and through 11 UCF Connect centers located throughout the region. In addition, UCF extends its reach to communities in and beyond Central Florida by offering fully online programs leading to bachelor's degrees, master's degrees, doctoral degrees, certificates and more. UCF confers more than 16,000 degrees each year and benefits from a diverse faculty and staff who create a welcoming environment and are dedicated to creating opportunities for its diverse student body of approximately 69,500 — more than 47 percent of whom are members of underrepresented minority groups — to grow, learn and succeed. UCF offers a vibrant residential life program and campus community with an array of student services, more than 650 student clubs and organizations, plus dedicated academic resources to help students succeed in school and as alumni. Home to a 45,000-seat football stadium and 10,000-seat arena, UCF hosts a variety of concerts and shows, NCAA sports and cultural events.

UCF not only excels academically and in its research endeavors, Knights athletic teams have earned impressive victories on state and national stages — from American Athletic Conference titles to two New Year's Six bowl wins. More importantly, UCF student-athletes have collectively earned a GPA of 3.0 or higher for 24 straight semesters.

Equally impressive, UCF has built and enjoys a strong foundation of support among alumni, friends and corporate partners and in 2019 completed a multi-year fundraising effort called IGNITE: The Campaign for UCF. Directed by three key pillars — student success, academic excellence, and growth and opportunity — the university raised more than \$531 million over eight years. For more information about UCF, please visit ucf.edu.

#### Position Summary

In accelerating the university's trajectory of academic and research excellence, student success, diversity and inclusion, and partnerships and innovation, UCF's next president will be responsible for:

- Providing strategic vision and long-range planning of institutional goals, academics and research, public service, student success and enrollment, and the university's physical and digital footprint.
- Leading the university in further enhancing a learning environment focused on providing a highquality educational experience for all students and supporting them in achieving their academic, career and life goals.
- Leading UCF's efforts in upholding its commitment to the values of equity, inclusion and diversity, and championing their critical role in fostering an environment that ensures the continued success of its students, faculty and staff.
- Bolstering the university's work in addressing issues of access and inclusion; leveraging UCF's
  existing infrastructure and guiding future growth to build upon the strength of the university's
  innovative DirectConnect to UCF and online programs.
- Fostering strong relationships and good governance with the university Board of Trustees, Florida Board of Governors and state Legislature to develop and meet institutional goals and statewide needs.
- Leading by example to demonstrate an unwavering commitment to the highest standards of excellence and ethical behavior that fosters a culture of compliance and transparency.
- Overseeing more than 13,000 employees and creating a strategic organizational, administrative and policy-making structure that most effectively uses institutional resources, and attracts and cultivates exceptional and diverse faculty, students and staff whose collective contributions will continue to strengthen the university.
- Managing a \$1.7 billion operating budget and an allocation model that is strategic, collaborative and transparent while developing innovative academic and operational models to expand resources and invest in institutional excellence.
- Creating partnerships at every level that deploy the university's distinctive assets and amplify its academic, economic, social, and cultural impact and reputation.

#### Leadership Statement

Developed by the Board of Trustees, the following are expected demonstrated characteristics of UCF's next president:

- A high level of integrity.
- Anticipatory thinker.
- A strong personal and professional academic background.
- A sense of commitment to undergraduate education, as well as a dedication to and understanding of graduate and professional education and research.
- A respect and concern for students.
- Commitment to inclusion and diversity.
- A commitment to student success in all areas of the collegiate experience.
- An understanding and respect for the roles and responsibilities of the faculty.
- A demonstrated record of building, nurturing, and working with a high-caliber leadership team.
- A demonstrated record of partnership and spirit of entrepreneurship.
- Tolerant of risk and encourages creativity and innovation.
- A willingness to make strategic choices, timely decisions, and responsive actions.
- Courageous decision maker, who embraces the responsibility to make tough calls.
- The ability to acquire resources from a variety of sources, including fundraising.
- The ability to work with a variety of governmental agencies.
- A keen understanding of the unique mission and the ability to lead a multisite metropolitan research university.
- Desire and ability to include access and inclusion.
- Appreciation for the significant role of intercollegiate athletics in the life of the university.
- Effective facilitator in cultures where governance is shared and buy-in is critical.
- Resilient, able to learn from failures and move constantly forward.

# PRESIDENTIAL SEARCH PROSPECTUS

SECTION 6





# **PRESIDENTIAL PROFILE**

UNIVERSITY OF CENTRAL FLORIDA



#### ABOUT UCF

## FOUNDED IN 1963,

the University of Central Florida is one of the best universities for excellence, access, impact and value. It's one of the reasons *U.S. News & World Report* ranks UCF as Florida's most innovative university – and one of the <u>nation's top 20 most innovative</u>. UCF is also ranked as a best-value university by Kiplinger, as well as one of the nation's most affordable colleges by *Forbes*.

A major metropolitan research university in one of the country's fastest-growing regions, UCF holds the Carnegie Foundation's highest designation in two categories: community engagement and very high research activity. Its deep community and industry partnerships ensure UCF isn't just meeting Florida's needs today but helping to fuel future prosperity and discovery.

The university confers more than 16,000 degrees each year and benefits from a diverse faculty and staff who create a welcoming environment and opportunities for approximately 69,500 students to grow, learn and succeed.

With 13 colleges, including an accredited College of Medicine, UCF offers more than 220 degree programs from its main campus, downtown campus, hospitality campus, health sciences campus, and through 11 UCF Connect centers located throughout the region. <u>UCF's fully online programs</u> include online bachelor's degrees, online master's degrees, online PhDs, online certificates and more.



UCF is driven to do more and be more. We believe success can only happen when we expand opportunity and demand excellence. We believe if there's a better way, we should do it. We believe innovation comes from the meeting of diverse viewpoints. And we believe in helping people unleash their full potential to transform their lives and amplify our impact across the state, nation and globe.



#### COLLECTIVE IMPACT Strategic Plan

"Who does UCF aspire to be?" In 2016, a diverse group of local business leaders, public officials, educators and alumni, as well as UCF faculty, staff and students, worked together to answer this question. The answer became the foundation of our <u>Collective Impact Strategic Plan</u>: UCF is a model for higher education in the 21st century, poised to make a better future for our students and society.

Through our strategic plan, we are transforming the way we teach, learn and engage. We are challenging long-held assumptions about the role and scope of higher education. We are multiplying the power of our scale by our constant pursuit of excellence to change the world. And we are setting big goals — and working together — to achieve our collective impact.

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### PRESIDENTIAL SEARCH PROSPECTUS

#### **ABOUT UCF** | History

ince the signing of the legislative bill that established <u>a university in</u> <u>Central Florida</u> to being one of the largest universities in the United States, UCF has become a partnership university with groundbreaking research, innovative education and academic excellence.

**1968** The first classes are held at Florida Technological University with 1,948 students enrolled, 90 instructors and 150 staff members. Fifty-five degree programs are offered.

 1977 The Division of Student Affairs saw a need — to recruit, retain and support minority students at FTU — and established the Office of Minority Student Services.

 1978 Central Florida Research Park is established next to the university's main campus. Today it is home to more than 120 companies and is the hub of the nation's military simulation and training programs.

FTU changes its name to University of Central Florida.

- **1980** UCF awards its first doctorate – in computer science.

**1993** The <u>National Center for Simulation</u> forms with headquarters in Central Florida Research Park.

**2004** The Rosen College of Hospitality Management opens its doors in the heart of Orlando's tourism district on International Drive.

**2005** FIEA (the Florida Interactive Entertainment Academy) holds its first classes at UCF's Center for Emerging Media in downtown Orlando.

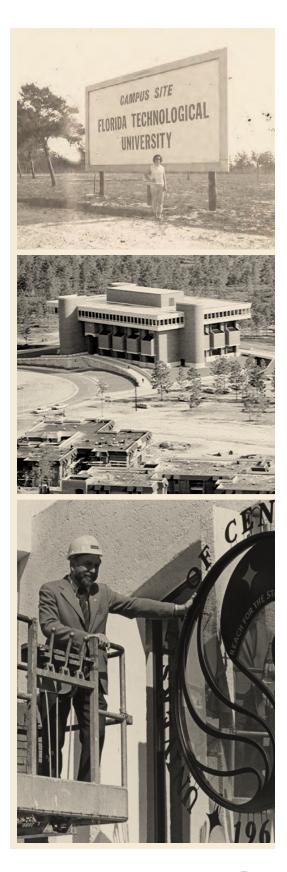
**2006** DirectConnect to UCF launches. It has become a national model of guaranteed admission to a four-year university after earning an associate degree from a partner college. In May 2019, UCF awarded its 50,000th degree as a result of the program.

The College of Medicine is established, part of the UCF Health Sciences Campus at Lake Nona.

2013 UCF joins the American Athletic Conference.

 2019 UCF Downtown opens for classes. The innovative, urban campus serves more than 7,000 students in partnership with Valencia College.

 2020 UCF Lake Nona Medical Center, a partnership hospital between HCA Healthcare's North Florida Division and UCF Academic Health, will open.



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### **ABOUT UCF** | What We Do

## ACCESS AND Student success

We attract and cultivate exceptional students and are committed to seeing them succeed in the classroom and after graduation. Our innovative approach to higher education improves social mobility and helps students of all socioeconomic backgrounds earn a degree.

## **EXCELLENCE**

Our constant pursuit of excellence manifests in <u>record SAT</u> <u>scores and GPAs for incoming freshman classes</u>, record numbers of international scholars, nationally ranked academic programs, and cutting-edge research.

## EQUITY, INCLUSION And Diversity

Our vision is to position UCF as a center of excellence that is nationally recognized as a <u>higher education model for our</u> <u>diversity, inclusion and equity practices</u>, policies and culture.

## PARTNERSHIPS

By creating partnerships at every level that amplify our academic, economic, social and cultural impact and reputation, we create common goals and common ground both locally and globally.

## **COMMUNITY IMPACT**

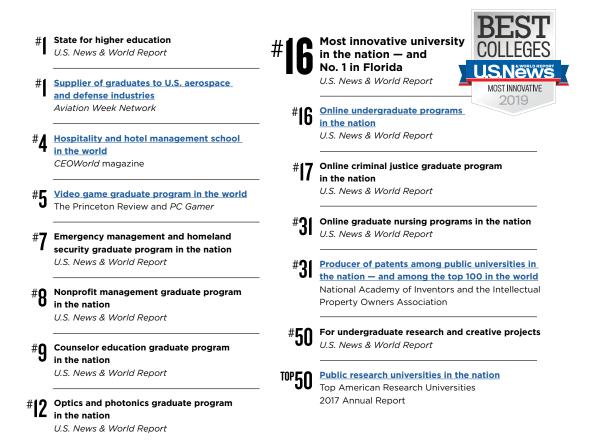
UCF transforms lives by leveraging our scale and pursuit of excellence to create greater cultural, economic, environmental and social impact for our students, community, region and beyond.

## INNOVATION

Our success is no secret; we are driving innovative academic, operational and financial models that are transforming higher education.



#### **ABOUT UCF** | Rankings

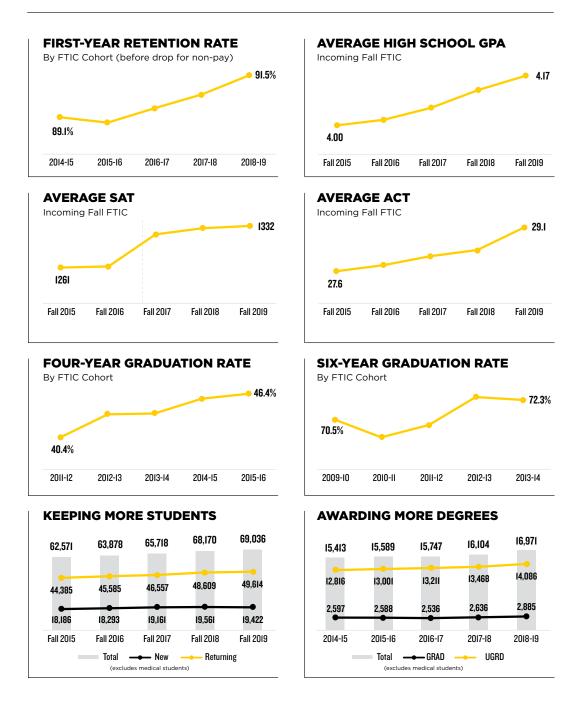




#### **ABOUT UCF** | Student Success

## **PURSUIT OF EXCELLENCE**

Over the past five years, UCF has continued to pursue excellence in all areas of student success. Our excellence comes from admitting high-quality students and keeping them on track to graduation.



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### DESIGNATIONS

#### **Research University**

- Very High Research Activity Carnegie Foundation for the Advancement of Teaching

#### **Community Engagement**

Carnegie Foundation for the Advancement of Teaching

#### National Center of Academic Excellence in Cyberdefense

National Security Agency and Department of Homeland Security



#### **FALL 2019 ENROLLMENT**

TOTAL	69,525
Undergraduate	59,483
Freshman (New Admit)	7,377
Transfer (New Admit)	7,797
Graduate	. 9,553
Medical Professional	489
UCF Online	. 5,613
Undergraduate	3,157
Graduate	. 2,456

#### **340** National Merit Scholars enrolled (Benacquisto Scholars)

**106** National Hispanic Scholars enrolled

#### **FALL 2019 FRESHMAN PROFILE**

Average SAT Score	1332
Average ACT Score	. 29.1
Average High School GPA (Weighted)	. 4.17

#### **Degree Programs**

TOTAL	
Bachelor's	
Master's	
Research Doctoral	
Professional Doctoral	3
Specialist	3

#### 303,718 Living alumni

#### **DEGREES CONFERRED\***

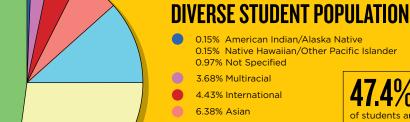
TOTAL	346,710
Bachelor's	.285,005
Master's	55,219
Doctoral	5,188
Specialist/professional	1,298
*As of August 2019	

#### **RESEARCH FUNDING**

2018-19\$192	million
Endowment Assets <i>June 30, 2019.</i> \$164.7	million
Operating Budget	
2018-19\$1.8	billion

#### **EMPLOYEES**

TOTAL	47
Faculty and Adjuncts2,	619
Staff Members	)28



- 10.72% Black/African American
- 26.74% Hispanic/Latino
- 46.78% White

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE



70

of students are

minority groups.

members of underrepresented



## **MODELING AND SIMULATION**

Located adjacent to UCF, Central Florida Research Park is recognized as one of the top 10 research parks in the world. This 1,027-acre corporate community provides an environment for industry and the university to share training facilities, pursue cooperative research, transfer existing technology to the marketplace, and provide internship and career opportunities for UCF students. As the world's largest cluster of modeling, simulation and training companies, Research Park is home to the National Center for Simulation and Training as well as the nation's Army, Air Force, Navy and Marines simulation operations, which garner nearly \$4 billion in government contracts every year.

#### **\$11.6 BILLION** Statewide sales activity

\$6 BILLION

Amount Research Park's organizations and businesses generate for the state's GDP

#### 60,000

People employed in the park affiliated with the military

#### 150

Companies housed in the park, ranging from heavy hitters such as Boeing, Leidos, Lockheed and Raytheon to start-ups

#### ALUMNI SPOTLIGHT:

Self-driving cars have become the next major frontier in transportation. At the forefront of this movement is Luminar, a 7-year-old company co-founded by Jason **Eichenholz '95MS '98PhD**. The company, which is

based in Silicon Valley and Central Florida Research Park, has developed more efficient and affordable methods for creating the technology behind these vehicles – earning partnerships with Audi, Toyota, Volvo and more than



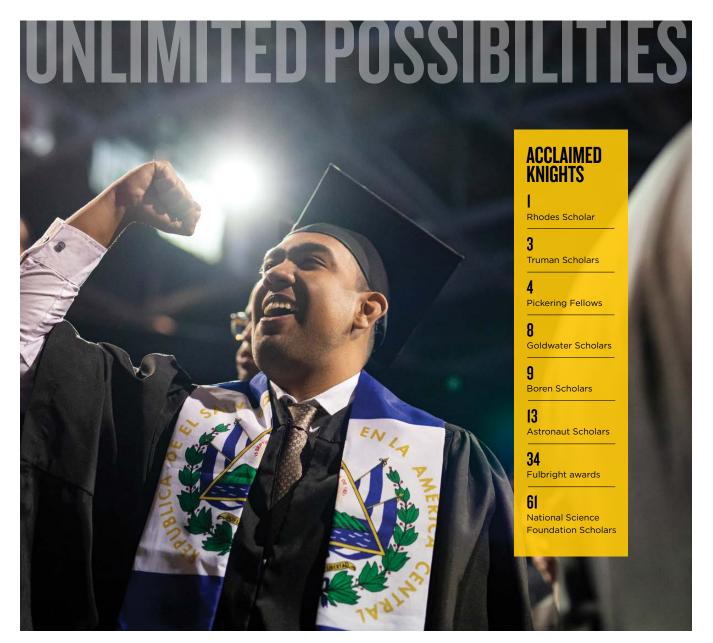
a dozen other autonomous vehicle programs. Among its crowning achievement is its development of a new lidar sensor that can see almost 10 times farther than other sensors and sells for as little as \$500, compared with \$75,000 for the current industry leader.

#### ACADEMICS

A sone of the most innovative universities in the country, we take a different approach to teaching and learning. We look to increase accessibility, offer more options and have a greater impact – so our students are prepared for meaningful lives and careers and to make an impact in their communities and around the world.

**4.17** Average high school GPA of incoming firstyear students

**91.5%** First-year retention rate



ACADEMICS | Colleges

## COLLEGES

**The College of Arts and Humanities** enrolls more than 6,000 students and offers 35 undergraduate and graduate degree programs. Its undergraduate and graduate video game design programs rank among the top 15 in the world, according to The Princeton Review and *PC Gamer* magazine. It also hosts <u>UCF Celebrates the Arts</u>, one of the university's largest annual events, in which students and faculty showcase their work at the Dr. Phillips Center for the Performing Arts in downtown Orlando.

The Burnett Honors College enrolls more than 2,200 of the university's highest-achieving undergraduate students, offering everything from undergraduate research opportunities to approximately 200 honors-level general education courses every year. As part of the college, the <u>Office of Prestigious Awards</u> works closely with students from across campus to prepare and apply for major scholarships. Recent students include Astronaut, Boren, Goldwater, Fulbright, National Science Foundation, Pickering and Udall scholars. **The College of Business** enrolls more than 8,900 students and offers 15 undergraduate and graduate degree programs, all of which are accredited by AACSB International. It houses the Kenneth G. Dixon School of Accounting and <u>the DeVos Sport Business Management</u> <u>program</u>, which has been named one of the top five programs in the nation by *The Wall Street Journal*, *The New York Times, ESPN the Magazine* and *Forbes*.

The College of Community Innovation and

**Education** enrolls more than 8,800 students and offers 54 undergraduate and graduate degree programs. Three of the college's graduate programs – Emergency and Crisis Management, Nonprofit Management and Counselor Education – rank in the top 10 in the nation, according to *U.S. News & World Report.* It is also home to the Lockheed Martin/UCF Academy, which is a partnership that aims to improve STEM education by offering scholarships to local public elementary and middle school teachers pursuing graduate degrees.



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

ACADEMICS | Colleges

#### The College of Engineering and Computer

Science enrolls more than 12,000 students and offers 36 undergraduate and graduate degrees. The college ranks among the top 50 public graduate engineering colleges in the nation and its undergraduate engineering programs rank in the top 100, according to *U.S. News & World Report.* It benefits from major industry partnerships, including with L3Harris Technologies, Lockheed Martin and Siemens, and is home to national championship cyberdefense and computer programming teams.

**The College of Graduate Studies** enrolls nearly 150 students and offers five graduate degree programs, including master's and doctoral degrees in modeling and simulation.

**The College of Health Professions and Sciences** enrolls more than 7,000 students and offers 10 undergraduate and graduate degree programs. It is home to the Exercise Physiology doctoral program, which was ranked No. 6 in the nation by the National Academy of Kinesiology, and the largest clinical graduate education program for speech-language pathology in the nation. **The College of Medicine** enrolls more than 3,800 students and offers seven undergraduate and graduate degree programs. A research-based medical school, it offers joint M.D. degree programs, where students can earn a Ph.D. in Biomedical Sciences, an M.S. in Hospitality, an MBA, or an M.S. in Biomedical Engineering in addition to an M.D. In 2019, <u>graduates of the medical program matched</u> with residencies across the region, state and nation at a <u>rate of 99 percent</u> — higher than the national average of 93.9 percent.

**The College of Nursing** enrolls more than 3,000 students and offers four undergraduate and graduate degree programs. Fully accredited by the Commission on Collegiate Nursing Education, UCF's nursing programs have ranked in the top 50 for best online programs and top 75 best nursing schools for both master's and doctoral programs, according to *U.S. News & World Report.* It is also home to the first healthcare simulation graduate program, and boasts six certified healthcare simulation educators.

11



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### ACADEMICS | Colleges

**The College of Optics and Photonics** is one of the world's foremost institutions for research and education in optical and photonic science and engineering. Offering one undergraduate and two graduate degree programs and enrolling more than 250 students, it was the first graduate college in optics and photonics and ranks No. 12 in the nation, according to *U.S. News & World Report.* 

The Rosen College of Hospitality Management

is strategically located near the heart of one of the world's largest and most popular tourism destinations. Offering seven undergraduate and graduate degree programs and enrolling more than 3,000 students, it ranks among the top five best colleges for hospitality and tourism in the world, according to both <u>CEOWorld magazine</u> and ShanghaiRankings. **The College of Sciences** enrolls more than 12,000 students and offers 45 undergraduate and graduate degree programs. It is home to the <u>National Center for Forensic</u> <u>Science</u> as well as the <u>Lou Frey Institute</u>, a nonpartisan foundation that engages in civic education for college and high school students, members of the Central Florida community and the general public.

**The College of Undergraduate Studies** enrolls more than 1,600 students and offers three undergraduate degrees. It administers the National Science Foundationfunded <u>EXCEL program</u> to increase success in the freshman and sophomore science and mathematics courses as well as facilitate experiential learning, undergraduate research and advising.





#### UCF Online

UCF offers more than <u>90 fully online</u> <u>undergraduate, graduate and certificate programs</u>, which are ranked among the top 20 in the nation, according to *U.S. News & World Report*.



#### **Disney Aspire**

Disney employees nationwide can enroll in <u>more</u> than 70 programs at UCF through the Disney <u>Aspire education investment program</u>, which offers 100 percent free tuition to eligible employees.

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE



## HEALTHCARE

Fast becoming a leader in healthcare education, UCF brings together physicians, nurses, researchers and other health professionals through the Academic Health Sciences Center. UCF researchers are on the vanguard of cancer biology related to metastatic forms of breast cancer and prostate cancer, as well as rapidly progressing types of pancreatic, lung, ovarian and head and neck cancers. The Aphasia House, based at UCF, is the only intensive program of its kind in Central Florida and offers speechlanguage therapy for individuals experiencing loss of speech due to a neurologic injury. And the College of Nursing's state-of-the-art simulation facilities prepare nurse leaders to meet the world's ever-changing healthcare needs.

#### lst

Medical school in U.S. to provide full scholarships to an entire class

#### **99**%

Match rate of medical school students in 2019 compared to 93.9 percent nationally

#### 2020

Year UCF Lake Nona Medical Center set to open

#### 175,000 SQ FT

Research and clinical space comprising the new UCF Lake Nona Cancer Center set to open in 2021

#### FACULTY SPOTLIGHT:

As head of the cancer research division, UCF Professor **Annette Khaled** is working to find a treatment for metastatic breast cancer thanks to grants from the National Institutes of Health and the Breast Cancer Research Foundation. As a result of her research, she holds a patent for a cancer-killing agent that can be used to defeat cancer cells, bacterial cells and other microbial cells. She



is currently working with "liquid biopsies," which can analyze cancer cells in patients' blood to help identify those whose tumors would most benefit from therapy.

#### ACADEMICS | Research

## RESEARCH

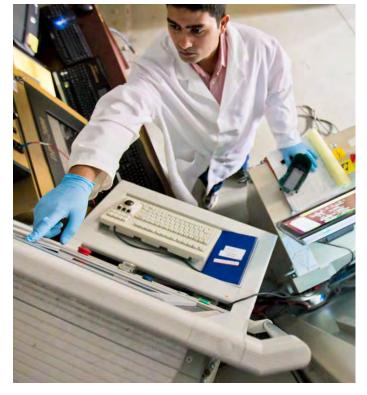
UCF researchers drive intellectual capital and innovation to solve today's most pressing problems. As an emerging preeminent university, we promote economic development in the region by aiding in the transfer of technology and other discoveries between university and industry to create next-generation ideas and products. From nanoscience to optics, from simulation to forensic science, UCF researchers work together to have real-world impact, improving the lives of our students and community.

### TOP 50

Public research university in the nation Top American Research Universities Annual Report

\$192 MILLION Research funding in fiscal year 2019 For patents issued by public universities in the nation — and among the top 100 in the world





#### **CREATE at UCF**

The Center for Research and Education in Arts, Technology and Entertainment conducts multidisciplinary projects and research-driven initiatives in support of the Central Florida community.

#### **FSEC Energy Research Center**

Also known as the Florida Solar Energy Center, the FSEC Energy Research Center researches and develops energy technologies that enhance Florida's and the nation's economy and environment.

#### Institute for Simulation and Training

Located in Central Florida Research Park, the Institute for Simulation and Training is an internationally recognized research institute that focuses on advancing human-centered modeling and simulation technology and increasing our understanding of simulation's role in training and education.

#### **Nanoscience Technology Center**

Bringing together biologists, chemists, engineers and physicists, the Nanoscience Technology Center is a cuttingedge research program in materials and nanotechnology that provides high-quality training for students and facilitates the advancement of innovations to solve realworld technology challenges.

#### **National Center for Integrated Coastal Research**

The National Center for Integrated Coastal Research (UCF Coastal) is an interdisciplinary team of researchers and scientists committed to increasing the resiliency and sustainability of coastal communities.

#### National Center of Academic Excellence in Cyberdefense

The U.S. Department of Homeland Security and National Security Agency have designated UCF a National Center of Academic Excellence in Cyberdefense Education and Research, respectively. The honor recognizes the strength of the university's cyberdefense programs, curriculum, faculty and students.

#### **Townes Laser Institute**

Dedicated in honor of Charles Townes, 1964 Nobel Laureate in Physics and the inventor of the concept of the laser, the Townes Laser Institute is funded by the State of Florida to develop laser light engines for applications in medicine, advanced manufacturing and defense applications.

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### AREAS OF EXCELLENCE

## **AEROSPACE AND DEFENSE**

Nearby industry giants and the military make it easy for UCF researchers and students to work side-by-side with leading experts on projects in the sciences, engineering, photonics and optics, and modeling and simulation. These strong partnerships combined with strong academic programs — is one of the reasons UCF received \$34.1 million from

#### the Department of Defense in 2018, for research projects ranging from making faster computers to developing more sophisticated security scanners. And by providing the necessary talent and brainpower to fuel industry partners such as Lockheed Martin, Siemens and NASA, UCF is fulfilling a demand for critical, high-value jobs across the state.

#### #

Supplier of talent to the aerospace and defense industries for the fifth year in a row *Aviation Week Network* 

#### #

Hack@UCF's ranking in the National Collegiate Cyber Defense Competition in 2014, 2015 and 2016

#### ucf.edu/aerospace

#### #7

Homeland security and emergency management graduate program in the nation *U.S. News & World Report* 

#### 30+

Years of partnerships with Siemens, resulting in the <u>Siemens Energy Center</u>, which provides mentorship opportunities for students and access to the lab for Siemens experts

#### ALUMNI SPOTLIGHT:

Before even having his diploma in hand, Dale Wagner '19 had a job lined up with Boeing working on a spacecraft that can exit and enter space daily. The mechanical engineering grad took every opportunity available to him as a student, from being a member of the College of Engineering and Computer Science's Dean's Advisory Board to the Society of Automotive Engineers, the Society of Hispanic Professional Engineers and the American

Society of Mechanical Engineers. And for his senior design project, he worked with Honda to develop a turbocharged boat engine that delivers more horsepower at less weight than standard commercial engines.

#### LOCATIONS | Campuses

#### MAIN CAMPUS

As UCF's home since 1968, our 1,415-acre main campus in east Orlando is impressive in size and even bigger in potential. UCF's main campus is located 13 miles east of downtown Orlando and adjacent to one of the top research parks in the nation.

#### **UCF DOWNTOWN**

UCF Downtown, in partnership with Valencia College, is a game-changing campus that offers the opportunity for more than 7,000 students to live, learn and work in the heart of The City Beautiful. This transformational project, which kick-started Orlando's \$1 billion public-private Creative Village, increases access for students, provides pathways for in-demand career fields, fosters collaboration with our neighbors in meaningful ways and improves countless lives through the power of education. It also offers more than 20 academic programs, each geared to optimize educational opportunities, such as internships or research partnerships with nearby businesses, nonprofit organizations and governmental entities.

#### **HEALTH SCIENCES CAMPUS**

The College of Medicine is located on the health sciences campus, which will soon house the Academic Health Sciences Center and bring together related academic, clinical and research programs and services such as the College of Nursing and College of Health Professions and Sciences. Its location in Lake Nona's Medical Center puts students and researchers in close proximity to esteemed neighbors, including Nemours Children's Hospital, the University of Florida Research & Academic Center, the VA Medical Center and the forthcoming UCF Lake Nona Medical Center. UCF Health, with locations in east Orlando, Lake Nona and Osceola County, provides primary and specialty care, delivered by doctors who are training the next generation of doctors at the UCF College of Medicine.

#### ROSEN COLLEGE OF HOSPITALITY MANAGEMENT

Located just minutes from some of the world's top-rated attractions, resorts, restaurants and convention spaces, the Rosen College of Hospitality Management provides students with an unrivaled opportunity to learn and work in the industry's market. Situated in the heart of hospitality, Rosen is a 159,000-square-foot, state-of-theart, Mediterranean resort-style campus and the largest facility ever built for hospitality management education.



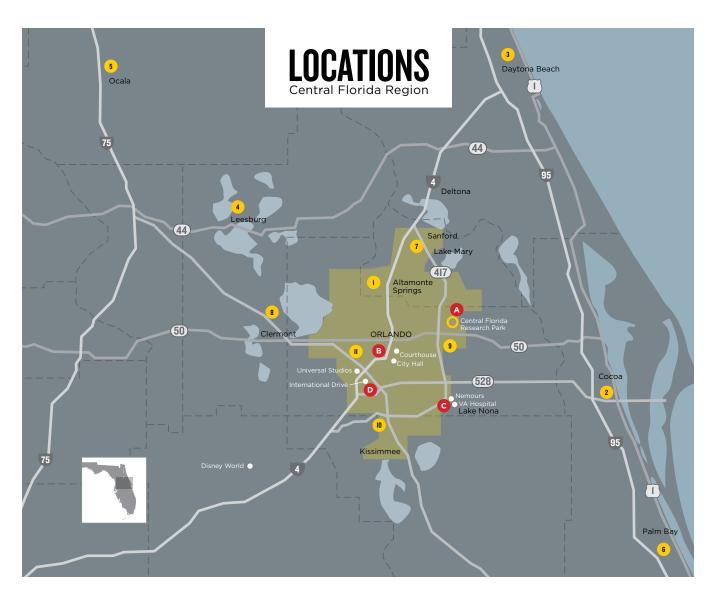
UCF Downtown



Rosen College of Hospitality Management



#### PRESIDENTIAL SEARCH PROSPECTUS



#### UCF CONNECT

With 11 regional campuses conveniently located throughout Central Florida, UCF Connect extends UCF's reach to communities in and beyond the region while providing access to quality continuing and higher education for students.

#### UCF CAMPUS LOCATIONS



#### CENTRAL FLORIDA RESEARCH PARK

Boeing CAE Collins Aerospace Luminar Technologies National Center for Simulation Naval Air Warfare Center Navy Base Northrop Grumman Raytheon SAIC U.S. Air Force Agency for Modeling & Simulation U.S. Army Simulation and Training Technology Center

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### LOCATIONS | Orlando

## **LIFE IS GOOD IN ORLANDO**

UCF isn't just *in* Orlando, it's intricately woven into every aspect of the city. From researchers focused on solving the most pressing local issues to more than 100,000 alumni living in the area, the university's impact on the city's culture, economy and infrastructure is ever present.



#### Orlando is among the fastest-growing metros.

Living in America's most popular tourist destination has its perks, but there's a lot more to Orlando than theme parks and thrill rides. From our dynamic downtown to our eclectic neighborhoods and wide-open nature reserves, Orlando offers more reasons to explore than you can image. And with a growing economy and new developments popping up across the region, it's no surprise that *Forbes* recognized The City Beautiful as the fourth fastest-growing city in the nation.

### Orlando is a top location for major international companies and entrepreneurs alike.

Walt Disney Company. Lockheed Martin. L3Harris Technologies. Science Applications International Corporation (SAIC). Electronic Arts. Northrop Grumman. They all call Orlando home, as do more than 150 international companies — including Siemens and Mitsubishi Hitachi Power Systems — representing nearly 20 countries. The region has a long history of entrepreneurial activity and is home to top-notch resources such as the National Entrepreneur Center (one of only two such centers in the nation), the UCF Business Incubation Program (ranked as one of the top incubators in the nation) and Rollins College Center for Advanced Entrepreneurship.

#### NO. 1 IN THE U.S. FOR JOB GROWTH Four years in a row

U.S. Department of Labor, Bureau of Labor Statistics, 2014 - 2018

#### **NO. 2 STATE FOR STARTUPS**

Comparisun

NO. 3 BEST CITY TO FIND A NEW JOB IN U.S. WalletHub

NO. 6 BEST BIG CITY FOR JOBS Forbes

TOP IO "AMERICAN CITY OF THE FUTURE" fDi Magazine

Di Magazine

NO. II LEADING METRO FOR PRIME WORKFORCE Area Development

Area Development

#### HIGHEST RATE OF STEM JOB GROWTH IN THE COUNTRY Forbes

-orbes

28 ORLANDO COMPANIES AMONG FASTEST GROWING PRIVATE COMPANIES IN U.S. Inc. 5000



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

## **DIRECTCONNECT TO UCF**

DirectConnect to UCF is a nationally renowned pathway for students to earn a four-year degree at UCF. The groundbreaking program guarantees admission to the university once a student has earned an A.A. or A.S. degree from one of our six partner institutions — the College of Central Florida, Daytona State College, Eastern Florida State College, Lake-Sumter State College, Seminole State College and Valencia College.

Since the program's inception in 2006, UCF has awarded more than 50,000 degrees to DirectConnect students. The partnership expands access to all students, especially those who otherwise may not be able to pursue a university degree through traditional channels. Similar programs have also been adopted by Arizona State University, Brigham Young University, Florida International University, James Madison University, Oregon State University and University of South Florida.

DirectConnect has long provided students with academic advising, student services and transfer support at community campuses by both college advisors and UCF success coaches, who are embedded at the state colleges. The results are better-prepared transfer students and a smoother transition experience, as witnessed by an 80 percent first-year retention rate for students in the program in 2018.



**Ist** 2+2 program of its kind created in the nation **55%** Minority students enrolled **81%** Retention rate for first-year DirectConnect students **3,069** Pell eligible students enrolled **72,274** Total DirectConnect students enrolled since 2006

53,085 Students who have graduated through the program

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

#### COMMUNITY IMPACT

## **LIMBITLESS SOLUTIONS**

<u>Started by UCF students in 2014</u>, Limbitless Solutions is a nonprofit company that develops personalized prosthetics, bionic limbs and mobility devices for children and adults, free of charge. The company collaborates with experts from a variety of fields who share a vision of applying leadingedge research and development to meet the needs of people with physical challenges.

Now with a lab on campus, Limbitless has delivered 40 arms to 36 kids, launched the <u>first clinical trial for</u> <u>3D-printed prosthetics for children in the nation</u> in partnership with Oregon Health & Science University, and <u>developed a device to allow individuals with disabilities</u> to move their wheelchairs using only their facial muscles. As a result of their groundbreaking work, they have forged partnerships with the Mayo Clinic, Adobe, Microsoft, Stratasys, Autodesk and several video game companies.

## **UCF RESTORES**

Since its start in 2011, <u>UCF RESTORES</u> has become known nationally for its innovative PTSD treatment for veterans, active-duty military members, first responders and other victims of trauma. The program's unique approach to treatment — including its groundbreaking three-week intensive outpatient program — combines exposure therapy, emerging technology and group therapy sessions to treat patients.

Led by UCF researchers and backed by funding from generous private donors, the Florida Legislature, and grants from the Department of Defense and <u>U.S. Army</u>, UCF RESTORES has treated more than 500 veterans and active-duty personnel and more than 200 first responders for free. Treatments have resulted in <u>66 percent of military</u> <u>personnel and 76 percent of civilians no longer meeting the</u> <u>diagnostic criteria for PTSD</u>, a success rate that is higher than more conventional therapies.







#### UNIVERSITY ADVANCEMENT

## **UCF ALUMNI**

UCF Alumni serves to strengthen the connection between UCF and its alumni and friends. It now supports more than 300,000 living alumni, more than 78 percent of whom reside in the state of Florida and 34 percent of whom are under the age of 32.

#### NOTABLE UCF ALUMNI

**Michelle Akers '89**, who was named FIFA's Women's Player of the Century, is considered one of the best soccer players to ever play on the field. She won two World Cups and an Olympic gold.

**Alan Eustace '79 '81MS '84PhD** worked for companies such as Compaq and HP before joining Google as senior vice president of engineering and later retiring as SVP of knowledge. He also holds the world record for the highestaltitude free-fall jump.

**Shaquem Griffin '16** is a linebacker for the Seattle Seahawks and is the first player to compete at that level with only one hand.

**Glenn Hubbard '79** is dean emeritus and Russell L. Carson professor of finance and economics at Columbia Business School. He has previously served on boards for the U.S. Council of Economic Advisors, Committee on Capital Markets Regulation, the Economic Club of New York and the Study Group on Corporate Boards.

**George Kalogridis '76** is president of segment development and enrichment for Disney parks, experiences and products, where he oversees strategic and operational business initiatives at Disney sites worldwide.

William W. Parsons Jr. '93MS is director of NASA's Kennedy Space Center.

**Angel Ruiz '78** is president and CEO of Ericsson's North American region.

**Nicole Stott '92MS** is a former NASA astronaut and aquanaut who is now a full-time artist and STEAM advocate.

## **UCF FOUNDATION**

Founded in 1969, the UCF Foundation, Inc., is a 501(c)(3) nonprofit organization. Led by a volunteer board of directors and staffed by more than 130 professionals including development officers, information experts, accountants, communicators and more, the foundation works with donors to help them maximize the impact of their gifts to the university.

In 2019, UCF completed a multi-year fundraising effort called IGNITE: The Campaign for UCF. Directed to three key points – student success, academic excellence, and growth and opportunity – the support of alumni, friends and corporate partners helped the university to raise more than **\$531 million** over an eight-year period.



#### AREAS OF EXCELLENCE

## **DIGITAL ARTS AND ENTERTAINMENT**

Through the interdisciplinary department of Games and Interactive Media in the Nicholson School of Communication and Media, students can hone their expressive work across platforms, ranging from video games, mobile applications and websites to virtual and augmented reality experiments. At UCF's Communication and Media building in downtown Orlando, game designers, filmmakers and digital artists are encouraged to collaborate on innovative projects across 120,000-square-feet of hightech studio and classroom space, including Studio 500, one of the largest motion capture studios and soundstages on the east coast. And through UCF's new MFA in Themed Experiences — among the first of its kind, students can make the most of living in the epicenter of the theme park industry.

#### #13

Undergraduate game design program in the world

#### 230

Companies FIEA graduates work at around the world, including Apple, DreamWorks, Electronic Arts, Bungie, Zynga, RockStar, Disney, Microsoft and Nintendo

#### 10

Years UCF's graduate game design program has been ranked among the top five in the world

#### 2021

Year Electronic Arts video game company will relocate its Central Florida headquarters next to UCF Downtown

#### ALUMNI SPOTLIGHT:

As a project manager for Walt Disney Imagineering, Jacqueline (Cade) King '12 led the team behind *Millennium Falcon*: Smugglers Run, a simulation ride at Disney's 14-acre *Star Wars*: Galaxy's Edge that allows up to six people to work together as pilots, gunners and engineers to complete a mission in real time. "I went to school to build bridges, and I ended up building spaceships,"



says King, who worked with Disney and Lucasfilm to ensure every aspect of the project — from major conceptual developments to the smallest painted details — was correct.

#### ATHLETICS

## ATHLETICS

Knights athletic teams have earned impressive victories on state and national stages — from American Athletic Conference titles to two <u>New Year's Six bowl wins</u>. But some of our student-athletes' most important triumphs have been in the classroom. For 24 straight semesters, <u>UCF student-athletes have collectively earned a GPA of 3.0 or higher</u>.













Orlando's Hometeam Team

Baseball Men's Basketball Women's Basketball Cheerleading Women's Cross Country Football Men's Golf Women's Golf Women's Rowing Men's Soccer Women's Soccer Softball Men's Tennis Women's Tennis Women's Track and Field Women's Volleyball



As one of the few major cities without an NFL team, Orlando has adopted the Knights as their hometown team and fans can be found cheering them on in the stadium and at venues across Central Florida.

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE



## **SPACE**

Founded to provide talent for Central Florida and the growing U.S. space program, UCF has been making an impact on our state, our nation — and outer space ever since. UCF faculty are part of several NASA missions, including OSIRIS-REx and New Horizons. The Florida Space Institute, based at UCF, is made up of researchers and educators from UCF and other State University System of Florida institutions. And <u>UCF leads the</u> <u>science mission at the Arecibo</u> <u>Observatory</u>, a National Science Foundation-supported facility located in Puerto Rico that is home to one of the world's largest radio telescopes. Together, we are truly reaching for the stars.

#### 5

Experiments sent to space in 2019 aboard rockets operated by Blue Origins, SpaceX and Virgin Galactic

## 336\*

NASA awards \*As of Feb. 2019

#### ucf.edu/space

#### **\$167 MILLION**

In public-private awards for space-related research since 1991

**30%** Kennedy Space Center employees are UCF alumni



As part of NASA's New Horizons team, UCF Professor Dan Britt is exploring some of the most distant objects in our solar system, including Pluto and the Kuiper Belt. The team's work has been featured on the cover of Science magazine and recently received the 2019 Sir Arthur Clarke Award, one of the most prestigious spaceexploration awards in the world. "We are creating a legacy of data and insights



that will provide guideposts for future generations of explorers." says Britt, who also provided the tools that helped make *Curiosity*'s landmark photos of Mars possible.

#### PRESIDENTIAL POSITION DESCRIPTION



The University of Central Florida's Board of Trustees seeks nominations and applications for the position of president. The next president will be an inspirational and forwardthinking leader who embraces UCF's mission and values and is passionate about leading a young, ambitious and emerging preeminent research university. As president, the successful candidate will serve as its most ardent champion, ensuring that the university addresses

Florida's needs today and creates the opportunities of tomorrow.

## THE UNIVERSITY

FOUNDED IN 1963 to provide talent for Central Florida and the growing U.S. space program, the University of Central Florida has been making an impact on the state, the nation - and outer space - ever since. UCF is ranked by U.S. News & World Report as Florida's most innovative university and one of the nation's top 20 most innovative. Located in Orlando, and securing \$192 million in research funding in fiscal year 2019, UCF is a major metropolitan research university in one of the country's fastest-growing regions and holds the Carnegie Foundation's highest designation in two categories: community engagement and very high research activity. Furthermore, as a testament to its commitment to diversity and serving diverse populations, UCF is also one of 14 universities nationwide designated as both a Hispanic Serving Institution and R1 university. As an emerging preeminent research university, UCF promotes economic development in the region by aiding in the transfer of technology and other discoveries between the university and industry to create nextgeneration ideas and products. From nanoscience and optics to simulation and forensic science, UCF researchers work together to have real-world impact, improving students' lives and their community.

UCF is also ranked as a best-value university by Kiplinger, as well as one of the nation's most affordable colleges by Forbes. With 13 colleges, including a College of Medicine, UCF offers more than 220 degree programs on its main campus, downtown campus, hospitality campus, health sciences campus and through 11 UCF Connect centers located throughout the region. In addition, UCF extends its reach to communities in and beyond Central Florida by offering fully online programs leading to bachelor's degrees, master's degrees, doctoral degrees, certificates and more. UCF confers more than 16,000 degrees each year and benefits from a diverse faculty and staff who create a welcoming environment and are dedicated to creating opportunities for its diverse student body of approximately 69,500 - more than 47 percent



of whom are members of underrepresented minority groups - to grow, learn and succeed. UCF offers a vibrant residential life program and campus community with an array of student services, more than 650 student clubs and organizations, plus dedicated academic resources to help students succeed in school and as alumni. Home to a 45,000-seat football stadium and 10,000-seat arena, UCF hosts a variety of concerts and shows, NCAA sports and cultural events.

UCF not only excels academically and in its research endeavors. Knights athletic teams have earned impressive victories on state and national stages - from American Athletic Conference titles to two New Year's Six bowl wins. More importantly, and in exemplifying their most important triumphs, UCF student-athletes have collectively earned a GPA of 3.0 or higher for 24 straight semesters.

Equally impressive, UCF has built and enjoys a strong foundation of support among alumni, friends and corporate partners, and in 2019 completed a multi-year fundraising effort called IGNITE: The Campaign for UCF. Directed by three key pillars - student success, academic excellence, and growth and opportunity - the university raised more than \$531 million over eight years. For more information about UCF, please visit ucf.edu.

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#### PRESIDENTIAL POSITION DESCRIPTION

## POSITION SUMMARY

In accelerating the university's trajectory of academic and research excellence, student success, diversity and inclusion, and partnerships and innovation, UCF's next president will be responsible for:

- Providing strategic vision and long-range planning of institutional goals, academics and research, public service, student success and enrollment, and the university's physical and digital footprint.
- · Leading the university in further enhancing a learning environment focused on providing a highquality educational experience for all students and supporting them in achieving their academic, career and life goals.
- · Leading UCF's efforts in upholding its commitment to the values of equity, inclusion and diversity, and championing their critical role in fostering an environment that ensures the continued success of its students, faculty and staff.
- · Bolstering the university's work in addressing issues of access and inclusion; leveraging UCF's existing infrastructure and guiding future growth to build upon the strength of the university's innovative DirectConnect to UCF and online programs.
- · Fostering strong relationships and good governance with the university Board of Trustees, Florida Board of Governors and state Legislature to develop and meet institutional goals and statewide needs.

- Leading by example to demonstrate an unwavering commitment to the highest standards of excellence and ethical behavior that fosters a culture of compliance and transparency.
- · Overseeing more than 13,000 employees and creating a strategic organizational, administrative and policy-making structure that most effectively uses institutional resources, and attracts and cultivates exceptional and diverse faculty, students and staff whose collective contributions will continue to strengthen the university.
- Managing a \$1.7 billion operating budget and an allocation model that is strategic, collaborative and transparent while developing innovative academic and operational models to expand resources and invest in institutional excellence.
- · Creating partnerships at every level that deploy the university's distinctive assets and amplify its academic, economic, social and cultural impact and reputation.









## **LEADERSHIP STATEMENT**

Developed by the Board of Trustees, the following are expected demonstrated characteristics of UCF's next president:

- A high level of integrity.
- · Anticipatory thinker.
- A strong personal and professional academic background.
- A sense of commitment to undergraduate education, as well as a dedication to and understanding of graduate and professional education and research.
- A respect and concern for students.
- · Commitment to inclusion and diversity.
- A commitment to student success in all areas of the collegiate experience.
- An understanding and respect for the roles and responsibilities of the faculty.
- A demonstrated record of building, nurturing, and working with a high-caliber leadership team.
- A demonstrated record of partnership and spirit of entrepreneurship.
- Tolerant of risk and encourages creativity and innovation.

- A willingness to make strategic choices, timely decisions, and responsive actions.
- Courageous decision maker, who embraces the responsibility to make tough calls.
- The ability to acquire resources from a variety of sources, including fundraising.
- The ability to work with a variety of governmental agencies.
- A keen understanding of the unique mission and the ability to lead a multisite metropolitan research university.
- · Desire and ability to include access and inclusion.
- Appreciation for the significant role of intercollegiate athletics in the life of the university.
- Effective facilitator in cultures where governance is shared and buy-in is critical.
- Resilient, able to learn from failures and move constantly forward.



UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

## **APPLICATIONS/NOMINATIONS**

hthough a terminal degree and exceptional academic administrative experience are preferred, the Board of Trustees also welcomes and encourages applications from candidates who have achieved noteworthy success in their respective fields outside higher education. These candidates must have demonstrated experience and a track record of success working in a large, complex, decentralized organizational structure where success is achieved in partnership and collaboration rather than solely through direct authority.

The search committee will begin reviewing applications in February 2020 and will continue to accept applications and nominations until the position is filled. Applicants must submit a current curriculum vitae and a cover letter describing relevant experience and interest in the position. Submission of materials via email is strongly encouraged. Nominations should include the contact information of the nominee. In accordance with the State of Florida's open records laws, all applications and letters of interest will be made public. Applications and letters of nomination should be submitted by email to:

Alberto Pimentel, managing partner

apsearch@storbeckpimentel.com Refer to code "UCF-President" in the subject line

> Storbeck Pimentel

Storbeck/Pimentel & Associates 6512 Painter Avenue Whittier, CA 90601

As an equal opportunity/affirmative action employer, UCF encourages all qualified applicants to apply, including women, veterans, individuals with disabilities and members of traditionally underrepresented populations. UCF's Equal Opportunity Statement can be viewed at: oie.ucf.edu/documents/PresidentsStatement.pdf.

> As a Florida public university, UCF makes all application materials and selection procedures available to the public upon request.

UNIVERSITY OF CENTRAL FLORIDA | PRESIDENTIAL PROFILE

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# **POSITION ADVERTISEMENT**

SECTION 7





leader who embraces UCF's mission and president, the successful candidate will an inspirational and forward-thinking values and is passionate about leading ensuring that the university addresses serve as UCF's most ardent champion, Board of Trustees seeks nominations Florida's needs today and creates the president. The next president will be and applications for the position of preeminent research university. As The University of Central Florida's a young, ambitious and emerging opportunities of tomorrow.

## The University

by U.S. News & World Report as Florida's most and securing \$192 million in research funding Carnegie Foundation's highest designation in research university, UCF promotes economic between the university and industry to create Founded in 1963 to provide talent for Central in fiscal year 2019, UCF is a major metropolitan two categories: community engagement and Florida and the growing US space program, the University of Central Florida has been and outer space - ever since. UCF is ranked innovative university and one of the nation's very high research activity. Furthermore, as and serving diverse populations, UCF is also one of 14 universities nationwide designated transfer of technology and other discoveries together to have real-world impact, improving top 20 most innovative. Located in Orlando making an impact on the state, the nation – a testament to its commitment to diversity research university in one of the country's development in the region by aiding in the as both a Hispanic Serving Institution and next-generation ideas and products. From R1 university. As an emerging preeminent nanoscience and optics to simulation and forensic science, UCF researchers work fastest-growing regions and holds the

residential life program and campus community welcoming environment and are dedicated to underrepresented minority groups – to grow, JCF is also ranked as a best-value university and through 11 UCF Connect centers located creating opportunities for its diverse student dedicated academic resources to help students 45,000-seat football stadium and 10,000-seat UCF offers more than 220 degree programs from a diverse faculty and staff who create a with an array of student services, more than hospitality campus, health sciences campus succeed in school and as alumni. Home to a UCF not only excels academically and in its most affordable colleges by Forbes. With 13 degrees, master's degrees, doctoral degrees, than 16,000 degrees each year and benefits body of approximately 69,500 - more than arena, UCF hosts a variety of concerts and by Kiplinger, as well as one of the nation's 650 student clubs and organizations, plus colleges, including a College of Medicine, throughout the region. In addition, UCF certificates and more. UCF confers more shows, NCAA sports and cultural events. on its main campus, downtown campus, extends its reach to communities in and beyond Central Florida by offering fully learn and succeed. UCF offers a vibrant online programs leading to bachelor's 47 percent of whom are members of

have collectively earned a GPA of 3.0 or higher have earned impressive victories on state and Conference titles to two New Year's Six bowl wins. More importantly, UCF student-athletes research endeavors, Knights athletic teams national stages - from American Athletic for 24 straight semesters.

success, academic excellence, and growth and enjoys a strong foundation of support among UCF. Directed by three key pillars - student nformation about UCF, please visit ucf.edu. than \$531 million over eight years. For more in 2019 completed a multi-year fundraising alumni, friends and corporate partners and opportunity - the university raised more effort called IGNITE: The Campaign for Equally impressive, UCF has built and

# **Position Summary**

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- understanding of graduate and professional education, as well as a dedication to and education and research.
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- A demonstrated record of partnership
  - and spirit of entrepreneurship.
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6512 Painter Avenue • Whittier, CA 90601 Storbeck/Pimentel & Associates

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exceptional and diverse faculty, students

students' lives and their community.

resources, and attracts and cultivates

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## BIO AND CURRICULUM VITAE

SECTION 8





#### Alexander N. Cartwright, Ph.D.

Chancellor, University of Missouri

Since joining the University of Missouri in August 2017, Chancellor Alexander N. Cartwright has led the university through strategic enrollment and research growth, as well as the successful completion of the university's \$1.3 billion fundraising campaign. He has continuously advocated for student success initiatives, pushed for a more equitable and diverse environment where every voice is heard, and increased efforts to improve engagement with Missourians and beyond.

During 2018, Dr. Cartwright led MU in developing a blueprint for the next five years — the "Flagship of the Future." This strategic plan lays groundwork for innovation and growth at Missouri's flagship, land grant university.

As a first-generation college student whose journey to higher education was not traditional, Dr. Cartwright understands and prioritizes the need to build successful outcomes for students from all backgrounds. Among his proudest accomplishments from his time at MU is the launch of the Missouri Land Grant program, a commitment to helping students who are Pell Grant eligible by covering their tuition and fees. He has since launched programs designed to improve retention and graduation rates as well as post-graduation outcomes.

As part of the strategic planning process, MU has developed a roadmap for significantly increasing its more than \$250+ million annual research expenditures, along with other key scholarship metrics, by creating faculty development and support programs. He continues to focus on economic development as an outcome of being a research university across the state – building on the current annual \$3.9 billion economic impact MU has on Missouri.

During his first year on campus, MU experienced a record year for cash donations as the university's endowment exceeded the \$1 billion mark. Additionally, he helped the university surpass its \$1.3 billion "Our Time to Lead" capital campaign, including the successful launch of an additional focus area for the campaign after he arrived that focuses on fundraising for student success efforts.

Dr. Cartwright came to MU from the State University of New York (SUNY) where he served as provost and executive vice chancellor from September 2014 to July 2017. At SUNY Dr. Cartwright oversaw a broad portfolio, including academic policy, enrollment management, and more.

Dr. Cartwright came to the role of SUNY's provost from the University at Buffalo, State University of New York (UB), where he served on faculty since 1995. At UB, he held several senior administrative positions, including vice president for research and economic development and acting executive director of the New York State Center of Excellence in Bioinformatics and Life Sciences. In these roles, he was responsible for campus/industry relations, research funding and compliance, and research support for UB and the Center.

An internationally recognized researcher and scholar in the area of optical sensors, he is a fellow of the American Association for the Advancement of Science, SPIE, and the National Academy of Inventors. Dr. Cartwright is a prior winner of both the National Science Foundation CAREER Award and the Office of Naval Research Young Investigator Award. In addition, he earned the 2002 SUNY Chancellor's award for excellence in teaching.

A native of the Bahamas, Dr. Cartwright holds a doctorate in electrical and computer engineering from the University of Iowa. He and his wife Melinda have two children, Andrew and Alyssa.

## CURRICULUM VITAE

#### **ALEXANDER N. CARTWRIGHT**

#### Administrative Appointment:

Chancellor University of Missouri 105 Jesse Hall Columbia, Missouri 65211

#### **Faculty Appointments:**

Professor, Electrical Engineering and Computer Science University Missouri 105 Jesse Hall Columbia, Missouri 65211

#### Education

**PhD, University of Iowa,** 1995 Major: Electrical and Computer Engineering Thesis Title: "Nonlinear optical properties of hetero *n-i-p-i* device structures"

**BS**, University of Iowa, 1989 (with Highest Distinction) Major: Electrical and Computer Engineering (Transferred to University of Iowa in 1985 from Kirkwood Community College; Initial major Accounting; Transferred to Engineering in fall 1985)

Kirkwood Community College, 1983-1984 Major: Business/Accounting

#### **Employment History**

University of Missouri Aug. 2017 – Present: Chancellor

*The State University of New York (SUNY), System Administration* Sept. 2014 – July 2017: Provost and Executive Vice Chancellor

*SUNY Polytechnic Institute* Sept. 2016 – Nov. 2016: Officer-in-Charge

*SUNY Downstate Medical University* July 2016: Officer-in-Charge

*Research Foundation for SUNY (RFSUNY)* Jan. 2015 – June 2016: Interim President

University at Buffalo, The State University of New York
University at Buffalo Administrative Positions:
Jan. 2012 – Sept. 2014: Vice President for Research and Economic Development

March 2020

Alexander N. Cartwright - 2

Jan. 2011 - Jan. 2012:	Vice President for Research			
April 2011 – Sept. 2014:	: Operations Manager, Research Foundation for the State University			
	of New York			
July 2010 - Jan. 2011:	Interim Vice President for Research			
Oct. 2010 – Sept. 2014:	Acting Executive Director of the New York State			
	Center of Excellence in Bioinformatics and Life Sciences			
July 2009 – June 2010:	Chair, Electrical Engineering Department			
July 2009 – June 2010:	Inaugural Chair, Biomedical Engineering Department			
Aug. 2007 – July 2009:	Vice Provost for Strategic Initiatives			
Aug. 2006 – July 2007:	Director of UB2020 Integrated Nanostructured Systems Initiative			
Aug. 2002 – July 2014:	Director, Institute for Lasers, Photonics and Biophotonics			
Sept. 1999 – July 2010:	Co-Director, Electronics Packaging Laboratory (EPL)			
Sept. 2001 – Aug. 2008:	Director, National Science Foundation Integrative Graduate			
	Education and Research Traineeship in "Biophotonics: Materials			
	and Applications"			
Dec. 1999 – Aug. 2002:	Deputy Director, Institute for Lasers, Photonics and Biophotonics			

#### University at Buffalo Faculty Appointments:

Aug. 2005 – July 2017:	Professor of Electrical Engineering, University at Buffalo (UB)
July 2009 – July 2017:	Professor of Biomedical Engineering, UB
Aug. 2005 - present:	Adjunct Professor of Physics, UB
Aug. 2000 – July 2005:	Associate Professor of Electrical Engineering, UB
Aug. 1995 – July 2000:	Assistant Professor of Electrical Engineering, UB

#### University of Iowa

Mar. 1995 – Aug. 1995:	Postdoctor	ral Scientis	t, Laboratory	/ for	Photonics	and	Quantum
	Electronic	s, U. of Iow	a				
Aug. 1989 – Feb. 1995:	Research	Assistant,	Laboratory	for	Photonics	and	Quantum
	Electronics, U. of Iowa						

#### **Professional and Academic Honors/Awards**

- 2018 University of Iowa College of Engineering: Distinguished Engineering Alumni Academy
- 2017 Full Member, Sigma Xi: The Scientific Research Honor Society
- 2016 Fellow, American Association for the Advancement of Science
- 2015 Fellow, National Academy of Inventors
- 2014 Fellow, SPIE The International Society for Optics and Photonics
- 2013 Society of Manufacturing Engineers Awardee for "Innovations that Could Change the Way you Manufacture" (1 of 5 awardees internationally)
- 2010 Exceptional Scholar Award for Sustained Achievement, University at Buffalo
- 2009 Elevated to Senior Member status, IEEE
- 2009 School of Engineering and Applied Sciences Faculty Excellence Award, University at Buffalo
- 2006 Faculty in Leadership Participant (1 of 4 participants), University at Buffalo
- 2003 Most Valuable Workshop Contribution, First International Workshop on Indium Nitride
- 2002 State University of New York Chancellor's Award for Excellence in Teaching

Alexander N. Cartwright - 3

2000 University at Buffalo Top 100 Federal Grantee

- 2000 Department of Defense, Office of Naval Research Young Investigator Award
- 1998 National Science Foundation CAREER Award

1996, 1997, 1998 University at Buffalo Reifler Award

- 1993 NATO Advanced Studies Institute Travel Award
- 1989 NCR Most Promising Student Scholarship
- 1987-1989 Exxon Honors Scholarship, Caterpillar Honors Scholarship, State of Iowa Scholarship

#### Administrative Experience

#### Aug. 2017 – present: Chancellor, University of Missouri

- The Chancellor serves as the chief executive and academic officer of Missouri's flagship, AAU, public research university. As Chancellor, the responsibilities include being the chief fundraiser, driving initiatives that impact student success, research, engagement efforts, inclusive excellence and leading the senior administrative team. In addition, the Chancellor oversees the functions of a major academic health care center – MU Health – and a Power 5, SEC athletics division.
  - Strategic Planning:
    - Developed the University of Missouri's strategic plan "The Flagship of the Future" focused on goals and tactics around five key areas:
      - Excellence in Student Success
      - Excellence in Research & Creative Works
      - Excellence in Engagement & Outreach
      - Inclusive Excellence
      - Excellence in Planning, Operations & Stewardship
    - Developed "Scholarly Excellence," a roadmap to drive excellence in research & creative works at Missouri's sole public university in the AAU
    - Developed a comprehensive Strategic Enrollment Management Plan
    - Launched the development of a plan for the Academic Healthcare Center

#### o Key Accomplishments

- Positioned the University as the University FOR Missouri to emphasize the impact of MU on society
- Increased First Time College students from 4,134 in Fall 2017 to 5,450 in Fall 2019
- Research Awards grew 24% FY19 (compared to FY18) and the University attracted four national research centers
- Initiated a series of new partnerships, including a groundbreaking strategic alliance with Siemens Healthineers
- Launched new NextGen Precision Health Institute (\$221M facility and equipment)
- Completed record year in total productivity in philanthropy in FY19, an 18% increase over the previous year

 Completed Our Time to Lead Campaign in Spring 2020 (\$1.3B), including the successful launch of an additional focus area for the campaign in 2017 focused specifically on student success efforts

## Sept 2014 – July 2017: Provost and Executive Vice Chancellor, SUNY

- The Provost and Executive Vice Chancellor (OPEVC) serves as the chief academic officer of the SUNY system, supporting the Chancellor and Board of Trustees in carrying out their oversight responsibilities of the 64-campus system. As Provost, responsibilities included oversight of all academic programs, policy and assessment; enrollment management and student success; global affairs; and SUNY's comprehensive research enterprise. The Provost was also charged with linking faculty scholarship to opportunities for improving student success and completion, student-faculty research, engagement and partnerships.
- Managed an administrative portfolio with an office budget of \$150 million and 300 employees that included:
  - o Office of Institutional Research and Data Analytics
  - Academic Programs and Planning
  - o Office of Diversity, Equity and Inclusion
  - Enrollment and Student Success
  - o Academic Affairs
  - o Presidential Search and Evaluation
  - Open SUNY (online learning)
  - University Wide Programs (Educational Opportunity Program, Empire Innovation Professors, High Needs Degree Programs, Workforce Development Center, etc.)
  - Sponsored Programs Office
  - o SUNY Press
  - o Office of Global Affairs
  - Information Technology
  - o Rockefeller Institute of Government
  - NYS Small Business Development Center
  - Academic Budget
- Key Accomplishments:
  - Established SUNY emphasis of investments on three strategic focus areas:
    - Diversity, Equity & Inclusion
    - Completion/Student Success
    - Impact on State and National Challenges (research in emerging areas)
  - Implemented a System-wide Diversity, Equity and Inclusion Policy
    - Chaired Diversity Task Force that created a broad system-wide policy designed to address key areas including: campus climate; faculty, student and administrative recruitment and retention; cultural competency trainig; professional development and mentoring, and more.
    - Policy implementation includes appointing a Chief Diversity Officer at every institution, a Diversity Advisory Board, launching mentoring

network, dual-career couple initiative, executed first administration of new student information survey giving students the opportunity to self-identify, etc.

- Implemented SUNY Excels performance improvement framework
  - Developed process and reviewed campus Performance Improvement Plans
  - Transitioned from a Performance Management System to SUNY Excels (a framework focused on access, completion, success, inquiry, engagement); facilitated campus/faculty support and campus participation on System-wide data working group; System-wide steering committee empaneled featuring faculty governance and distinguished faculty; established framework for guiding continuous improvement; developed a Performance Improvement Plan template; worked with campuses to approve campus Performance Improvement Plans; and currently developing a System-wide Performance Improvement Plan.
  - Co-lead the creation and distribution of a \$100M Investment fund (competitive investment to support completion) with final awards aligned with performance improvement plans
- Developed the Completion Agenda strategy
  - Aligned with overarching strategies relevant to campus and System SUNY Excels goals.
  - Implemented a system wide Educational Effectiveness and Strategic Enrollment strategy for achieving increased completions from 93,000 to 150,000 per year by 2025
    - Positioned to demonstrate impact on state and national needs
- Expanded Research and Economic Development efforts to show direct impact on State and National Needs
  - Defined and affirmed priorities and goals (set new targets for sponsored research, redefined System administrative structure for research including appointment of a Vice Chancellor for Research and Economic Development, graduate education, workforce development, economic impact, and partnerships.)
- Implemented Applied Learning as a System-wide requirement
  - Established a Provost's Advisory Committee on Applied Learning a group with representatives from every campus charged with leading a workgroup on their campus.
- o Implemented Seamless Transfer System-wide
  - Extensive effort expended on seamless transfer: instituted increased transparency and communication about the waiver review process, established a waiver appeals process, reconvened the Student Mobility Steering Committee, led by the Presidents of SUNY faculty governance, to advise on appeals; made final determination that credits caps would apply to AAS and AOS programs
  - Continued development of transfer pathways
  - Implemented DegreeWorks to advise students of transfer of courses

- Created and Implemented a New SUNY Internationalization Strategy
  - Engaged external review of efforts
  - Elevated reporting status of office
  - Focused office on "Global Learning for All"
- Internal Engagement with SUNY Leadership:
  - Established a Provost's Advisory Group of eight Presidents to engage them on planning and implementation of new initiatives, evaluating existing initiatives, informing the agenda for regular meetings of all Presidents, and refining System goals
  - Organized Presidents' Meetings beginning with the September 2015 meeting
  - Participated in presidential evaluations with Chancellor
  - Planned several presidential transitions
  - Lead presidential search process
  - Established an advisory group of Campus Chief Academic Officers to ensure that they are informed, brainstorm solutions to key challenges, and encourage collaboration
- External Engagement
  - Represented SUNY at numerous national conferences, initial meetings with external contacts: AASCU, APLU, USU, University Research Foundations, NASH, UUP, SOMOS, state legislators, congressional representatives
  - Represented SUNY at Congressional and White House meetings on key academic and research issues
- o Continued to Assess and Oversee:
  - University-wide Honorary Degree Program
  - Distinguished Faculty Appointments

# Jan 2015 – June 2016: Interim President, Research Foundation for SUNY (RF)

- Transitioned RF leadership; appointed as RF Interim President; conducted a broad review; initiated discussion about refocusing priorities on core responsibilities; removed research and economic development from Presidential role; extensive board relations with both the RF Board of Directors and the SUNY Board of Trustees.
- Initiated and/or completed implementation of initiatives to reduce administrative burden on PIs and increase efficiency and effectiveness of RF operations around the system
- Moved forward on supporting a culture of innovation across the SUNY system with updates to policies, practices and systems:
  - Updated patents and inventions policy
  - New industry sponsored research agreement models
  - Continuation of Technology Accelerator Fund
  - Technology Transfer Toolbox to provide tech transfer professionals at campuses and central office to make data-driven decisions about patenting, licensing, and
  - SUNY TURBO (Turning University Research into Business Opportunities) program to help launch and support start-up companies based on SUNY

innovations and SUNY Innovation Showcase event to help SUNY start-ups pitch to venture capitalists

- Academic Industry Roundtable event around clinical and translational research
- Supported a focus on learning & development and diversity & inclusion for the people on sponsored projects and in research administration and technology transfer & commercialization at SUNY:
  - Symposium event for over 200 staff who work in research administration across the SUNY system geared toward improving knowledge in sponsored programs, compliance, HR, finance, audit, legal, innovation, and information technology.
  - Mentoring program
  - Leadership academy
  - System-wide wellness program
  - Orientation to the RF
  - Included RF in Diversity & Inclusion initiative at SUNY
- Ensured that SUNY, through the RF, was in compliance with new or changed laws and regulations:
  - Federal OMB Uniform Guidance to replace Circulars A-21, A-110, A-133
  - Fair Labor Standards Act
- Strengthened governance and relationships between RF Central, SUNY System, and campus leadership
  - Oversaw transition from one position (SUNY Vice Chancellor for Research/RF President) to two separate positions
  - Actively engaged with both SUNY Trustees and RF Board of Directors through this transition
  - Helped to recruit new RF President
  - Maintained strong leadership and engagement with RF leadership team throughout interim period
  - Established campus RF operations manager (OM) monthly call-in sessions and created OM data dashboard
  - Oversaw development and Board approval for two RF annual operating plans
  - Oversaw development of Key Performance Indicators dashboard to provide leadership with interactive data on SUNY research and innovation
- Provided RF support for programs to increase campus collaboration to grow activity
  - Networks of Excellence oversaw program review to reconfigure and right-size the program
  - Established workgroup to assess and propose mechanism for creating a Clinical Trials Alliance for all of SUNY
  - SUNY STEM undergraduate passport to provide research opportunities to undergraduate students
- o Helped maintained strong public perception of RF
- Worked to strengthen RF financial position

### University at Buffalo, The State University of New York

Jan 2012 – Sept. 2014:Vice President for Research and Economic DevelopmentJan 2011 – Jan. 2012:Vice President for ResearchJuly 2010 – Jan. 2011:Interim Vice President for Research

- The Office of the Vice President for Research and Economic Development (OVPRED) worked with other senior leaders in supporting the university's vision as an AAU public research institution. The Vice President developed effective and innovative strategies to best achieve UB's research goals, ensuring resources that are aligned with the university's education and service missions. The Vice President manages UB's research enterprise, including research funding, policy and compliance, research communications, research support, technology transfer and industry/university relations.
- Managed an administrative portfolio that included:
  - Office of Research Advancement (ORA).
  - Office of Sponsored Projects Services (SPS) provided complete pre- and postaward services for UB Principal Investigators and the UB research community.
  - o Division of Comparative Medicine/Laboratory Animal Facility (DCM/LAF).
  - Office of Economic Development (OED).
  - o UB Office of Science, Technology Transfer and Economic Outreach (STOR).
  - o Office of Research Compliance.
  - VPR Information Systems.
- Lead the University's research and economic development operations with
  - Eight campus research centers and institutes.
- More than 100 staff members reported through the OVPRED.
- The OVPRED partnered with university leaders, faculty and industry in launching several successful major initiatives, including:
  - 2014: New York State Buffalo Genomic Medicine Center \$47.5M over 5 years recommended by Governor Cuomo in the 2014 State of the State Address. A consortium of the University at Buffalo, New York Genome Center and associated industrial partners.
  - 2013: National Science Foundation Science and Technology Center (NSF STC) on Biology with X-Ray Free Electron Lasers (BioXFEL) awarded October 2013, \$25M award for 5 years.
  - 2013: Led the establishment of the University at Buffalo's Institute for Research and Education in eNergy, Environment and Water (RENEW) – a \$15M, 5 year investment in upwards of 20 new faculty positions to build on existing strengths within the university and to establish UB as a world leader in energy, water and environment. Engaged a faculty advisory group and facilitated the leading deans to develop a strategic vision for the institute.
  - 2012: Secured a second New York State Center of Excellence designation, in Materials Informatics.
  - 2013: Established the Office of Research Advancement in conjunction with the Vice Provost for Strategic Initiatives.

- 2012-2014: Active participant in the planning team for the "Realizing UB2020" strategic planning process led by the Provost and President.
- 2013-2014: Led the "Research and Innovation" Task Force to implement strategic initiatives in "Realizing UB2020."
- 2011-2014: Member of the Regional Economic Development Council Advanced Manufacturing Implementation Team that focuses on the establishment of Buffalo Manufacturing Works.
- 2012-2014: Active participant in AAU Research Officers and APLU Council on Research Policy and Graduate Education (Executive Committee).
- Active participant in Congressional visits to Senators and Representatives.
- 2013: Partnered with local business leaders to recruit Sentient Sciences, LLC to Western New York.

# *Oct.* 2010 – Sept. 2014: Acting Executive Director of the New York State Center of Excellence in Bioinformatics and Life Sciences, UB

 As Acting Executive Director, provided strategic leadership for UB's New York State Center of Excellence in Bioinformatics and Life Sciences, which housed faculty from the Schools of Medicine and Biological Sciences, Engineering and Applied Sciences, Public Health and Health Professions, Pharmacy and Pharmaceutical Sciences, and the College of Arts and Sciences. In addition, the Center of Excellence was home to the New York State Center of Advanced Technology in Biomedical Sciences and the Center for Computational Research. This unique Center also housed business partners (9).

The Executive Director oversaw all research, education and outreach activities of the Center, in addition to managing the Center's space and core facilities.

- Major Accomplishments include:
  - Establishment of a management team to oversee facilities, space and personnel needs.
  - Established an Internal Advisory Committee of Deans that provides guidance on the program for the Center of Excellence.

# April 2011 – Sept. 2014: Operations Officer, The Research Foundation for SUNY

- The VPRED also served as the Research Foundation Operations Officer. Reporting to the President of The Research Foundation for SUNY (RF), the RF Operations Officer served as the top level RF executive on campus, responsible for supporting SUNY's research mission and successfully implementing the RF's strategic plan. The Operations Officer supervised all Research Foundation operations on campus, including:
  - Sponsored program administration services to the SUNY community (faculty, students, and staff) and stewardship to our sponsors;
  - Creating an environment that supports and increases funding for sponsored programs;
  - Supporting increased technology transfer and commercialization activities on behalf of SUNY efforts to revitalize New York's economy;
  - Supporting business offices that process RF transactions.

# July 2009 – June 2010: Chair, Department of Electrical Engineering

- Assumed administrative leadership and was responsible for:
  - Teaching assignments.
  - Space assignments.
  - Discretionary salary increases.
  - Hiring of new faculty:
    - Hired two new Assistant Professors (Gesualdo Scutari & Qiaoqiang Gan).
    - Hired a new Associate Professor in collaboration with Physics department (Steven Durbin).
  - Reviewed and redistributed workload for all staff in department (one technician, one administrative assistant, and three secretaries).
  - Supervised five staff members.

# July 2009 – June 2010: Inaugural Chair, Department of Biomedical Engineering

- Collaborated in designing a new interdisciplinary department and implemented the plan
  - Hired three new department faculty members (Julian Lippmann, Debanjan Sarkar, Chulhung Kim).
  - Worked with Dean of the School of Medicine and Biomedical Sciences and Dean of School of Engineering and Applied Sciences to identify and appoint initial list of twelve faculty from across the University.
  - Hired the Assistant to the Chair of the department.
  - Identified affiliated faculty who would help with the proper delivery of the BME undergraduate curriculum.

# July 2007 – June 2009: Vice Provost for Strategic Initiatives

- Implemented administrative structure for eight strategic strengths at UB. Strength administrative structure included i) a Dean's advisory committee, and ii) a faculty advisory committee. Identified UB2020 strategic strengths included:
  - o Artistic Expression and Performing Arts
  - o Civic Engagement and Public Policy
  - o Cultures and Texts
  - o Extreme Events: Mitigation and Response
  - Health and Wellness Across the Lifespan
  - Information and Computing Technology
  - o Integrated Nanostructured Systems
  - Molecular Recognition in Biological Systems and Bioinformatics
- Coordinated management of strategic strengths through a committee that included eight strategic strength faculty advisory committee chairs (one per strategic strength).
- Developed review process for assessing progress of the eight diverse strategic strengths. This included procedures to track investments in UB2020 Strategic Strengths.
- Chaired committee responsible for providing a strategic plan for a newly purchased UB Downtown Gateway building located at the developing downtown campus.
- Established the UB2020 strategic strengths resource center.

- Organized the planning process for implementation of several strategic strengths.
- Developed a model university process for inter-disciplinary hiring. This included processes for multi-department and multi-school hires.
- Facilitated implementation of Strategic Strengths in collaboration with upper administration (Deans, VPs, Provost and President) and faculty leaders (including negotiations of strategic plan, hiring plans and infrastructure investments).

# August 2006 – June 2007: Faculty Leadership Program

- Faculty Leadership Fellow reporting to Provost.
- Developed a plan for organization of strategic strengths (as part of UB2020 strategic planning process).
- Proposed administrative structure for strategic strengths.

# July 2006 – June 2007: Faculty Advisory Committee Chair, Integrated Nanostructured Systems (A UB2020 Strategic Strength)

- Responsible for organizing effort of the University at Buffalo's Strategic Strength in Integrated Nanostructured Systems.
- Developed the budget model for the strength.
- Organized the planning of research themes and associated faculty hires. The hiring plan included 29 distinct hires across five academic units at the University at Buffalo (the schools of Engineering and Applied Sciences, Pharmacy and Pharmaceutical Sciences, Medicine and Biological Sciences, Dental Medicine and the College of Arts and Sciences).
- Worked with the five Academic Deans and the Vice President for Research to implement the research initiatives and faculty hires.

# **Board Memberships**

August 2017 – present: Member of the Donald Danforth Plant Science Center Board of Directors August 2017 – present: Member of the Hawthorn Foundation Board of Directors Executive Committee: 2018-present June 2018 – present: Member of the Campus Compact Board of Directors Sept. 2018 – present: Member of the Missouri Energy Initiative Board of Directors Feb. 2016 - July 2017: Member of the Carnegie Pathways Advisory Board Oc. 2015 – July 2017: Member of the New York State Photonics Board Jan. 2012 - Sept. 2014: Member of the Buffalo Niagara Enterprise Board of Directors. Oct. 2011 - Sept. 2014: Member of the CUBRC Board of Directors. Oct. 2011 – Sept. 2014: Member of the Buffalo 2020 Corporation Board of Directors. Chair: December 2011 - present Spring 2008 – Sept. 2014: Member of the New York Sea Grant Institute Board of Governors. Executive Committee: 2012 - 2014 Chair: April 2012 - 2014 Vice Chair: Jan. 2012 - April 2012 Jan. 2012 – Sept. 2014: Member of the Hauptman-Woodward Institute Board of Directors.

# **Professional Memberships and Activities**

# Society Memberships:

Fellow, American Association for the Advancement of Science
American Society for Engineering Education (ASEE)
Eta Kappa Nu
Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
Materials Research Society (MRS)
Fellow, National Academy of Inventors
Optical Society of America (OSA)
Full Member, Sigma Xi: The Scientific Research Honor Society
Fellow, SPIE – The International Society for Optics and Photonics

# Journal Editorships:

Associate Editor, Journal of Nanophotonics Editor, Light: Science & Applications

# Journal Reviewer:

Advanced Materials, Applied Physics Letters, IEEE Electron Devices, IEEE Journal of Quantum Electronics, IEEE Photonics Technology Letters, IEEE Transactions on Advanced Packaging, IEEE Transactions on Components and Advanced Packaging, IEEE Transactions on Education, Journal of Applied Physics, Journal of Crystal Growth, Optics

Communications, Optics Letters, Optics Express, Physica E-Low-Dimensional Systems & Nanostructures, Solid State Communications and others.

## Conference Organization:

*February 2017:* Co-Chair of "Nanoscale Imaging, Sensing, and Actuation for Biomedical Applications XIII," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, January 28 – February 2, 2017.

*February 2016:* Co-Chair of "Nanoscale Imaging, Sensing, and Actuation for Biomedical Applications XII," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, February 13-18, 2016.

*February 2015:* Co-Chair of "Nanoscale Imaging, Sensing, and Actuation for Biomedical Applications XI," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, February 7-12, 2015.

*February 2014:* Co-Chair of "Nanoscale Imaging, Sensing, and Actuation for Biomedical Applications X," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, February 1-6, 2014.

*February 2013:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications IX," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, February 2-7, 2013.

*January 2012:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications VIII," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, January 21-26, 2012.

*January 2011:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications VII," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, January 22-27, 2011.

*January 2010:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications VI," SPIE Photonics West, BiOS Annual Conference, San Francisco, CA, January 23-28, 2010.

*January 2009:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications V," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 24-29, 2009.

*March 2008:* Co-Chair of "Magnetic Excitations in Semiconductors – A Bridge to the Next Decade," MagEx 2008, Buffalo, NY, March 6-8, 2008.

*January 2008:* Co-Chair of "Nanoscale Imaging, Sensing and Actuation for Biomedical Applications IV," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 19-24, 2008.

*April 2007:* Co-Chair of "Symposium XX: Hybrid Functional Materials for Optical Applications," MRS Annual Meeting, San Francisco, CA, April 9-13, 2007.

*January 2007:* Co-Chair of "Nanoscale Imaging, Spectroscopy, Sensing and Actuation for Biomedical Applications IV," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 20-25, 2007.

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*January 2006:* Co-Chair of "Nano/Biophotonics and Biomedical Applications," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 21-26, 2006.

*January 2005:* Co-Chair of "Nano/Biophotonics and Biomedical Applications," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 22-27, 2005.

*December 2004:* Chair of Symposium "Novel Materials for Nanophotonics," MRS Annual Meeting, Boston, MA, November 29-December 3, 2004.

*August 2004:* Co-Chair of "Nanophotonic Materials," SPIE – The International Society for Optical Engineering, Annual Meeting, Denver, CO, August 2-6, 2004.

*January 2004:* Chair of "Nano/Biophotonics and Biomedical Applications," SPIE Photonics West, BiOS Annual Conference, San Jose, CA, January 24-29, 2004.

*August 2003:* Program Committee, IEEE Nanotechnology Conference, IEEE-Nano 2003, San Diego, CA, August 12-14, 2003.

*August 2003:* Chair of "Organic and Hybrid Materials for Nanophotonics," SPIE The Annual Meeting, San Diego, CA, August 3-8, 2003.

*April 2001:* SPIE Opto-NorthEast and Imaging 2001, Conference Chair for Optoelectronic and Photonic Devices, Rochester, NY, April 10-11, 2001.

*Fall 1999–Spring 2000:* Member of the American Society for Engineering Education (ASEE) technical committee for the St. Lawrence Sectional Meeting, Alfred, NY, March 30-April 1, 2000.

*Spring 1999 – January 2000:* Member of the international program committee (IPC) for the International Conference on Simulation and Multimedia in Engineering Education 2000, San Diego California, January 23-27, 2000.

# Service

#### Scientific Service:

January – February, 2014: Reviewer for Department of Energy, Basic Energy Sciences, Early Career Research Program 2014.

*April 2013 and May 2014:* Member of the American Association for the Advancement of Science's Review Panel for the EPSCoR program of South Dakota. Interviews held in Sioux Falls, SD.

January – March, 2013: Reviewer for Department of Energy, Basic Energy Sciences, Early Career Research Program 2013.

September24-25, 2012: Member of the NSF IGERT review panel, Arlington, VA.

*January – March, 2012*: Reviewer for Department of Energy, Basic Energy Sciences, Early Career Research Program 2012.

*February 1-3, 2012:* Member of the NSF Division of Materials Research, Electronic and Photonic Materials Panel 4, Arlington, VA.

January 17, 2010: Member of the NSF STTR Review panel on "Photovoltaics," Arlington, VA.

*November 4-6 2009:* Member NIH review panel for P41 program reverse site visit for Duke University Photonics Center, Washington, DC.

September 17, 2009: Member of the NSF SBIR Review panel on "Magnetic and Sensor Materials," Arlington, VA.

*November 2008:* Member of the Natural Sciences and Engineering Research Council of Canada (NSERC) site review team for the Major Resource Support (MRS) Program. One of 5 team members to review The Laboratory of Micro and Nanofabrication (LMN), Institut National de la Recherche Scientifique (INRS).

*March 2008:* Member of the site review committee for the National Institutes of Health, National Institute of Biomedical Imaging and Bioengineering (NIBIB) Technology Resource Center in Biophotonics and Nanosensing at Duke University.

*February 2007:* Member of National Science Foundation's Review Panel for the Directorate for Engineering's Division of Electrical, Communications and Cyber Systems (ECCS) focused on Nanoscale Exploratory Research Teams for Active Nanostructures and Nanosystems, NSF, Arlington, VA.

*April 2004:* Member of National Science Foundation's CREST program Review Panel, NSF, Arlington, VA.

*April 2004:* Member of National Science Foundation's Spintronics Panel for Electrical and Communications Systems (ECS), unsolicited proposal, NSF, Arlington, VA.

*November 2003:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, CAREER Panel, *Electronics, Photonics, and Device Technologies*, NSF, Arlington, VA.

*October 2003:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, CAREER Panel, *Electronics, Photonics, and Device Technologies*, NSF, Arlington, VA.

*November 2002:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, CAREER Panel, *Electronics, Photonics, and Device Technologies*, NSF, Arlington, VA.

*November 2001:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, CAREER Panel, *Electronics, Photonics, and Device Technologies*, NSF, Arlington, VA.

*July 2001:* Member of National Science Foundation's Review Panel for Directorate for Undergraduate Education, *Course, Curriculum and Laboratory Innovation*, (NSF-CCLI #2), NSF, Arlington, VA.

*April 2000 – April 2001:* Secretary, St. Lawrence Section of the American Society for Engineering Education.

*December 2000:* National Science Foundation Workshop on "The Future Revolution in Optical Communications and Networking," Washington, D. C., (one of approximately 70 invited nationwide).

*November 2000:* Reviewer of the National Science Foundation's Award #9752693, "Handson Laboratory Projects for Non-Engineers: Learning Scientific Principles in the Context of Everyday Technology," John Krupczak, Hope College, Holland, MI.

*May 2000:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, *Electronics, Photonics, and Device Technologies*, (NSF-EPDT #4), NSF, Arlington, VA.

August 1999: Member of National Science Foundation's Review Panel for the Directorate for Education and Human Resources' Division of Undergraduate Education Course Curriculum and Laboratory Improvement Program, (ILI-27), Washington, DC.

*May 1999:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems, *Electronics, Photonics, and Device Technologies*, (NSF-EPDT #1), Washington, DC.

*March 1998:* Member of National Science Foundation's Review Panel for Directorate for Engineering's Division of Electrical and Communications Systems *Physical Foundations of Enabling Technologies* Program, (NSF-PFET #2), Washington, DC.

January 1998: Member of National Science Foundation's Review Panel for the Directorate for Education and Human Resources' Division of Undergraduate Education Instrumentation and Laboratory Improvement Program, (ILI-27), Washington, DC.

# **Community Service**

- Summer 2010 Offer Summer Camp, "Innovation Station" for 8-11 year olds, July 26-30, 2010; Camp focused on Basic Physics and Engineering of Optical Sciences.
- Spring 2010 7th & 8th Grade Science Presentation, "Nanostructured Optical Devices," 2010.
- Spring 2007 UB Engineer's Week Presentation, "Nanoengineering: Past and Future," 2007.

Spring 2007 – Integrated Nanostructured Systems East Aurora High School campus visit.

- *Fall 1995-2014:* Fall Campus Visit Program, UB Open House, UB Preview Day, Take your Daughters to Work Day.
- *Spring 2006:* Third grade "Light Lab" Explore Lab, Country Parkway Elementary School, Williamsville, NY.
- *Spring 2006:* Mentor for the State University of New York Louis Stokes Alliance for Minority Participation Program.
- *Fall/Spring 2005-2006:* Mentor for three students in the State University of New York Collegiate Science & Technology Entry Program.
- *Fall 2005:* Third Grade Science Laboratory, Country Parkway Elementary School, Williamsville, NY.
- Summer 2005: Mentor for State University of New York Louis Stokes Alliance for Minority Participation Program.
- Spring 2000: Guest Lecturer, Orchard Park School Eighth Grade Science Assembly, "Lasers and Photonics."
- Summer 1999: Mentor for State University of New York Louis Stokes Alliance Louis Stokes for Minority Participation

- Summer 1997: Mentor for State University of New York Louis Stokes Alliance for Minority Participation.
- Summer 1996: Supervised SEAS Buffalo-Area Engineering Awareness for Minorities (BEAM) Honors Research Summer Program Student.

### University Service

- November 2012 September 2014: Member, Council on Research Policy and Graduate Education (CRPGE) Executive Committee.
- *Fall 2011 Spring 2012:* Member, University at Buffalo Provost and Executive Vice President for Academic Affairs Search Committee.
- *Fall 2011 Spring 2012:* Member, President of the Research Foundation / SUNY Vice Chancellor for Research Search Committee.
- *Spring 2012 Fall 2012:* Member, Dean of the School of Engineering and Applied Sciences Search Committee.
- March 2011: Participant in the 25th Annual Science Exploration Day.
- Fall 2007 Spring 2009: Member, Provost's Vast Potential Working Group

A coterie of deans and faculty, at the behest of the provost, engaged in a discussion regarding the vast potential of the Buffalo Niagara Region. The conversation focused, in large measure, on the unique attributes of our region.

Fall 2007 – June 2010: Member, Committee on Environmental Stewardship.

Created in November 2007 to lead UB's work toward fulfilling UB's President's endorsement of the American College and University Presidents Climate Commitment (ACUPCC) and in pursuit of a broader agenda for sustainable development and design on our three campus centers.

- Fall 2006 Spring 2009: Member, Development Program Advisory Council.
- Fall 2002 Spring 2007: Chair of ILPB Executive Committee.
- Spring 2002 present: Director: Institute for Lasers, Photonics and Biophotonics.
- Spring 2001 Spring 2007: Member of the University at Buffalo Faculty Senate's Budget Priorities Committee.

This committee advised the President in the development of the university budget, recommended criteria for the allocation of the university budget funds related to the development and implementation of programs related to the academic mission and recommended and reported regularly to the faculty senate.

- Fall 1999 present: Serving as member of the Graduate School Fellowship Committee.
- Spring 1999 present: Director: CAPEM/MRIF Ultrafast Laser Facility.
- Fall 2007 July 2009: Vice Provost for Strategic Initiatives.
- *Fall 2006 July 2009:* Member, University at Buffalo's Strategic Strengths Advisory Committee, Advisory to the University at Buffalo Provost (Satish Tripathi).
- Fall 2007 May 2009: Chair, UB Downtown Gateway Committee.
- *Fall 2006 Spring 2008:* Member, University at Buffalo's Research Advisory Council (RAC), Advisory to the Vice President for Research (Jorge Jose).
- Fall 2006 Fall 2007: Director, UB2020 Integrated Nanostructured Systems Initiative.

Integrated Nanostructured Systems at UB aims to transform nanoscience discoveries into integrated technologies that advance information processing and storage, biomedical diagnostics and therapy, and renewable energy sources for the benefit of industry, human health, the environment, and society.

- Fall 2006 Spring 2007: Faculty in Leadership Program, Mentor: Provost Satish Tripathi.
- Spring 2005: Chair: White Paper Committee for UB2020 Foci of Excellence on Nanomaterials (Integrated Nanostructured Systems).
- Fall 2004 Spring 2005: Member; University at Buffalo Task Force on Centers and Institutes.
- *Fall 2004 Spring 2005:* Member; University at Buffalo Task Force on Research Incentives and Support.
- *May 1997 January 2005:* Center for Advanced Photonics and Electronic Materials. Actively participated in center activities for the University at Buffalo center focusing on photonic and opto-electronic materials.
- *April 1997, 1998, 1999, 2000, 2001, 2002, 2003:* Judge for Sigma Xi Annual Student Research Competition. Sponsored by the Vice Provost for Graduate Education and Research.
- Fall 2002: Member; SUNY Sensor Planning Committee.
- Fall 2001 Fall 2002: Member; SUNY Faculty Senate Graduate Research and Education Committee.
- *Fall 1999 Spring 2002:* Member; Advisory Board of the Institute for Research and Education on Women and Gender.
- Spring 1997 Fall 2001: Served as a SEAS representative to the Provost's Junior Faculty Advisory Council.
- *Fall 1999 May 2000:* Serving as alternate for the School of Engineering and Applied Sciences representatives to the University Faculty Senate.
- *Fall 1999:* Served as faculty representative in the University at Buffalo Mission Review Process (one of only two faculty members invited to participate).
- September 1995 May 1997: Center for Electronic and Electro-optic Materials, University at Buffalo; actively participated in center activities.

### **Faculty Service**

- *Fall 1998 Spring 2014:* Serving as the Freshmen Mentor for declared Engineering Freshmen for the School of Engineering and Applied Science (SEAS) Computing Committee.
- Fall 2007 June 2009: Member: EE Executive Committee
- Fall 2006 Spring 2007: Vice Chair, SEAS Faculty Personnel Committee
- Fall 2005 Fall 2006: Member: SEAS Faculty Personnel Committee
- Fall 2005 Spring 2006: Chair, SEAS Dean Search Committee.
- Spring 1999 Fall 2003: Associate Director: Center for Active-learning of Microelectronics in Administration and Photonics.
- *Fall 1998 Fall 2003:* Serving as the Faculty Advisor for the University at Buffalo American Society for Engineering Education Student Club (UB-ASEE).
- Fall 2002 Spring 2003: Member: SEAS Research Advisory Committee.

Summer 1998 – Spring 2000: Serving as the Electrical Engineering Representative to the School of Engineering and Applied Science (SEAS) Computing Committee.

### **Departmental Service**

Spring 1996 – present: Director: Laboratory for Advanced Spectroscopic Evaluation.

Spring 2008 – June 2009: Member: Electrical Engineering Research Space Group.

Fall 2007 – June 2009: Member: New SEAS Building and Space Committee.

Fall 2005 – Spring 2007: EE Course Scheduling.

Fall 2005 - Spring 2007: Member: New SEAS Building, Department Committee.

Fall 2003 – Spring 2007: Member: Awards Committee.

Spring 2006 – Summer 2006: Chair: Electrical Engineering Faculty Search.

Fall 2005 - Spring 2006: Member: Faculty Recruitment Bio Committee.

Fall 2004 - Spring 2006: Chair: Electrical Engineering Graduate Curriculum Committee.

Fall 2004 – Spring 2006: Member: Graduate Admissions Committee.

Fall 2003 – Spring 2006: Member: Staff Duties & Evaluation Committee.

Spring 2003 – Spring 2006: Member: Undergraduate Curriculum Committee.

Summer 1999 - Spring 2006: Electrical Engineering Graduate Committee.

Fall 2001 – Spring 2005: Member: Electrical Engineering Space Committee.

Fall 2004 – 2005: Electrical Engineering Graduate Seminar Coordinator.

Fall 2002 - Spring 2003: Member: Accreditation Board for Engineering and Technology Committee.

Fall 2000 - Fall 2002: Director: Financial Aid and Teaching Assistants.

Fall 2001 – Spring 2002: Member: Electrical Engineering Search Committee.

Fall 2001 – Spring 2002: Member: Electrical Engineering Chair Search Committee.

Summer 1998 - Spring 2000: Electrical Engineering Webmaster.

Fall 1999: Electrical Engineering Course Revitalization Committee.

Summer 1998 – Fall 1999: Electrical Engineering Year 2000 Coordinator.

Spring 1998: Electrical Engineering Planning Committee.

Spring 1998: Electrical and Computer Engineering Curriculum Reform Committee.

Spring 1995 - Spring 1997: Graduate Seminar Coordinator.

Fall 1996: Head of ECE Strategic Planning Sponsored Research Subcommittee.

# Education

# **Courses Taught**

Fall 2016:	EE 598 – Individual Problems: <i>1 student</i> EE 699 – Dissertation (PhD): <i>1 student</i>
Spring 2016:	EE 699 – Dissertation (PhD): 1 student
Fall 2015:	EE 699 – Dissertation (PhD): 2 students PHY 600 – Graduate Research (PhD): 1 student

Spring 2015:	EE 499 – Independent Study: <i>1 student</i> EE 699 – Dissertation (PhD): <i>2 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Fall 2014:	EE 699 – Dissertation (PhD): 5 students PHY 600 – Graduate Research (PhD): 1 student
Spring 2014:	EE 598 – Independent Study: <i>1 student</i> EE 699 – Dissertation (PhD): <i>3 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Fall 2013:	EE 598 – Independent Study: <i>1 student</i> EE 699 – Dissertation (PhD): 5 <i>students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Spring 2013:	EE 699 – Dissertation (PhD): <i>4 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Fall 2012:	EE 699 – Dissertation (PhD): <i>4 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Spring 2012:	EE 499 – Independent Study: 2 students EE 699 – Dissertation (PhD): 7 students PHY 600 – Graduate Research (PhD): 1 student
Fall 2011:	EE 699 – Dissertation (PhD): 7 student PHY 600 – Graduate Research (PhD): 1 student
Spring 2011:	EE 699 – Dissertation (PhD): 9 students
Fall 2010:	EE 598 – Individual Problems: <i>4 students</i> EE 699 – Dissertation (PhD): <i>9 students</i>
Spring 2010:	EE 598 – Individual Problems (MS): 4 students (PhD) 1 student EE 599 – Masters Research: 1 student EE 699 – Dissertation (PhD): 6 students EE 701 – Special Topics: 1 student
Fall 2009:	EE 202 – Circuit Analysis I: 161 students EE 494 – Senior Capstone Project: 2 students EE 598 – Individual Problems (MS): 4 students, (PhD) 1 student EE 599 – Masters Research: 1 student EE 699 – Dissertation (PhD): 4 students
Spring 2009:	EE 598 – Individual Problems (PhD): 2 students EE 699 – Dissertation (PhD): 4 students
Fall 2008:	EE 202 – Circuit Analysis I: 159 students EE 498 – Undergraduate Research: 1 student EE 598 – Individual Problems (MS): 1 student, (PhD) 2 students EE 699 – Dissertation (PhD): 3 students
Spring 2008:	EE 598 – Individual Problems (MS): 1 student, (PhD) 2 students EE 599 – Masters Research: 1 student EE 699 – Dissertation (PhD): 3 students

Fall 2007:	EE 202 – Circuit Analysis I: <i>158 students</i> EE 598 – Individual Problems (MS): <i>1 student</i> , (PhD): <i>1 student</i> EE 699 – Dissertation (PhD): <i>2 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Spring 2007:	EE 490/590 – Consumer Optoelectronics: 8 students/16 students EE 598 – Individual Problems (MS): 2 students, (PhD): 2 students EE 599 – Masters Research: 1 student EE 699 – Dissertation (PhD): 5 students PHY 600 – Graduate Research (PhD): 1 student UE 141 – Integrated Nanostructured Systems Freshman Seminar Series: 7 students
Fall 2006:	EE 489/589 – Lasers & Photonics: 10 students/11 students EE 598 – Individual Problems (MS): 1 student EE 599 – Masters Research: 6 students EE 699 – Dissertation (PhD): 5 students PHY 600 – Graduate Research (PhD): 1 student UE 141 – Integrated Nanostructured Systems Freshman Seminar Series: 9 students
Spring 2006:	EE 494/594 – Consumer Optoelectronics: <i>12 students/6students</i> EE 499 – Independent Study: <i>1 student</i> EE 598 – Individual Problems (PhD): <i>1 student</i> EE 599 – Masters Research: <i>2 students</i> EE 699 – Dissertation (PhD): <i>8 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Fall 2005:	EE 492 – Lasers and Photonics: <i>18 students</i> EE 598 – Individual Problems (PhD): <i>5 students</i> EE 599 – Masters Research: <i>2 students</i> EE 699 – Dissertation (PhD): <i>7 students</i> PHY 600 – Graduate Research (PhD): <i>1 student</i>
Spring 2005:	EE 494/594 – Consumer Optoelectronics: 14 students/17students EE 499 – Independent Study: 2 students EE 586 – EE Graduate Seminar: 73 students EE 720 – Thesis (PhD): 2 students EE 730 – Individual Problems: 3 students EE 740 – Dissertation (PhD): 7 students
Fall 2004:	EE 492 – Lasers and Photonics: 27 students EE 499 – Independent Study: 3 students EE 585 – EE Graduate Seminar: 88 students EE 720 – Thesis (PhD): 4 students EE 730 – Individual Problems: 2 students EE 740 – Dissertation (PhD): 8 students
Spring 2004:	EE 494/594 – Consumer Optoelectronics: 16 students/9students

EE 499 – Independent Study: 2 students EE 511 – Problems in Biomedical Engineering: 12 students EE 710 – Engineering Project: 1 student EE 720 – Thesis (MS): 3 students EE 730 – Individual Problems: 4 students EE 740 – Dissertation (PhD): 9 students Fall 2003: EE 202 - Circuit Analysis I: 175 students EE 492 - Lasers and Photonics: 21 students EE 710 – Engineering Project: 2 students EE 720 – Thesis (MS): 2 students EE 730 – Individual Problems: 4 students EE 740 – Dissertation (PhD): 7 students Spring 2003: EE 511 – Problems in Biomedical Engineering: 21 students EE 710 - Engineering Project: 1 student EE 720 – Thesis (MS): 2 students EE 730 – Individual Problems: 1 student EE 740 - Dissertation (PhD): 11 students Fall 2002: Sabbatical EE 499 – Independent Study: 1 student EE 710 – Engineering Project: 1 student EE 720 – Thesis (MS): 2 students EE 730 - Individual Problems: 7 students EE 740 - Dissertation (PhD): 8 students Spring 2002: EE 494/594 – Consumer Optoelectronics: 5 students/12 students EE 499 – Independent Study: 2 students EE 710 – Engineering Project: 3 students EE 720 – Thesis (MS): 2 students EE 730 - Individual Problems: 6 students EE 740 – Dissertation (PhD): 7 students Fall 2001: EE 492 - Lasers and Photonics: 12 students EE 499 – Independent Study: 1 student EE 566 - Optical Communications: 21 students EE 710 - Engineering Project: 1 student EE 730 - Individual Problems: 2 students EE 740 – Dissertation (PhD): 5 students Spring 2001: EE 494/594 – Consumer Optoelectronics: 10 students/5 students EE 710 - Engineering Project: 4 students EE 720 – Thesis (MS): 1 student EE 730 - Individual Problems: 4 students EE 740 – Dissertation (PhD): 4 students Fall 2000: EE 492 - Lasers and Photonics: 17 students EE 499 – Independent Study: 1 student EE 720 - Thesis (MS): 3 students

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EE 730 – Individual Problems: 5 students EE 740 – Dissertation (PhD): 2 students UE 151 - Honors Seminar on Consumer Electronics: 27 students Spring 2000: EE 494/594 – Consumer Optoelectronics: 10 students/6 students EE 499 – Independent Study: 1 student EE 502 – Individual Problems (MS): 1 student EE 560 – Thesis (MS): 3 students EE 660 - Dissertation (PhD): 2 students Fall 1999: EE 492 - Lasers and Photonics: 27 students EE 499 – Independent Study: 1 student EE 501 - Individual Problems (MS): 3 students EE 545 - Engineering Project (MS): 1 student EE 559 - Thesis (MS): 5 students EE 659 – Dissertation (PhD): 1 student Spring 1999: EAS 230 – Higher Level Language (C++): 69 students EE 494/594 - Consumer Optoelectronics: 16 students/3students EE 499 – Independent Study: 1 student EE 502 - Individual Problems (MS): 1 student EE 560 - Thesis (MS): 3 students EE 660 – Dissertation (PhD): 1 student Fall 1998: ECE 492/592 - Lasers and Photonics: 8 students/5 students ECE 499 – Independent Study: 3 students ECE 501 - Individual Problems (MS): 2 students ECE 559 - Thesis (MS): 1 student ECE 659 - Dissertation (PhD): 1 student Spring 1998: EAS 230 – Higher Level Language (C++): 56 students ECE 494/594 - Laser Electronics 2: 5 students/2 students ECE 499 - Independent Study: 1 student ECE 502 – Individual Problems (MS): 2 students ECE 602 - Individual Problems (Phd): 1 student ECE 660 - Dissertation (PhD): 1 student Fall 1997: ECE 492/592 - Laser Electronics: 5 students/9 students ECE 499 – Independent Study: 4 students ECE 501 - Individual Problems (MS): 1 student ECE 559 – Thesis (MS): 1 student ECE 601 - Individual Problems (Phd): 1 student ECE 659 - Dissertation (PhD): 1 student Spring 1997: EAS 230 – Higher Level Language (C++): 69 students ECE 499 – Independent Study: 6 students ECE 502 – Individual Problems (MS): 1 student ECE 504 - Supervised Research (MS): 1 student ECE 560 - Thesis: 1 student ECE 586 - ECE Graduate Seminar: 39 students

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Fall 1996:	ECE 494/594 – Laser Electronics 2: 4 students/2 students
	ECE 499 – Independent Study: 6 students
	ECE 501 – Individual Problems (MS): 1 student
	ECE 585 – ECE Graduate Seminar: 44 students
Spring 1996:	ECE 492/592 – Laser Electronics: 10 students/6 students
	ECE 499 – Independent Study: 2 students
	ECE 502 – Individual Problems (MS): 1 student
	ECE 602 – Individual Problems (PhD): 1 student
Fall 1995:	ECE 202 – Circuit Analysis I: 41 students
	ECE 499/EE499: Undergraduate independent Study: These projects range from programming applications for the laboratory to the design and implementation of experimental apparatus.

#### **Research Supervision:**

#### **Previous Postdoctoral Researchers**

Tim Thomay: Main contact in the Cartwright lab and is responsible for all aspects of research in the Laboratory for Applied Spectroscopic Evaluation.

Sung Jin Kim: Responsible for Ultrafast Spectroscopy, and Solar Cell Fabrication and Characterization.

Maurice Cheung: Optical Properties of Wide Bandgap III-nitrides, Zinc Oxide and III-N/Zinc Oxide Heterostructures.

Fei Chen, Primary Responsibility: Ultrafast Spectroscopy of III-N Materials and Devices.

Hans Andreas Nickel, Primary Responsibility: CAPEM/MRIF Ultrafast Laser Facility.

# **Current PhD Students (expected graduation date listed)**

None at this time.

# **Graduated PhD Students**

May 2019 – Alec Cheney, "Dynamics and Applications of Plasmonically Induced Resistance in Metal Nanogratings"

May 2019 – Borui Chen, "Metallic Nanostructures for Opto-Plasmonic and Electro-Plasmonic Applications"

February 2016 – Joe Murphy, "Time-Resolved Spectroscopy of Low-Dimension Semiconductor Structures"

- February 2016 Tianmu Zhang, "Energy Harvesting Applications and Spectroscopy of Nanocrystals"
- May 2015 Tania Moein, "Metamaterials: Enhancing Efficiency of Photovoltaics"
- May 2014 Xi Wang, "Metamaterials on Fibers: Nanofabrication for Optical Applications"
- September 2013 Bin Zhou, "Optical Properties of DNA Biomaterial and Application to UV-Photoconductors"
- September 2012 Huina Xu, "Optically Selective Nanostructures and Optical Sensing Applications"

- September 2012 Ke Liu, "Graded Photonic Bandgap Structures and Applications"
- September 2012 Prateek Sharma, "EMCCD Based X-Ray Imaging System"
- September 2011 Bin Qu, "EMCCD Based X-Ray Imaging System"
- May 2011 DongHo Lee, "Low Cost Solution Based Solar Cells"
- September 2008 Sung Jin Kim, "Nanostructured Devices for Next Generation Photovoltaics"
- December 2007 Ram Thapa, "Hybrid Inorganic: Organic Light-emitting Diodes: Fabrication and Characterization"
- September 2007 Zhou Lu, "E-Beam Lithography of Nanoscale Structures for Sensors"
- September 2007 Daniel Kaputa, "Optical Trapping, Delivery, and Imaging of Nanoparticles in Cells"
- February 2007 Maurice Cheung, "Development of Visible and UV Devices Using Alternative Substrates"
- September 2006 Vamsy Chodavarapu, "Integrated CMOS Photonic Sensor Systems for In-Vivo Monitoring of Biomarkers"
- September 2005 Paul Sweeney "Piezoelectricity and Indium Segregation in III-Nitride Heterostructure Devices"
- September 2005 Vincent Hsiao, "Composite Nanostructured Liquid Crystals for Optical Switching"
- September 2004 Fei Chen, "Ultrafast spectroscopy of InN epilayers and InGaN/GaN Heterostructures"
- February 2004 Madalina Furis, "Time-Resolved Photoluminescence Spectroscopy of Nitride Emitters"
- September 2003 Heng Liu, "Phase Reconstruction of Phase Shifted Moiré Interferograms Using Continuous Wavelet Transforms"
- February 2001 Ying Zhao, "Thermomechanical Behavior of Ball Grid Array Solder Joints under Thermal and Vibration Loading: Testing and Modeling"

## **Current Masters Students**

None at this time.

## **Graduated Masters Students**

- February 2008 Elizabeth Nio, non-thesis option, researched on holographic polymeric photonic bandgap structures.
- June 2007 Dae Yu Kim, "Design of CCD and EMCCD Sensors Readout Circuitry for Digital X-ray Imaging"
- September 2006 Jason Bowker, "The Fabrication of a Linear Polarizer and an Angle Dependant Reflection Grating by means of Holographic Lithography"
- September 2006 Nihal Shastry, "Sigma Delta A/D Modulator Design for SOC Implementation of a Glucose Biosensor"
- September 2005 Rana Bhowmick, "An Integrated CMOS Optical Detector for Chemical and Biological Sensors"

- August 2005 Sarojini Ramakrishnan, "Reflectance Spectroscopy of Skin and application in Skin Biometry"
- August 2005 Preeti Gupta, "Photonic Crystal Based Optical Circuitry"
- June 2005 Gurinder Singh, "Ultrafast Spectroscopy Core-shell and Hybrid Quantum Well-quantum Dot Heterostructures"
- June 2005 Sharat Chikkerur, "Online Fingerprint Verification System"
- February 2005 Preeti Joshi, "A Wireless Sensor Network using Multiple Protocols"
- September 2004 Bhanu S. Nandamuri, "Data Acquisition and Processing using MPLAB"
- April 2004 Emmanuel T. Nishanth, "Detection of Proteins Using an Evanescent Wave Fiber Optic Sensor: Application to signal Transducers and Activators of Transcription 3 (STAT3)"
- September 2003 Sreeja Raghanuth, "Real-Time Adaptive Alignment of Free-Space Optical Interconnects for Integrated Circuits"
- February 2003 Vamsy Chodavarapu, "Photonics Simulations using Java"
- February 2003 Christian Körner, "Intraband Lasers for Communications"
- September 2002 Michael Pan, "Organic Light Emitting Diodes"
- February 2002 Menq Pan, Project, "Reflection and Differential Reflection Measurements of III-N Heterostructures"
- September 2001 Pratibha Gopalam, "Frameworks for Java™ Simulation Tools and E-Laboratories"
- June 2001 Heng Liu, Project, "Phase Shifting Moiré Interferometry for Electronic Packaging"
- June 2001 Matthew Blasczak, Masters Thesis, "An Experimental Whole Field Ultrafast Interferometric Technique for Nondestructive Evaluation and Material Characterization"
- June 2001 Tatsuya Saito, Project, "CW Photoluminescence of III-N Materials"
- December 2000 Maurice Cheung, "Numerical Monte Carlo Simulations of III-N Heterostructures"
- June 2000 David Vu, "Image Processing to Enhance and Automate Determination of Strain in Electronic Packaging"
- December 1999 Paul Sweeney, Non-thesis option to continue for PhD
- August 1997 Christian H. Wengerter, "Differential Reflection Measurements of Quantum Well Structures for Optical Modulators"

# **Current Supported Research Assistants**

None at this time.

#### **Graduate Committees**

February 2016 – Dengxin Ji (Electrical Engineering, PhD) August 2014 – Jinwei Zeng (Electrical Engineering, PhD) December 2013 – Swetadri Vasan Setlur Nagesh, (Electrical Engineering, PhD) May 2013 – Apra Pandey, (Electrical Engineering, PhD)

May 2013 – Fatema Alali, (Electrical Engineering, PhD) May 2012 – Ethan Gibson, (Electrical Engineering, PhD) August 2011 - Vincent Whiteside, (Physics, PhD) August 2011 – Kangsun Lee, (Electrical Engineering, PhD) August 2011 – Ying Huang, (Electrical Engineering, PhD) May 2011 - Bicheng Chen, (Civil, Structural and Environmental Engineering, PhD) September 2010 – Wing Cheung Law, (Electrical Engineering, MS) September 2008 – Chinmay Joshi, (Electrical Engineering, MS) September 2008 – Yili Quan, (Electrical Engineering, PhD) June 2007 – Jong-Uk Bae, (Electrical Engineering, MS) September 2006 – Bhanu Jaiswal, (Electrical Engineering PhD) September 2006 – Sirisha Karri, (Electrical Engineering PhD) September 2005 – Cibu Jose, (Electrical Engineering, MS) September 2005 – Gaurav Puri, (Electrical Engineering, MS) September 2005 – Harishankar Jayakumar, (Electrical Engineering, MS) June 2005 – Kiriti Bhagavathula, (Electrical Engineering, MS) February 2005 – Arunkumar Vedavyasan, (Electrical Engineering, MS) February 2005 – Michael Davenport, (Electrical Engineering, PhD) February 2005 – Massoud Momeni, (Electrical Engineering, MS) February 2005 – Shwetha Shekar, (Electrical Engineering, MS) September 2004 – Pavan Kumar Rudravaram, (Computer Science & Engineering, MS) September 2004 – Shubhrangshu Sengupta, (Electrical Engineering, MS) June 2004 – Hua Ye, (Civil, Structural and Environmental Engineering, PhD) September 2003 – Supriya P. Khanolkar, (Electrical Engineering, MS) September 2003 – Lihong Teng (Electrical Engineering, PhD) February 2003 – Hong Tang, (Civil, Structural and Environmental Engineering, PhD) February 2003 – Ye Pu (Mechanical Engineering, PhD) September 2002 – Jin-Hyuk Jeung (Electrical Engineering, MS) August 2001 – Shu-Zee Lo (Electrical Engineering, MS) February 2001 – Tao Tang (Electrical Engineering, MS) December 2000 – Zhiyong Yuan, (Electrical Engineering, MS) December 2000 – Bryan Mihalick (Chemical Engineering, MS) August 2000 – MiRan Park (Electrical Engineering, PhD) June 2000 – Elena Guliants (Electrical Engineering, PhD) August 1997 – Boguslaw Swedek (Chemistry PhD) July 1997 – Gary Edgar Ruland (Chemistry PhD) February 1997 – Jens Christoph Egerer (Electrical and Computer Engineering, MS) May 1996 – Seong-Ryong Ryu (Physics PhD)

# **Undergraduate Students**

Supervised undergraduate students that included eight NASA scholarships winners, one NSF Graduate Research Fellowship winner, two Department of Defense Graduate Fellowship winners, and three Presidential Fellowship winners, and ten Senior Scholars. Topics have included and will include (listed as: **student name**, title of work, funding source, and research period, associated fellowship either for the work or due to the work):

1) **Tara Feuerstein**, "Development of Nanophotonic Demonstration Modules," NSF, Summer Research Program, Summer 2010.

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- 2) Cecilia Simon, "Development of Nanophotonic Demonstration Modules," NSF, Summer Research Program, Summer 2010.
- 3) Erin Jacklin, *"Flexible Photonic Bandgap Structures for Sensing Applications,"* NIH Summer Research Program, Summer 2009.
- 4) Claire Lochner, "Flexible Solar Cells," Honors Program, Fall 2008.
- 5) Rene Van Ee, SUNY Louis Stokes Alliance for Minority Participation, Summer 2007.
- 6) Jamar Drue, SUNY Louis Stokes Alliance for Minority Participation, Summer 2007.
- 7) Aggery Jacobs, "Development and Testing of Data Acquisition and Analysis Software," SUNY Louis Stokes Alliance for Minority Participation, Fall 2006, Spring 2007.
- 8) Akinbode Oluwaseyi, "*Photoluminescence of Zinc Oxide*," SUNY Louis Stokes Alliance for Minority Participation, Summer 2006.
- 9) Hanan Basat, "Quantum Efficiency and Quantum Yield Measurements of Nanoparticles," SUNY Collegiate Science and Technology Entry Program, Spring 2006.
- 10) Lai Cheung, "Quantum Efficiency and Quantum Yield Measurements of Nanoparticle," SUNY Collegiate Science and Technology Entry Program, Spring 2006.
- 11) Ebow Cobbina, "Readout Interfaces for Integrated Sensors Systems," SUNY Collegiate Science and Technology Entry Program, Spring 2006.
- 12) Jose Caraballo, "*Readout Interfaces for Integrated Sensors Systems*," SUNY Louis Stokes Alliance for Minority Participation, Fall 2005.
- 13) Erin Hopkins, "Tailoring Polymeric Photonic Bandgap Devices for Biosensing Applications," NASA Undergraduate Research Scholarship, Fall 2005.
- 14) Mark Cianchetti, "*E-Beam Lithography*," NSF Sponsored Summer Research Experience for Undergraduates, Summer 2005.
- 15) Zachary Lochner, "*Electron Beam Nanolithography*," NSF Sponsored Summer Research Experience for Undergraduates, Summer 2005.
- 16) Nicholas Robinson, "Readout Interfaces for Integrated Sensor Systems," NSF Sponsored Summer Research Experience for Undergraduates, Summer 2005.
- 17) **Bizzy Abis ola Abdullai**, "*Optical Sensor for Oxygen Detection*," SUNY Louis Stokes Alliance for Minority Participation, Summer 2005.
- 18) Evan Haas, "Biologically Inspired Smart Sensor System (BIS<sup>3</sup>) for Health Monitoring," NASA Undergraduate Fellowship, Fall 2003 Summer 2004.
- 19) Aaron Vallet, "Nanoparticle-polymer light emitting diodes," NSF Sponsored Summer Research Experience for Undergraduates, Summer 2004.
- 20) Matthew Watkins, "Creating hybrid organic-inorganic InP quantum dot LED devices," NSF Sponsored Summer Research Experience for Undergraduates and NASA Undergraduate Scholarship, Summer 2003.
- 21) Paul Couchman, "Hybrid Materials and Devices," NASA Undergraduate Scholarship, Fall 2002 Spring 2003.
- 22) Helen Shibru, "Measuring the bandgap energy of III-N Heterostructures using Reflectance Spectroscopy," NSF Sponsored Summer Research Experience for Undergraduates, Summer 2003
- 23) Anthony Guetta, "Simulation of Carrier Dynamics in III-N Materials," NASA Undergraduate Scholarship, Fall 2001 Spring 2002 (NSF Graduate Fellowship).

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- 24) Kerry Courtright, "Java Applet Development," NSF Research Experience for Undergraduates, Spring 2002.
- 25) Xin Hu, "Molecular Dynamics Simulation of Growth of III-N Materials," NASA Undergraduate Scholarship, Spring 2001 (NSF Graduate Fellowship).
- 26) Mark Andrews, "Development of Laser System for Photoluminescence of III-N Heterostructures," NASA Undergraduate Scholarship and NSF Research Experience for Undergraduates, Fall 2000 – Spring 2001 (NSF Graduate Fellowship).
- 27) Xin Hu, "Control and Data Acquisition using Labview," NSF Research Experience for Undergraduates, Fall 2000.
- 28) **Stanley Bileschi**, "*Microphotoluminescence of III-N Heterostructures*," School of Engineering and Applied Sciences Senior Scholarship, Fall 1999 Spring 2000.
- 29) **Daniel Grasso**, "Monte Carlo Simulations of III-N Heterostructure Devices," School of Engineering and Applied Sciences Senior Scholarship, Fall 1999 Spring 2000.
- 30) Carrie Harder, "Reflection and Transmission of III-N Materials," NASA Undergraduate Scholarship and School of Engineering and Applied Sciences Senior Scholarship, 2000 (NSF Graduate Fellowship).
- 31) Filipe Mora, "Optical Properties of GaN Based Materials," State University of New York Louis Stokes Alliance for Minority Participation, Summer 1999.
- 32) John Choi, "GaN based Spatial Light Modulators," NASA Undergraduate Scholarship and School of Engineering and Applied Sciences Senior Scholarship, Fall 1998 – Spring 1999 (National Defense Science and Engineering Graduate Fellowship).
- 33) Carrie Harder, "Microcontrolled Beam Profiler," NSF Research Experience for Undergraduates, Carrie Harder, Fall 1999 Summer 2000.
- 34) Nathan Merkel, "Ultrafast Imaging of Bonding Interfaces," NASA Undergraduate Scholarship and School of Engineering and Applied Sciences Senior Scholarship, Fall 1997 – Spring 1998.
- 35) **Dai Vu**, "Laser Applications in Microelectronic Fabrication," School of Engineering and Applied Sciences Senior Scholarship, Spring 1998.
- 36) Christopher Striemer, "Time-resolved Frequency Upconversion," NASA Undergraduate Scholarship and NSF Research Experience for Undergraduates, Fall 1996 – Spring 1997 (National Defense Science and Engineering Graduate Fellowship).
- 37) Matthew Blasczak, "Fourier Optics and Imaging," School of Engineering and Applied Sciences Senior Scholarship, Fall 1996 – Spring 1997 (University at Buffalo Presidential Fellowship).
- 38) Michael Albright, "Data Acquisition and System Control Software, NASA Undergraduate Scholarship and School of Engineering and Applied Sciences Senior Scholarship, Fall 1996 – Spring 1997 (University at Buffalo Presidential Fellowship).
- 39) Menq Pan, "Java Educational Applet Programming," NASA Undergraduate Scholarship, Fall 1996 – Spring 1997.
- 40) **Ross Padak**, "C++ and Java Programming," Fall 1997.
- 41) **Jon Drury**, "*C*++ and Java Programming," Fall 1997.
- 42) Keith Nowicki, "C++ and Java Programming," Fall 1997.
- 43) Matthew Matteo, "C++ and Java Programming," Fall 1996.

**Current Undergraduate Students** 

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# BIO AND CURRICULUM VITAE

Alexander N. Cartwright - 30

None at this time.

# **Placement of Students**

# **Graduate Students**

Alec Cheney, Field Service Engineer, TOPTICA Photonics, Inc Borui Chen, Nanofabrication Engineer, Microsoft Josephy Murphy, Postdoctoral Research Fellow, University of Wyoming Tianmu Zhang, Postdoctoral Research Fellow, University at Buffalo Tania Moein, Postdoctoral Research Fellow, Swinburne University of Technology, Australia Xi Wang, Postdoctoral Fellow, University of California Berkeley, Berkeley, CA Prateek Sharma, Design Engineer, Itron Incorporated, West Union, SC Huina Xu, Application Development Engineer, KLA-Tencor, Milpitas, CA Ke Liu, RF System Application Engineer, Litepoint, Sunnyvale, CA Dong Ho Lee, Samsung Electronics, Seoul, South Korea Bin Qu, Animage LLC, Pleasanton, CA Sung Jin Kim, Assistant Professor, University of Miami, Miami, FL Maurice Cheung - Post-doc, McGill University, Montreal, Canada Ram Thapa, Post-doc, The University of Texas - Pan American, Edinburg, TX Elizabeth Nio, Solar Cell Test Engineer, Stion Corporation, San Jose, CA Zhou Lu, Engineer, Panasonic, Boston, MA Daniel Kaputa, Signal Analyst, Moog, Buffalo, NY Nihal Shastry, PDK Development Engineer, Simucad, Santa Clara, California Vamsy Chodavarapu, Assistant Professor, McGill University, Montreal, Canada Vincent Hsiao, Associate Professor, Department of Applied Materials and Optoelectronic Engineering, National Chi Nan University, Taiwan Sarojini Ramakrishnan, Qualcomm Incorporated, San Diego, California. Fei Chen, Optical Engineer, Lexmark, Lexington, KY Michael Pan, Army Research Laboratory, Space and Missile Defense Command, Huntsville, Alabama. Madalina Furis, Assistant Professor, Dept. of Physics, University of Vermont Sreeja Raghanuth, Southern California Institute of Technology at Anaheim, California Heng Liu, KLA-Tencor, San Jose, California Priyadarsini Krishnan, MBA Candidate - Class of 2008, Kellogg School of Management Northwestern University Sundari Nagarathnam, Cypress Systems, Minneapolis, Minnesota Christian Wengerter, Panasonic R&D Center, Germany Matthew Blasczak, Symbol Technologies, Long Island, NY Pratibha Gopalam, Philips Research India, India Dai Vu, Anderson Consulting Meng Pan, self-employed Ying Zhao, Sr. Reliability Engineer, Analog Devices, Norwood, MA

# Undergraduate researchers currently pursuing PhDs at other Institutions:

Claire Lochner, 2011 Graduate, UC Berkeley, NSF Fellowship Erin Jacklin, 2011 Graduate, Columbia, SMART Fellowship Both PhD Candidates

#### Undergraduate researchers who were awarded PhDs at other Institutions:

- Amy Turner, 2009, NSF Graduate Research Fellowship Award, Senior Scholar Award, and Presidential Fellowship, PhD Candidate, Cornell University, Advisor: Michal Lipson.
- Stanley Bileshi, 2000 National Science Foundation Graduate Fellow, PhD 2006, Massachusetts Institute of Technology.
- John Choi, 1999 DOD Graduate Research Fellow, PhD 2007, CalTech University, Advisor: Amnon Yariv.
- Carrie Harder, 2001 National Science Foundation Graduate Fellow, PhD 2007, University of Dayton.
- Daniel Grasso, PhD 2005, University of Illinois, Advisor: Kent Choquette.
- Xin Hu, 2001 NSF Graduate Fellowship, PhD 2006, Massachusetts Institute of Technology.

Thomas Prunty, PhD 2006, Cornell University, Advisor: Prof. J. R. Shealy.

Christopher Striemer, 1998 DOD Graduate Research Fellow, PhD, University of Rochester, Advisor: Philippe Fauchet.

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# **Research Grant Support**

(Abbreviations: AFOSR – Air Force Office of Scientific Research; ARO – Army Research Office; NIH - National Institutes of Health; NSF - National Science Foundation; ONR – Office of Naval Research)

# **Previous Research Grant Support**

- "Atomic Layer Deposition for Large-Area Sub-10 Nanometer Patterning for Super Absorbing Optical Devices," NSF, PIs: Qiaoqiang Gan, CoPI: A. N. Cartwright, 4/1/16-3/31/18, NSF Award CMMI156057, \$299,999 (Co-PI, 40%).
- "Targeted MSP: The University at Buffalo/Buffalo Public School (UB/BPS) Interdisciplinary Science and Engineering Partnership," NSF, PIs: J. Gardella, CoPI's: A. N. Cartwright, D. Maclsaac, D. Sykes, X. Liu, 9/1/2011-8/30/2016, NSF Award DUE1102998, \$9,800,000 (Co-PI, 15%).
- "Optical Physics and Imaging Science: Spin-Optics in Metamaterials," ARO, PI: N.M. Litchinitser, CoPI: A.N. Cartwright, 8/15/2011-8/14/2016, ARO W911NF1110333, \$1,400,000 (Co-PI, 40%).
- "Submicron Remote Imaging using Specialty Fiber Coupled Hyperlens," NSF, PI: N.M. Litchinitser, Co-PI: A.N. Cartwright, 8/01/2012-10/31/2015, NSF Award ECCS1231852, \$426,207 (Co-PI, 50%).
- 5. "Laser Materials Lifetime Tests," BerrieHill Research Corporation, PI: A.N. Cartwright, 4/30/2012-12/31/2014, \$45,000 (PI, 100%).
- "Solid State X-ray Image Intensifier Development," NIH, PI: S. Rudin, Co-PIs: D. Bednarek, A.N. Cartwright, D. Dashkoff, A. DelBalso, K. Hoffmann, L.N. Hopkins, C. Ionita, E. Levy, A. Siddiqui, A.H. Titus, 1/01/2008-12/31/2013, NIH Award 5R01EB008425, \$2,659,346, (Co-PI, 10%).
- "Technology Accelerator Fund Class of 2012: Graded Polymeric Photonic Bandgap Gratings for Compact Multispectral Analyzer," Research Foundation for SUNY, PI: A.N. Cartwright, 11/01/12-08/31/13, \$35,000.
- "Realtime Sensing of Wound Microenvironment," NIH, PI: A.N. Cartwright, Co-PIs: F.V. Bright, R. Hard, W. Hicks, Jr., 04/01/2009-03/31/2013, NIH Award 5R21EB00950602, \$462,484 (PI, 25%).
- "Biopolymer Based Optoelectronic Devices," BerrieHill Research Corporation, PI: A.N. Cartwright, 6/01/2010–05/31/2012, \$132,000 (PI, 100%).
- "Energy and Sensor Informatics," AFOSR, PI: A.N. Cartwright, Co-PI: N.M. Litchinitser, 5/01/2010–04/30/2012, AFOSR Award FA95501010216, \$782,000 (PI, 60%).
- "NUE: Nanophotonics Modules for Diverse Curricular Incorporation," NSF, PI: A.H. Titus, CoPIs: A.N. Cartwright, V. Mitin, 10/01/2009-9/30/2011, NSF Award EEC-0939281, \$199,036, (Co-PI, 30%).
- "Novel Flexible Plastic-Based Solar Cells Continuation," AFOSR, PI: P.N. Prasad, Co-PI: A.N. Cartwright, 8/15/2009–8/14/2012, AFORS Award FA95500910361, \$304,000 (CO-PI, 50%).

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- "MRI: Acquisition of a Dual Beam/Focused Ion Beam System for Research and Education," NSF, PI: G. Strasser, Co-PIs: J.A. Gardella, Jr., M.T. Swihart, Y.K. Yoon, 08/01/2009–07/31/2010, NSF Award CBET-0922992, \$1,096,411 (Senior Personnel).
- "Burn Fluid Analysis as a Prognosticator of Aberrant Wound Repair and Keloid Formation," DoD, PI: J.A. Gardella, Jr., Co-PIs: Frank V. Bright, Bahattin Koc, A.N. Cartwright, 09/01/2008–10/31/2011, DoD Award 57-1132-01, \$296,056 (Co-PI, 20%).
- "UB CAT: Synthesis and Evaluation of Graphene Films for Medical Device Applications," UB CAT, PI: S. Banerjee, Co-PI: A.N. Cartwright, 07/01/2009– 06/30/2010, \$30,000 (Co-PI, 50%).
- "Interdisciplinary Science Research-Based Curricular Innovations for Middle and High School Science and Teacher Professional Development," John H. Oishei Foundation, PI: J.A. Gardella, Co-PIs: A.N. Cartwright, C.K. Josef, X. Liu, H. Luo, S. Singh, 11/01/2006–10/31/2009, \$480,000 (Co-PI, 5%).
- "MRI: Acquisition of an Imaging Time of Flight Secondary Ion Mass Spectrometer (ToF-SIMS)," NSF, PI: J.A. Gardella, Co-PIs: F.V. Bright, A.N. Cartwright, H. Luo, M.T. Swihart, 9/01/2006–8/31/2009, NSF Award CHE-0619728, \$905,195 (Co-PI, 10%).
- "Novel Flexible Plastic-Based Solar Cells," AFOSR, PI: P.N. Prasad, Co-PIs: A.N. Cartwright, with R. Raffaelle, RIT, 6/01/2006–6/29/2009, AFOSR Award FA95500610398, \$450,000 (Co-PI, 30%).
- "Program in Odor-Based Screening," John R. Oishei Foundation, PI: F.V. Bright, Co-PIs: A.N. Cartwright, V. Govindaraju, W.L. Hicks, Jr., A.H. Titus, 3/01/2006– 3/31/2009, \$400,000 (Co-PI, 25%).
- "IGERT: Biophotonics -Materials and Applications," NSF, PI: A.N. Cartwright, Co-PIs: E.J. Bergey, D.A. Kofke, B.D. McCombe, P.N. Prasad, 9/01/2001–08/31/2008, NSF Award DGE-0114330, \$3,077,334 (Co-PI, 20%).
- "SENSORS: Solid State Imprinted Xerogel Arrays Integrated with Smart CMOS Detectors for Biological Agents," NSF, PI: A.H. Titus, Co-PIs: A.N. Cartwright, F.V. Bright, 09/15/2003–8/31/2008, NSF Award CBET-0330240, \$300,000 (Co-PI, 33%).
- 22. "Porous Polymer Gratings for Sensing Applications," Sterbutzel Fund, University at Buffalo, A.N. Cartwright, M.T. Swihart, 6/01/2005–12/31/2007, \$80,000, (PI, 50%).
- 23. "Nanomedicine," John R. Oishei Foundation, P.N. Prasad, 7/01/2004–6/30/2007, \$925,000 (Participant in program).
- "A Biologically Inspired Smart Sensor System (BIS<sup>3</sup>) for Health Monitoring," Johnson & Johnson, PI: A.H. Titus, Co-PI: A.N. Cartwright, 4/01/2004–11/1/2007, \$180,000 (Co-PI, 50%).
- 25. "The IT Collaboratory," New York State Office of Science, Technology, and Academic Research (NYSTAR), joint project between Rochester Institute of Technology, Alfred University, and University at Buffalo, University at Buffalo PIs: Paras N. Prasad, A.N. Cartwright, H. Luo, B.D. McCombe, P.L. Liu, C. Basaran, 6/01/01–5/31/2006, \$14,000,000 (Co-PI, 20%)
- 26. "New Generation Materials and Structures for Nanophotonics and Nanoelectronics," AFOSR Defense University Research Initiative on Nanotechnology, P.N. Prasad, A.N.

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Cartwright, B.D. McCombe, H. Luo and H. Suga, 5/01/2001–4/30/2006, AFOSR Award F496200110358, \$4,972,152 (Co-PI, 15%)

- "REU Site: Transdisciplinary Undergraduate Research Initiative On Nanostructured Semiconductors (TURIONS)," NSF, PI: M.T. Swihart, Co-PI: A.N. Cartwright, 4/01/03–3/31/2006, NSF Award DMR-0243833, \$306,000 (Co-PI, 50%).
- "Highly Selective Solid State Multianalyte Biosensors," UB IRCAF, T. Connell, A.H. Titus, F.V. Bright, A.N. Cartwright, 11/01/2004–10/31/2005, \$28,000, (Co-PI, 25%).
- "Spin Electronics: III-V/Mn Ferromagnetic Semiconductors for Device Applications," NSF, H. Luo, A.N. Cartwright, B.D. McCombe, 3/15/2002, 11/01/2002–10/31/2005, NSF Award ECS-0224206, \$300,000 (Co-PI, 33%).
- "Fuel Cell Inspection System," ENgR Systems through The Center for Industrial Effectiveness (TCIE), A.N. Cartwright, D. Hopkins, V. Govindaraju, 2/01/2005– 12/31/2005, \$75,000, (PI 50%).
- 31. "MRI: Acquisition of a Nanostructure Fabrication and Characterization System for Research and Education," NSF, B. D. McCombe, H. Luo, A.N. Cartwright, P.N. Prasad, A.H. Titus, 7/01/2002–10/31/2005, DMR-0216136, \$342,048, (University match of \$146,592 for a total cost of \$488,640) (Co-PI, 20%).
- "Spintronics and Spin-Photonics in Ferromagnetic InAs/GaSb-based Heterostructures," DARPA, B.D. McCombe, PI; Co-PI; H. Luo, J.K. Furdyna, N. Tolk, L. Molenkamp, J.A. Meyer, 10/01/2000–9/31/2005, \$5,883,610 (Participant in program)
- 33. "Toxic Industrial Chemicals," CUBRC, A.N. Cartwright, F.V. Bright, 6/01/2004– 11/30/2004, \$16,724, (PI, 50%).
- 34. "Advanced Nanoparticle Technologies for Novel Photodetectors and Emitters," IRCAF, V. Mitin, F.V. Bright, M.T. Swihart, A.N. Cartwright, 10/1/2003–9/30/2004, \$40,000 (Co-PI, 25%).
- 35. "Continuation of the Routing/Packaging Study," Intel Corp., A.H. Titus, A.N. Cartwright, 6/01/2003-5/31/2004, \$51,869 (co-PI, 25%).
- "Development of an Imprinted Xerogel with Integrated Emission Sites for Sensing in Aqueous Environments," CUBRC, A.N. Cartwright, A.H. Titus, F.V. Bright, 9/01/2003–7/31/2004, \$85,000 (PI, 33%).
- "Unobtrusive Biometric Sense, Transmit, Assess, and Respond Systems (UB-STARS)," UB Center for Advanced Technologies, A.H. Titus, V. Govindaraju, F.V. Bright, A.N. Cartwright, 9/01/2003–7/31/2004, \$125,000 (Co-PI, 25%).
- "MRI: Acquisition of Equipment for an Enhanced Multiuser Ultrafast Laser Facility for Research and Education," NSF, A.N. Cartwright, F.V. Bright, B.D. McCombe, 1/14/2003, 8/01/2003–7/31/2004, NSF Award DMR-0315539, \$162,332 (NSF \$100,000, UB \$62,332) (PI, 50%).
- "Charge Transfer Dyes for Polymeric and Sensing Applications," Infotonics, P.N. Prasad, A.N. Cartwright, E. Bergey, F.V. Bright, A. Raisenan, 4/3/2002, 6/01/2002– 12/31/2003, \$400,000 (Co-PI, 20%).
- 40. "Market Analysis, Laser Spectrum Analyzer," Imaging and Sensing Technologies, N. Randell, A.N. Cartwright, 2/14/2003–5/14/2003, \$7,062 (Co-PI, 100%).

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- "Exploiting Piezoelectric Fields in III-N Heterostructure Devices," ONR Young Investigator Program, A.N. Cartwright, 6/1/2000–9/30/2003, ONR Award N00014-00-1-0508, \$300,000 (PI, 100%).
- "GOALI: Reliability of Interfaces in Microelectronic Packaging," NSF, C. Basaran, T. Dishongh, and A.N. Cartwright, 10/1/1999–9/31/2003, NSF Award CMS-9908016, \$220,000 (Co-PI, 50%).
- "Semiconductor and Photonics Learning Modules based on Consumer Product Case Studies," NSF, C.R. Wie and A.N. Cartwright, 9/1/1999–8/31/2003, NSF Award DUE-9950794, \$285,000 (Co-PI 50%).
- 44. "Comparative Study of Crenulation in Printed Circuit Boards," Intel Corporation, A.N. Cartwright, 1/01/2002–12/31/2002, \$36,092 (PI, 100%).
- 45. "Laser-Mechanics & Damage Imaging Laboratory: Instrumentation Proposal," ONR DURIP Program, C. Basaran and A.N. Cartwright, 4/1/2000 3/31/2001, ONR Award N000140010534, \$150,000 (Co-PI, 50%).
- 46. "Optoelectronics Laboratory," ILX Lightwave, A.N. Cartwright, 1/1/2000– 12/31/2000, \$9,850 (PI, 100%).
- "Growth and Characterization of Gallium Nitride Heterostructures," Center for Advanced Photonic and Electronic Materials, State University of New York at Buffalo, A.N. Cartwright, T. J. Mountziaris, A. Petrou, B. Weinstein, 7/1/1999–6/30/2000, \$21,000 (PI, 25%).
- 48. "REU: Optical Characterization of Visible Spatial Light Modulators," NSF, A.N. Cartwright, 6/1/1999–5/31/2000, \$10,000, NSF Award ECS 9733720 (PI, 100%).
- 49. "II-VI Optoelectronic Devices," Center for Advanced Photonic and Electronic Materials Seed Grant Program, State University of New York at Buffalo, A.N. Cartwright and H. Luo, 5/1/1998–4/30/1999, \$20,000 (PI, 50%).
- 50. "REU: Optical Characterization of Visible Spatial Light Modulators," NSF, A.N. Cartwright, 6/1/1998–5/31/1999, \$10,000, NSF Award ECS 9733720 (PI, 100%).
- 51. "CAREER: Visible Spatial Light Modulators," NSF, A.N. Cartwright, 4/1/1998– 3/31/2003, \$200,000, NSF Award ECS 9733720 (PI, 100%).
- 52. "Pulsed-Laser Transparency Imaging," Engineering Foundation, A.N. Cartwright, 10/1/1996–12/30/1997, \$20,000 (PI, 100%).
- 53. "Future directions of II-VI semiconductors," Conferences in the Disciplines, A.N. Cartwright, 7/1/1996–6/30/1997, \$2,000 (PI, 100%).

# **Previous Other Grant Support**

- "NYS Center of Excellence in Bioinformatics and Life Sciences-Phase 5-9," NYS Division of Science, Technology and Innovation (NYSTAR), Empire State Development, 12/1/12–6/30/15, \$4,361,665. (PI role transferred to another faculty member when appointed Provost and Executive Vice Chancellor)
- "NYS Center of Excellence in Materials Informatics (CMI)," NYS Division of Science, Technology and Innovation (NYSTAR), Empire State Development, PI: A.N. Cartwright, 10/1/2013–6/30/2015, \$1,372,333. (PI role transferred to another faculty member when appointed Provost and Executive Vice Chancellor)

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- 3. "Center for Advanced Technology in Biomedical and Bioengineering," NYS Department of Economic Development, PI: M. LaVigne, Co-PI: A.N. Cartwright, 07/01/13–06/30/14, \$1,173,150. (PI role transferred to another faculty member when appointed Provost and Executive Vice Chancellor)
- "NYS Center of Excellence in Materials Informatics (CMI)," NYS Division of Science, Technology and Innovation (NYSTAR), Empire State Development, PI: A.N. Cartwright, 04/01/12–09/30/13, C120186, \$200,000.
- "Center for Advanced Technology in Biomedical and Bioengineering," NYS Department of Economic Development, PI: M. LaVigne, Co-PI: A.N. Cartwright, 07/01/12-06/30/13, C120135, \$921,200.
- "NYS Center of Excellence in Bioinformatics and Life Sciences-Phase 4," Empire State Development Corporation, PI: A. N. Cartwright, 07/14/12-11/30/12, W884, \$815,666.
- "NYS Center of Excellence in Bioinformatics and Life Sciences-Phase 3," Empire State Development Corporation, PI: A. N. Cartwright, 06/11/11-07/13/12, W876, \$1,155,666.
- "NYS Center of Excellence in Bioinformatics and Life Sciences-Phase 2," Empire State Development Corporation, PI: A. N. Cartwright, 01/28/10-10/07/11, W874, \$1,179,166.
- 9. "Biomedical Engineering Project," National Grid, PI: A. N. Cartwright, 08/01/09-12/31/11, \$250,000 (PI, 100%).

### **Research Grants Pending**

None at this time.

#### Grant Support: Donations (Total: \$350,000)

1. "Spectroscopy Laboratory for Multidisciplinary Research Instrument Facility," Technoventures, LLC, Donation of equipment for a state of the art spectroscopy laboratory, A.N. Cartwright, F.V. Bright, Center for Advanced Photonic and Electronic Materials, School of Engineering and Applied Science, College of Arts and Sciences, Office of the Vice President for Research, Office of the Provost \$350,000 (PI, 75%).

# **Intellectual Property**

# Patents

- 1. "Temporally Addressable Detection Array," Albert H. Titus, Frank V. Bright, Alexander N. Cartwright, Patent No.: US 8,501,098, August 6, 2013.
- "Sensor and method of sensing having an energy source and detector on the same side of the sensor substance," Albert H. Titus, Frank V. Bright and Alexander N. Cartwright, Patent No.: US 7,897,108 B1, Mar. 1, 2011.
- "pH-Change Sensor and Method," Vamsy P. Chodavarapu, Alexander N. Cartwright, Albert H. Titus, Rachel M. Bukowski, Frank V. Bright, Patent No.: US 7.794,584 B2, Sep. 14, 2010.
- "Resorbable Laminated Repair Film and Method of Using Same," W. L. Hicks, Jr., Rena Bizios, Frank V. Bright, Joseph A. Gardella, Jr., Robert Hard, Jamson S. Lwebuga-Mukasa, Alexander N. Cartwright, Bahattin Koc, US Patent No.: US 7,417,174 B2, Aug. 26, 2008.

## **Patent Applications**

- 1. "Photonic Bandgap Structures for Multispectral Imaging Devices," Q. Gan, A. Cartwright, K. Liu and H. Xu, ed: WO Patent 2,013,066,606, 2013.
- "Method for Diagnosis of Physiological States by Detecting Patterns of Volatile Analytes,"
   F. Bright, A. Cartwright, V. Govindaraju, W. Hicks and A. Titus, ed: WO Patent 2,008,121,183, 2008.

# **Companies Licensing / Developed Technology**

- 1. Solexant, 2385 Bering Dr., San Jose, CA 95131, USA
- 2. Senz-IT Technology, 4340 Von Karman, Suite 200, Newport Beach, CA
- 3. TheraSyn-DM, Buffalo, NY

# **Publications and Presentations**

# **Publications**

**Journal Articles** 

(NOTE: IN THIS FIELD, AUTHORS ARE LISTED BY INSTITUTION WITH PROFESSORS LISTED LAST FOR THEIR INSTITUTION. THE INSTITUTION THAT CONTRIBUTES THE MOST IS LISTED FIRST.)

- C. K. Lim, Q. Li, T. Zhang, T. Thomay, A. N. Cartwright, M. T. Swihart, P. N. Prasad, "Enhanced Fatigue Resistance of Suppressed Hysteresis in Perovskite Solar Cells by an Organic Crosslinker," *Solar Energy Materials and Solar Cells*, **176**, 30-35, (2018).
- 2. Z. M. Rzayev, U. Bunyatova, J. F. Lovell, W. Shen, T. Thomay, A. N. Cartwright, "Novel Ag-Carried CMC/Functional Copolymer/ODA-Mt WLED-Treated NC and Their Responses to Brain Cancer Cells," *Materials Science and Engineering: C*, (2018).
- D. Ji, H. Song, B. Chen, F. Zhang, A. R. Cheney, N. Zhang, X. Zeng, J. D. Atkinson, C. Zhou, A. N. Cartwright, "Frozen "Tofu" Effect: Engineered Pores of Hydrophilic Nanoporous Materials," ACS Omega, 2 (8), 4838-4844, (2017).
- N. Zhang, Z. Ji, A. R. Cheney, H. Song, D. Ji, X. Zeng, B. Chen, T. Zhang, A. N. Cartwright, K. Shi, "Ultra-Broadband Enhancement of Nonlinear Optical Processes from Randomly Patterned Super Absorbing Metasurfaces," *Scientific Reports*, 7 (1), 4346, (2017).
- J. R. Murphy, S. Delikanli, T. Scrace, P. Zhang, T. Norden, T. Thomay, A. N. Cartwright, H. V. Demir, and A. Petrou, "Time-resolved photoluminescence study of CdSe/CdMnS/CdS core/multi-shell nanoplatelets," *Appl. Phys. Lett.*, 108, 242406, doi: 10.1063/1.4953840 (2016).
- J.K.D. Mapas, T. Thomay, A.N. Cartwright, J. Ilavsky, and J. Rzayev "Ultrahigh Molecular Weight Linear Block Copolymers: Rapid Access by Reversible-Deactivation Radical Polymerization and Self-Assembly into Large Domain Nanostructures," Macromolecules, 49 (10), 3733-3738, (2016).
- B. Chen, D. Ji, A. Cheney, N. Zhang, H. Song, X. Zeng, T. Thomay, Q. Gan, A. Cartwright, "Flat metallic surface gratings with sub-10 nm gaps controlled by atomiclayer deposition," *Nanotechnology*, 27(37), 374003, (2016).
- E. C. Tehan, R. M. Bukowski, V. P. Chodavarapu, A. H. Titus, A. N. Cartwright, and F. V. Bright, "Creating Diversified Response Profiles from a Single Quenchometric Sensor Element by Using Phase-Resolved Luminescence," *Sensors*, 15, 760-768, (2015).
- S. Delikanli, M. Z. Akgul, J. R. Murphy, B. Barman, Y. Tsai, T. Scrace, P. Zhang, B. Bozok, P. L. Hernandez-Martinez, J. Christodoulides, A. N. Cartwright, A. Petrou, and H. V. Demir, "Mn2+-Doped CdSe/CdS Core/Multishell Colloidal Quantum Wells Enabling Tunable Carrier-Dopant Exchange Interactions," *ACS Nano*, 9, 12473-12479, (2015).
- B. Barman, R. Oszwaldowski, L. Schweidenback, A. H. Russ, J. M. Pientka, Y. Tsai, W. C. Chou, W. C. Fan, J. R. Murphy, A. N. Cartwright, I. R. Sellers, A. G. Petukhov, I. Zutic, B. D. McCombe, and A. Petrou, "Time-resolved magnetophotoluminescence studies of magnetic polaron dynamics in type-II quantum dots," *Physical Review B*, **92**, 035430 (2015).

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- B. Zhou, K. Liu, X. Liu, K. Y. Yung, C. M. Bartsch, E. M. Heckman, F. V. Bright, M. T. Swihart, and A. N. Cartwright, "Enhanced Performance from a Hybrid Quenchometric Deoxyribonucleic Acid (DNA) Silica Xerogel Gaseous Oxygen Sensing Platform," *Applied Spectroscopy*, 68, 1302-1305, (2014).
- 12. C. Yuan, G. Chen, L. Li, J. A. Damasco, Z. Ning, H. Xing, T. Zhang, L. Sun, H. Zeng, A. N. Cartwright, P. N. Prasad, and H. Agren, "Simultaneous Multiple Wavelength Upconversion in a Core-Shell Nanoparticle for Enhanced Near Infrared Light Harvesting in a Dye-Sensitized Solar Cell," ACS Applied Materials & Interfaces, 6, 18018-18025, (2014).
- 13. B. J. Schultz, R. V. Dennis, J. P. Aldinger, C. Jaye, X. Wang, D. A. Fischer, A. N. Cartwright, and S. Banerjee, "X-ray absorption spectroscopy studies of electronic structure recovery and nitrogen local structure upon thermal reduction of graphene oxide in an ammonia environment," *RSC Advances*, 4, 634-644, (2014).
- X. Liu, Y. Li, B. Zhou, X. Wang, A. N. Cartwright, and M. T. Swihart, "Shape-Controlled Synthesis of SnE (E = S, Se) Semiconductor Nanocrystals for Optoelectronics," *Chemistry* of Materials, 26, 3515-3521, (2014).
- T. Lin, X. Liu, B. Zhou, Z. Zhan, A. N. Cartwright, and M. T. Swihart, "A Solution-Processed UV-Sensitive Photodiode Produced Using a New Silicon Nanocrystal Ink," *Advanced Functional Materials*, 24, 6016-6022, (2014).
- 16. B. Barman, Y. Tsai, T. Scrace, J. R. Murphy, A. N. Cartwright, J. M. Pientka, I. Zutic, B. D. McCombe, A. Petrou, I. R. Sellers, R. Oszwaldowski, A. Petukhov, W. C. Fan, W. C. Chou, and C. S. Yang, "Conventional vs Unconventional Magnetic Polarons: ZnMnTe/ZnSe and ZnTe/ZnMnSe Quantum Dots," in *Spintronics VII*. vol. 9167, H. J. Drouhin, J. E. Wegrowe, and M. Razeghi, Eds., ed, 2014.
- B. Zhou, K. Liu, X. Liu, K. Y. Yung, C. M. Bartsch, E. M. Heckman, F. V. Bright, Frank, M. T. Swihart, and A. N. Cartwright, "Enhanced Performance from a Hybrid Quenchometric Deoxyribonucleic Acid (DNA) Silica Xerogel Gaseous Oxygen Sensing Platform," *Applied Spectroscopy*, 68 (11), 1302-1305 (2014).
- 18. J. Sun, X. Wang, T. Xu, Z. A. Kudyshev, A. N. Cartwright, and N. M. Litchinitser, "Spinning Light on the Nanoscale," *Nano Letters*, **14** (5), 2726-2729 (2014).
- T. Moein, D. Ji, H. Zeng, K. Liu, Q. Gan and A.N. Cartwright, "Holographic Photopolymer Linear Variable Filter with Enhanced Blue Reflection," ACS Applied Materials & Interface, 6 (5), 3081-3087 (2014).
- 20. J. Sun, J. Zeng, X. Wang, A. N. Cartwright, and N. M. Litchnitser, "Concealing with Structured Light," Scientific Reports, 4, 4093 (2014).
- 21. J. Zeng, X. Wang, J. Sun, A. Pandey, A.N. Cartwright, N.M. Litchinitser, "Manipulating Complex Light with Metamaterials," *Scientific Reports*, **3**, 2826 (2013).
- 22. R.V. Dennis, B.J. Schultz, C. Jaye, X. Wang, D.A. Fischer, A.N. Cartwright, and S. Banerjee, "Near-edge X-ray Absorption Fine Structure Spectroscopy Study of Nitrogen Incorporation in Chemically Reduced Graphene Oxide," *Journal of Vacuum Science & Technology B*, **31**, 041204 (2013).
- Z.Y. Zhan, B. Zhou, Z.H. Fu, F.V. Bright, A.N. Cartwright, C.M. Bartsch, and A.H. Titus, "Filterless Optical Oxygen Sensor Based on a CMOS Buried Double Junction Photodiode," *Sensors and Actuators B-Chemical*, **176**, 729-735 (2013).
- 24. X. Liu, Y. Li, B. Zhou, D. Wang, A.N. Cartwright, M.T. Swihart, "Formation of IV–VI Alloy Nanocrystals for Application in Solution-Processed Optoelectronic Devices: The Case of Pb<sub>1-x</sub>Sn<sub>x</sub>S," *Chemistry of Materials*, 25, 21, 4409-4415 (2013).

March 2020

- 25. Y. Huang, B. Qu, A. Jain, A.T. Kuhls-Gilcrist, A.H. Titus, A.N. Cartwright, *et al.*, "Design, Characterization, and Modeling for a Modular High-Resolution Solid-State X-Ray Image Intensifier (SSXII)," *IEEE Transactions on Nuclear Science*, **60**, 20-29 (2013).
- W.J. Kim, S.J. Kim, A.N. Cartwright, and P.N. Prasad, "Photopatternable transparent conducting oxide nanoparticles for transparent electrodes," *Nanotechnology*, 24, 6, 065302 (2013).
- 27. X. Liu, X.L. Wang, B. Zhou, W.C. Law, A.N. Cartwright, and M.T. Swihart, "Size-Controlled Synthesis of Cu<sub>2-x</sub>E (E = S, Se) Nanocrystals with Strong Tunable Near-Infrared Localized Surface Plasmon Resonance and High Conductivity in Thin Films," *Advanced Functional Materials*, 23, 1256-1264 (2013).
- V. Lee, R.V. Dennis, C. Jaye, X. Wang, D.A. Fischer, A.N. Cartwright, S. Banerjee, "In situ near-edge x-ray absorption fine structure spectroscopy investigation of the thermal defunctionalization of grapheme oxide," *Journal of Vacuum Science and Technology B*, **30** (6), 061206 (2012).
- L. Schweidenback, T. Ali, A.H. Russ, J.R. Murphy, A.N. Cartwright, A. Petrou, C.H. Li, M.K. Yakes, G. Kioseoglou, B.T. Jonker, A. Govorov, "Optical Aharonov-Bohm oscillations in InGaAs quantum wells," *Physical Review B*, 85 (24), 245310 (2012).
- M.C. Cheung, K.Y. Yung, H. Xu, N.D. Kraut, K. Liu, V.P. Chodavarapu, A.N. Cartwright and F.V. Bright, "Porous Nanostructured Encapsulation and Immobilization Materials for Optical Biosensors," *IEEE Journal of Selected Topics in Quantum Electronics* 18 (3), 1147-1159 (2012).
- K. Liu, H. Xu, H. Hu, Q. Gan and A.N. Cartwright, "One-Step Fabrication of Graded Rainbow-Colored Holographic Photopolymer Reflection Gratings," *Advanced Materials* 24 (12), 1604-1609 (2012).
- 32. S. S. Nagesh, A. Panse, A. Jain, P. Sharma, C. Ionita, A. Titus, A. Cartwright, D. Bednarek and S. Rudin, "Real-Time Adaptive Correction for Varying Source-To-Image-Distance (SID) for a Novel Region of Interest (ROI) Fluoroscopy Dose Reduction Technique Involving Spatially Different Temporal Filtering," *Medical Physics* **39** (6), 3608-3609 (2012).
- 33. S.S. Nagesh, P. Sharma, V. Singh, A. Jain, C. Ionita, A. Titus, A. Cartwright, D. Bednarek and S. Rudin, "Phantom Studies of a Newly Developed Solid State X-Ray Image Intensifier (SSXII) for X-Ray Image Guided Neurovascular Interventions," *Medical Physics* 39 (6), 3894-3895 (2012).
- 34. K.Y. Yung, H. Xu, K. Liu, G.J. Martinez, F.V. Bright, M.R. Detty and A.N. Cartwright, "Hybrid Oxygen-Responsive Reflective Bragg Grating Platforms," *Analytical Chemistry* 84 (3), 1402-1407 (2012).
- 35. Q.Q. Gan, H.F. Hu, H.N. Xu, K. Liu, S.H. Jiang, A.N. Cartwright, "Wavelength-Independent Optical Polarizer Based on Metallic Nanowire Arrays," *IEEE Photonics Journal*, **3**(6), 1083-1092, (2011).
- 36. R. Biswas, J. Zeng, M. Kandel, A.T. Fam, A.N. Cartwright, N.M. Litchinitser, "Antiresonant guiding photonic crystal fibers for distributed temperature gradient measurement," *Applied Physics B – Lasers and Optics*, **105**(2), 329-333, (2011).
- 37. X. Wang, G. Venogopal, J.W. Zeng, Y.N. Chen, D.H. Lee, N.M. Litchinitser, A.N. Cartwright, "Optical Fiber Metamagnetics," *Optics Express*, **19**(21), 19813-19821, (2011).

March 2020

- J.W. Seo, M.J. Cho, D. Lee, A.N. Cartwright and P.N. Prasad, "Efficient Heterojunction Photovoltaic Cell Utilizing Nanocomposites of Lead Sulfide Nanocrystals and a Low-Bandgap Polymer," *Advanced Materials*, 23(34), 3984, (2011)
- H.S. Oh, T.D. Kim, Y.H. Koh, K.S. Lee, S. Cho, A.N. Cartwright and P.N. Prasad, "Synthesis and characterization of dithienylbenzobis(thiadiazole)-based low band-gap polymers for organic electronics," *Chemical Communications*, 47(31), 8931-8933, (2011).
- 40. E.P. Furlani, R. Biswas, A.N. Cartwright and N.M. Litchinitser, "Antiresonant guiding optofluidic biosensor," *Optics Communications*, **284**(16-17), 4094-4098, (2011).
- 41. K. Luo, S.J. Kim, A.N. Cartwright and J. Rzayev, "Soluble Polyacetylene Derivatives by Chain-growth Polymerization of Dienes," *Macromolecules*, **44**(12), 4665-4671, (2011).
- 42. T.F. Yen, J.Y. Yun, S.J. Kim, A.N. Cartwright, W.A. Anderson, "Photocurrent Enhancement in Nanocrystalline-ZnO/Si Heterojunction Metal-Semiconductor-Metal Photodetectors," *Electrochemical and Solid State Letters*, **14**(10), H415-H418, (2011).
- 43. J. Zhu, W.J. Kim, G.S. He, J. Seo, K.T. Yong, D. Lee, A.N. Cartwright, Y.P. Cui and P.N. Prasad, "Enhanced photorefractivity in a polymer/nanocrystal composite photorefractive device at telecommunication wavelength (vol 97, 263108, 2010)," *Applied Physics Letters*, **98**(5), 059902, (2011).
- M. Hajj-Hassan, M.C. Cheung, L. Yao, S.J. Kim, V.P. Chodavarapu, A.N. Cartwright, "Porous Silicon and Porous Polymer Substrates for Optical Chemical Sensors," *Journal of Nanophotonics*, 4(1), 043513, (2010).
- 45. I.R. Sellers, R. Oszwaldowski, V.R. Whiteside, M. Eginligil, A. Petrou, I. Zutic, W.C. Chou, W.C. Fan, A.G. Petukhov, S.J. Kim, A.N. Cartwright, B.D. McCombe, "Robust magnetic polarons in type-II (Zn, Mn) Te/ZnSe magnetic quantum dots," *Physical Review B*, **82**(19), Article Number: 195320 (2010).
- T.F. Yen, A. Haungs, S.J. Kim, A.N. Cartwright, W.A. Anderson, "Effect of Post-Deposition Processing on ZnO Thin Films and Devices," *Journal of Electronic Materials*, 39(5), 568-572, (2010).
- V.K-S. Hsiao, T.J. White, A.N. Cartwright, P.N. Prasad, C.A. Guymon, "Influence of Nonreactive Solvent on Optical Performance, Photopolymerization Kinetics and Morphology of Nanoporous Polymer Gratings," *European Polymer Journal*, 46(5), 937-943 (2010).
- 48. G. Namkoong, E. Trybus, M.C. Cheung, W.A. Doolittle, A.N. Cartwright, I. Ferguson, T.Y. Seong, J. Nause, "Dual-Color Emission in Hybrid III-Nitride/ZnO Light Emitting Diodes," *Applied Physics Express*, 3(2), Article Number: 022101 (2010).
- S. Shukla, T. Ohulchanskyy, Y. Sahoo, M. Samoc, R. Thapa, A.N. Cartwright, P.N. Prasad, "Polymeric Nanocomposites Involving a Physical Blend of IR Sensitive Quantum Dots and Carbon Nanotubes for Photodetection," *Journal Physical Chemistry C*, **114**(7), 3180-3184 (2010).
- T.F. Yen, M. DiNezza, A. Haungs, S.J. Kim, W.A. Anderson, A.N. Cartwright, "Effects of nitrogen doping of ZnO during or after deposition," *Journal of Vacuum Science & Technology B*, 27(4), 1943-1948, (2009).

- V.K-S. Hsiao, K-T. Yong, A.N. Cartwright, M.T. Swihart, P.N. Prasad, P.F. Lloyd and T.J. Bunning, "Nanoporous polymeric photonic crystals by emulsion holography," *Journal of Materials Chemistry*, 19(23), 3998-4003 (2009).
- 52. I.T. Ozbolat, M. Marchany, J.A. Gardella Jr., F.V. Bright, A.N. Cartwright, R. Hard, W.L. Hicks and B. Koc, "Feature-based Design of Bio-degradable Micro-patterned Structures," *Computer Aided Design and Applications Journal*, 6(5), 661-671 (2009).
- 53. J. Seo, S-J. Kim, W-J. Kim, R. Singh, M. Samoc, A.N. Cartwright and P.N. Prasad, "Enhancement of the Photovoltaic Performance in PbS Nanocrystal:P3HT Hybrid Composite Devices by Post-treatment-driven Ligand Exchange," *Nanotechnology*, 20, 095202, (2009).
- 54. J. Seo, W-J. Kim, S-J. Kim, K-S. Lee, A.N. Cartwright and P.N. Prasad, "Polymer Nanocomposite Photovoltaics Utilizing CdSe Nanocrystals Capped with a Thermally Cleavable Solublizing Ligand," *Applied Physics Letters*, 94, 133302, (2009).
- 55. S-J. Kim, W-J. Kim, A.N. Cartwright and P.N. Prasad, "Self passivating hybrid (organic/inorganic) solar Cell," *Solar Energy Materials and Solar Cells*, **93**, 657-661, (2009).
- W-J. Kim, S-J. Kim, K-S. Lee, A.N. Cartwright, and P.N. Prasad, "Robust Microstructures Using UV Photopatternable Semiconductor Nanocrystals," *Nano Letters*, 8(10), 3262-3265, (2008).
- S-J. Kim, W-J. Kim, A.N. Cartwright, and P.N. Prasad, "Carrier Multiplication in a PbSe Nanocrystal and P3HT/PCBM Tandem Cell," *Applied Physics Letters*, 92, 191107 (2008).
- T.F. Yen, D. Strome, S-J. Kim, A.N. Cartwright, and W.A. Anderson, "Annealing studies on zinc oxide thin films deposited by magnetron sputtering," *Journal of Electronic Materials*, 37, 764-769, (2008).
- 59. J.M. Steves, L.T. Tan, J.A. Gardella, Jr., R. Hard, W.L. Hicks, Jr., A.N. Cartwright B. Koc, and F.V. Bright, "Guest Aggregation within Poly(L-lactic acid)/Pluronic P104 Thin Films," *Applied Spectroscopy*, **62**(3), 290-294, (2008).
- M.C-K. Cheung, A.N. Cartwright, I. Sellers, B.D. McCombe, I.L. Kuskovsky, "Timeresolved photoluminescence of type-II quantum dots and isoelectronic centers in Zn–Se– Te superlattice structures," *Applied Physics Letters*, 92(3), 032106 (2008).
- 61. S-J. Kim, W-J. Kim, Y. Sahoo, A.N. Cartwright and P.N. Prasad, "Multiple Exciton Generation and electrical extraction from a PbSe quantum dot photoconductor," *Applied Physics Letters*, **92**(3), 031107 (2008).
- 62. S-J. Kim, V.P. Chodavarapu, A.N. Cartwright, M.T. Swihart & T.J. Bunning, "Enhanced Oxygen Detection using Porous Polymeric Gratings with Integrated Recognition Elements," *Sensors and Actuators B: Chemical*, **130**, 758–764 (2008).
- 63. R. Thapa, K.R. Choudhury, W-J. Kim, Y. Sahoo, A.N. Cartwright and P.N. Prasad, "Polymeric nanocomposite infrared photovoltaics enhanced by pentacene," *Applied Physics Letters*, **90**(25), 252112 (2007).
- 64. S. Rudin, A. Kuhls, C. Keleshis, D. Kim, G. Yadava, V. Patel, C. Ionita, H. Hamwi, A.N. Cartwright, A. Verevkin, K. Hoffman, and D. Bednarek, "The solid state x-ray image intensifier (SSXII): A next-generation high-resolution fluoroscopic detector system," *Medical Physics*, 34(6), 2585-2585, (2007).

- 65. V.P. Chodavarapu, D.O. Shubin, R.M. Bukowski, A.H. Titus, A.N. Cartwright, and F.V. Bright, "CMOS-based phase fluorometric oxygen sensor system," *IEEE Transactions on Circuits and Systems I-Regular Papers*, **54**(1), 111-118, (2007).
- 66. N. Cho, K.R. Choudhury, R.B. Thapa, Y. Sahoo, T. Ohulchanskyy, A.N. Cartwright, K.S. Lee, and P.N. Prasad, "Efficient photodetection at IR wavelengths by incorporation of PbSe-carbon-nanotube conjugates in a polymeric nanocomposite," *Advanced Materials*, 19(2), 232, (2007).
- V.P. Chodavarapu, R.M. Bukowski, A.H. Titus, A.N. Cartwright, and F.V. Bright, "CMOS integrated luminescence oxygen multi-sensor system," *Electronics Letters*, 43, 688-689, (2007).
- 68. S. Chikkerur, A.N. Cartwright, V. Govindaraju, "Fingerprint enhancement using STFT analysis," *Pattern Recognition*, **40**(1), 198-211, (2007)
- 69. R.M. Bukowski, V.P. Chodavarapu, A.H. Titus, A.N. Cartwright, F.V. Bright, "Phase Fluorometric Glucose Biosensor using Oxygen as Transducer and Enzyme doped Xerogels," *Electronics Letters*, **43**(4), 202-204, (2007).
- D.M. Ramos, F. Kamal, E.A. Wimmer, A.N. Cartwright, and A. Monteiro, "Temporal and spatial control of transgene expression using laser induction of the hsp70 promoter," *BMC Developmental Biology*, 6, 55 (2006).
- 71. K.R. Maskaly, V.K-S. Hsiao, A.N. Cartwright, and P.N. Prasad, P.F. Lloyd and T.J. Bunning, W.C. Carter, "Experimental verification of the applicability of the homogenization approximation to rough one-dimensional photonic crystals using a holographically fabricated reflection grating," *Journal of Applied Physics*, **100**(6), 066103-13, (2006).
- K. Moazzami, T.E. Murphy, J.D. Phillips, M.C. Cheung and A.N. Cartwright, "Subbandgap photoconductivity in ZnO epilayers and extraction of trap density spectra," *Semiconductor Science and Technology*, 21(6), 717-723, (2006).
- 73. E. Trybus, G. Namkoong, W. Henderson, S. Burnham, W.A. Doolittle, M.C. Cheung, and A.N. Cartwright, "InN: A material with photovoltaic promise and challenges," *Journal of Crystal Growth*, 288(2), pp. 218-224, (2006).
- 74. Z. Tao, E.C. Tehan, R.M. Bukowski, Y. Tang, E.L. Shughart, W.G. Holthoff, A.N. Cartwright, A.H. Titus, and F.V. Bright, "Templated xerogels as platforms for biomolecule-less biomolecule sensors," *Analytica Chimica Acta*, 564, 59-65, (2006).
- 75. X.Y. Fang, V.K-S. Hsiao, V.P. Chodavarapu, A.H. Titus, and A.N. Cartwright, "Colorimetric Porous Photonic Bandgap Sensors with Integrated CMOS Color Detectors," *IEEE Sensors Journal*, 6(3), 661 – 667, (2006).
- V.P. Chodavarapu, A.H. Titus and A.N. Cartwright, "Differential read-out architecture for CMOS ISFET Microsystems," *Electronics Letters*, 41(12), 698-699, (2005).
- 77. F. Chen, A.N. Cartwright, C. Liu, I.M. Watson, "Emission Dynamics of Red Emitting InGaN/GaN Single Quantum Wells," *Physica Status Solidi C: Conferences and Critical Reviews*, 2(7) 2787-2790, (2005).
- 78. F. Chen, A.N. Cartwright, H. Lu, W.J. Schaff, "Hole Transport and Carrier Lifetime in InN Epilayers," *Applied Physics Letters*, **87**(21), 212104/1-212104/3, (2005).

- V.P. Chodavarapu, R.M. Bukowski, S-J. Kim, A.H. Titus, A.N. Cartwright, F.V. Bright, "Multi-sensor System Based on Phase Detection, an LED Array, and Luminophore-doped Xerogels," *Electronic Letters*, 41(18), 1031-1033, (2005).
- V.K-S. Hsiao, W.D. Kirkey, F. Chen, A.N. Cartwright, P.N. Prasad and T.J. Bunning, "Organic Solvent Vapor Detection using Holographic Photopolymer Reflection Gratings," *Advanced Materials*, 17(18), 2211-2214, (2005).
- F. Chen, A.N. Cartwright, H. Lu, and W.J. Schaff, "Temperature Dependence of Carrier Lifetimes in InN," *Phys. Stat. Soli. A: Applications and Materials Science*, 202(5), 768-772, (2005).
- M. Furis, A.N. Cartwright, E.L. Waldron, and E.F. Schubert, "Spectral and Temporal Resolution of Recombination from Multiple Excitation States in Modulation-Doped AlGaN/GaN Multiple Quantum Wells Heterostructures," *Applied Physics Letters*, 86(1) 162103/1-162103/3, (2005).
- 83. M.C. Cheung, G. Namkoong, F. Chen, M. Furis, H.E. Pudavar, A.N. Cartwright, and W.A. Doolittle, "Photoluminescence Study of MBE Grown InGaN with Intentional Indium Segregation," *Phys. Stat. Soli.(c)* **2**(7), 2779-2782, (2005).
- 84. W.D. Kirkey, Y. Sahoo, X. Li, Yuanqing He, M.T. Swihart, A.N. Cartwright, S. Bruckenstein, and P.N. Prasad, "Quasi-reversible photoluminescence quenching of stable dispersions of silicon nanoparticles," *Journal of Materials Chemistry*, 15(20), 2028-2034, (2005).
- 85. E. Trybus, G. Namkoong, W. Henderson, W.A. Doolittle, R. Liu, J. Mei, F. Ponce, M.C. Cheung, F. Chen, M. Furis, and A.N. Cartwright, "Growth of InN on Ge Substrate by Molecular Beam Epitaxy," *Journal of Crystal Growth*, 279, 311-315, (2005).
- 86. D.W. Lucey, D.J. MacRae, M. Furis, Y. Sahoo, A.N. Cartwright, and P.N. Prasad, "Monodispersed InP Quantum Dots Prepared by Colloidal Chemistry in a Noncoordinating Solvent," *Chemistry of Materials*, 17, 3754-3762, (2005).
- V.K-S. Hsiao, C. Lu, G.S. He, M. Pan, A.N. Cartwright, P.N. Prasad, R. Jakubiak, R.A. Vaia, and T.J. Bunning, "High contrast switching of distributed-feedback lasing in dye-doped H-PDLC transmission grating structures," *Optics Express*, 13, 3787-3794, (2005).
- P.P. Markowicz, V.K-S. Hsiao, H. Tiryaki, A.N. Cartwright, P.N. Prasad, K. Dolgaleva, N.N. Lepeshkin and R.W. Boyd, "Enhancement of third-harmonic generation in a polymerdispersed liquid-crystal grating," *Applied Physics Letters*, 87, 051102/1-051102/3, (2005).
- 89. D.S. Kaputa, A.N. Kuzmin, A.V. Kachynski, A.N. Cartwright, and P.N. Prasad, "Dynamics of multiple trapping by a single beam laser tweezer," *Applied Optics*, **44**(19), 3963-3968, (2005).
- V.K-S. Hsiao, T.-C. Lin, G.S. He, A.N. Cartwright, P.N. Prasad, L.V. Natarajan, V.P. Tondiglia, and T.J. Bunning, "Optical microfabrication of highly reflective volume Bragg gratings," *Applied Physics Letters*, 86(1), 131113/1-131113/3, (2005).
- B. Jaiswal, A.H. Titus, T. Dishongh, and A.N. Cartwright, "Innovative Circuit Board Level Routing Designs for BGA Packages," *IEEE Transactions on Advanced Packaging*, 27(4) 630-639, (2004).
- F. Chen, A.N. Cartwright, H. Lu and W.J. Schaff, "Temperature dependent optical properties of wurtzite InN," *Physica E-Low-Dimensional Systems & Nanostructures*, 20(3-4) 308-312 (2004).

March 2020

- 93. H. Liu, C. Basaran, A.N. Cartwright, W. Casey, "Application of moiré interferometry to determine strain fields and debonding of solder joints in BGA packages," *IEEE Transactions on Components and Packaging Technologies*, 27(1) 217-223, (2004).
- 94. H. Liu, A.N. Cartwright, C. Basaran, "Moiré interferogram phase extraction: A ridge detection algorithm of continuous wavelet transforms," *Applied Optics-Information Processing*, 43(4) 850-857, (2004).
- 95. F. Chen, A.N. Cartwright, H. Lu, and W.J. Schaff, "Ultrafast Carrier Dynamics in InN Epilayers," *Journal of Crystal Growth*, **269**(1), 10-14, (2004).
- 96. S.N. Baker, G.A. Baker, C.A. Munson, F. Chen, E.J. Bukowski, A.N. Cartwright, F.V. Bright, "Effects of solubilized water on the relaxation dynamics surrounding 6-propionyl-2-(N,N-dimethylamino)naphthalene dissolved in 1-butyl-3-methylimidazolium hexafluorophosphate at 298 K," *Industrial & Engineering Chemistry Research*, 42(25) 6457-6463, (2003).
- M. Furis, A.N. Cartwright, H. Wu, W.J. Schaff, "Room-temperature ultraviolet emission from GaN/AlN multiple-quantum-well heterostructures," *Applied Physics Letters*, 83(17) 3486-3488, (2003).
- 98. G.S. He, T-C. Lin, V.K-S. Hsiao, A.N. Cartwright, P.N. Prasad, L.V. Natarajan, V.P. Tondiglia, R. Jakubiak, R.A. Vaia, T.J. Bunning, "Tunable two-photon pumped lasing using a holographic polymer-dispersed liquid-crystal grating as a distributed feedback element," *Applied Physics Letters*, 83(14) 2733-2735, (2003).
- 99. F. Chen, A.N. Cartwright, "Out-of-well carrier screening in a strained InGaN/GaN multiple quantum well structure," *Physical Review B*, **68**(23) 233304-1-233304-4, (2003).
- F. Chen, A.N. Cartwright, H. Lu, and W.J. Schaff, "Time-resolved spectroscopy of carrier recombination and relaxation dynamics in InN," *Applied Physics Letters*, 83(24) 4984-4986, (2003).
- 101. A.A. Kachynski, A.N. Kuzmin, H. Pudavar, D. Kaputa, A.N. Cartwright, P.N. Prasad, "Measurement of optical trapping forces by use of the two-photon fluorescence of microspheres," *Optics Letters*, 28(23) 2288-2290, (2003).
- 102. M. Furis, Y. Sahoo, D.J. MacRae, F.S. Manciu, A.N. Cartwright, and P.N. Prasad, "Surfactant-Imposed Interference in the Optical Characterization of GaP Nanocrystals," J. Phys. Chem. B., 107(42) 11622-11625, (2003).
- 103. H. Liu, A.N. Cartwright, C. Basaran, "Sensitivity improvement in phase shifted moiré interferometry using 1D continuous wavelet transform image processing," *Optical Engineering*, **42**(9) 2626-2652, (2003).
- 104. F. Chen, M.C. Cheung, P.M. Sweeney, W.D. Kirkey, M. Furis, A.N. Cartwright, "Ultrafast differential transmission spectroscopy of excitonic transitions in InGaN/GaN multiple quantum wells," *Journal of Applied Physics*, **93**(8) 4933-4935, (2003).
- 105. F. Chen, W.D. Kirkey, M. Furis, M.C. Cheung, A.N. Cartwright, "Excitonic field screening and bleaching in InGaN/GaN multiple quantum wells," *Solid State Communications*, **125**(11-12) 617-622, (2003).
- 106. J. Hwang, W.J. Schaff, L.F. Eastman, S.T. Bradley, L.J. Brillson, D.C. Look, W. Walukiewicz, M. Furis, A.N. Cartwright, "Si doping of high Al mole fraction Al<sub>x</sub>Ga<sub>1-x</sub>N alloys with RF plasma induced molecular beam epitaxy," *Applied Physics Letters*, 81(27) 5192-5194, (2002).

March 2020

- 107. T. Dishongh, C. Basaran, A.N. Cartwright, Y. Zhao, H. Liu, "Impact of temperature cycle profile on fatigue life of solder joints," *IEEE Transactions on CPMT Advanced Packaging*, 25(3), 433-438, (2002).
- A. Patra, M. Pan, C.S. Friend, T-C Lin, A.N. Cartwright, P.N. Prasad, R. Burzynski, "Electroluminescence properties of systematically derivatized organic chromophores containing electron donor and acceptor groups," *Chem. Mater.*, 14(10) 4044-4048, (2002).
- 109. C. Basaran, H. Ye, P. Bush, A.N. Cartwright, "Inspection of under bump metallisation solder ball interface by SEM, EDX and moiré interferometry," *TAPTechnology*, Fourth Edition, 17-22, (2002).
- 110. P.M. Sweeney, M.C. Cheung, F. Chen, A.N. Cartwright, D.P. Bour, M. Kneissl, "Spectroscopy and modeling of carrier recombination in III-N heterostructures," *Phys. Stat. Sol.* (b), **228**(1) 115-119, (2001).
- 111. C. Basaran, A.N. Cartwright, Y. Zhao, "Experimental damage mechanics of microelectronics solder joints under concurrent vibration and thermal loading," *International Journal of Damage Mechanics*, **10**(2) 153-170, (2001).
- 112. D. Visco, A.N. Cartwright, "A New Model for ASEE Student Chapters," *Journal* of Engineering Education, **90**(4) 641-643, (2001).
- 113. H.C. Chang, G. Kioseoglou, E.H. Lee, J. Haetty, M.H. Na, Y. Xuan, H. Luo, A. Petrou, A.N. Cartwright, "Lasing modes in equilateral-triangular laser cavities," *Physical Review A*, 62(1) 013816-1-013816-6, (2000).
- Y. Zhao, C. Basaran, A.N. Cartwright, T. Dishongh, "Thermomechanical Behavior of Micron Scale Solder Joints Under Dynamic Loads," *Mechanics of Materials*, **32**(3) 161-173, (2000).
- 115. A.N. Cartwright, P.M. Sweeney, T. Prunty, D.P. Bour, M. Kneissl, "Electric field distribution in strained p-i-n GaN/InGaN multiple quantum well structures," *MRS Internet J. Nitride Semicond. Res.* 4(12), (1999).
- 116. Y. Zhao, C. Basaran, A.N. Cartwright, T. Dishongh, "Thermomechanical behavior of micron scale solder joints: an experimental observation," *Journal of the Mechanical Behavior of Materials*, **10**(3) 135-146, (1999).
- 117. Y. Zhao, T. Dishongh, A.N. Cartwright, C. Basaran, "Creep behavior of BGA solder joints during thermal cycling by moiré interferometry," *Advances in Electronic Packaging*, EEP- **26**(1) 685-691, (1999).
- J.W. Palmer, W.A. Anderson, A.N. Cartwright, "Novel metal-semiconductor-metal photodetectors on bulk semi-insulating indium phosphide," *IEEE Photon. Technol. Lett.*, 9(10) 1385-1387, (1997).
- 119. X.R. Huang, S.K. Cheung, A.N. Cartwright, A.L. Smirl and W.F. Tseng, "An interdigitated stacked p-i-n multiple-quantum-well modulator," *IEEE Photon. Technol. Lett.*, **8**(9) 1172-1175, (1996).
- 120. X.R. Huang, A.N. Cartwright, D.R. Harken, D.S. McCallum, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, F. González-Sanz, E. Calleja and E. Muñoz, "Per carrier nonlinear optical response of [111]-oriented InGaAs/GaAs multiple quantum wells," J. Appl. Phys., 79(1) 417-423, (1996).

- 121. A.N. Cartwright, X.R. Huang and A.L. Smirl, "Scaling of Stark-shifted per-carrier nonlinearities in multiple-quantum-well device structures," *IEEE Journal of Quantum Electronics*, **31**(10) 1726-1733, (1995).
- 122. X.R. Huang, D.R. Harken, A.N. Cartwright, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, F. González-Sanz, E. Calleja and E. Muñoz, "In-well screening nonlinearities in piezoelectric multiple quantum wells," *Appl. Phys. Lett.* **67**(7) 950-952, (1995).
- 123. D.R. Harken, A.N. Cartwright, X.R. Huang, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, F. González-Sanz, E. Calleja and E. Muñoz, "Nonlinear optical response, screening, and distribution of strain in piezoelectric multiple quantum wells," *J. Appl. Phys.* 76(12) 7870-7873, (1994).
- 124. X.R. Huang, D.S. McCallum, D. R. Harken, A.N. Cartwright, A.L. Smirl, A. Sacedón, J.L. Sánchez-Rojas, E. Calleja and E. Muñoz, "Strained piezoelectric [111] multiple quantum wells: clamped or free?," *Superlattices and Microstructures*, **15**(2) 171-174, (1994).
- 125. D.S. McCallum, A.N. Cartwright, A.L. Smirl, W. Tseng, J.G. Pellegrino, and J. Comas, "Scaling of the nonlinear optical cross sections of GaAs-AlGaAs multiple quantum well hetero n-i-p-i's," *IEEE Journal of Quantum Electronics*, **30**(12) 2790-2797, (1994).
- 126. A.L. Smirl, X.R. Huang, D.R. Harken, A.N. Cartwright, and D.S. McCallum, "Piezoelectric Optical Nonlinearities in Strained [111] InGaAs-Gas Multiple Quantum Well P-I-N Structures," *IEEE Nonlinear Opt: Mater, Fundam., Appl.*, 135-137, (1994).
- 127. A.N. Cartwright, D.S. McCallum, T. F. Boggess, A.L. Smirl, T.S. Moise, L.J. Guido, R.C. Barker and B.S. Wherrett, "Magnitude, origin and evolution of piezo-electric optical nonlinearities in strained [111]B InGaAs/GaAs quantum wells," *J. Appl. Phys.* 73(11) 7767-7774, (1993).
- 128. A.L. Smirl, D.S. McCallum, A.N. Cartwright, X.R. Huang, T.F. Boggess and T.C. Hasenberg, "Ultrafast decay of photodiffractive gratings in hetero n-i-p-is by enhanced in-plane transport," p. 503, Springer Series in Chemical Physics, 55, 503-504, "Ultrafast Phenomena VIII", Eds. J.-L. Martin, A. Migus, G. A. Mourou, A.H. Zewail, Springer, Berlin, (1993).
- 129. D.S. McCallum, A.N. Cartwright, X.R. Huang, T.F. Boggess, A.L. Smirl and T.C. Hasenberg, "Enhanced ambipolar in-plane transport in an InAs/GaAs hetero n-i-p-i," *J. Appl. Phys.*, 73, 3860-3866 (1993).

### **Conference Proceedings and Presentations**

- A. Cheney, B. Chen, A. N. Cartwright, T. Thomay, "Novel Plasmonic Polarimeter for Biomedical Imaging Applications," in *International Society for Optics and Photonics*, Vol. 10506, p 105060U, (2018).
- 2. A. Cheney, B. Chen, A. N. Cartwright, T. Thomay, "Using Resistive Readout to Probe Ultrafast Dynamics of a Plasmonic Sensor," *International Society for Optics and Photonics*, Vol. 10530, p 105300E, (2018).
- A. Cheney, B. Chen, T. Zhang, T. Thomay, A. N. Cartwright, "Plasmoelectronic Sensor for Real-Time on-Chip Wavelength Selective Biosensing; Vol. 10077, pp 1007704-1, (2017).

- N. Zhang, Z. Ji, A. R. Cheney, H. Song, D. Ji, X. Zeng, B. Chen, A. N. Cartwright, K. Shi, Q. Gan, "Metasurfaces with Random Nanoantennas for Ultrabroadband Surface Enhanced Nonlinear Optics." *IEEE*, 1.1, (2017).
- B. Chen, A. Cheney, T. Zhang, T. Thomay, A. N. Cartwright, "Using Plasmon-Induced Resistance Changes in a Tunable Metal Grating for All-Electronic Readout," Vol. 10111, pp 101111Q-1, (2017).
- D. Ji, H. Song, B. Chen, F. Yang, A. R. Cheney, F. Zhang, N. Zhang, X. Zeng, J. D. Atkinson, C. Zhou, "Engineered Pores of Hydrophilic Nanoporous Materials Using Wet-Drying and Freeze-Drying," *Optical Society of America*, SM4K.6, (2017).
- A. Petrou, T. A. Scrace, J. R. Murphy, P. Zhang, T. Norden, T. Zhang, T. Thomay, A. N. Cartwright, S. Delikanli, M. Z. Akgul, "Magneto-Optical Studies of CdSe/CdMnS/CdS Core/Multi-Shell Colloidal Nanoplatelets," *International Society for Optics and Photonics*, 99311W-99311W, (2016).
- D. Ji, H. Song, B. Chen, A. Cheney, N. Zhang, T. Thomay, C. Zhou, Q. Gan, A. N. Cartwright, "Reversibly Tunable Hydrophilic Nano/Microporous Polymer Photonic Crystal," *Optical Society of America*, FTu1F.6, (2016).
- S. Delikanli, T. Scrace, J. Murphy, B. Barman, Y. Tsai, P. Zhang, P. L. Hermandez-Martinez, J. Christodoulides, A. N. Cartwright, A. Petrou, H. V. Demir, "Mn<sup>2+</sup>-Doped CdSe/Cds Core/Multishell Colloidal Quntum Wells Enabling Tunable Carrier-Dopant Exchange Interactions, *Bulletin of the American Physical Society*, E20.2, (2016).
- D. Ji, H. Song, B. Chen, A. Cheney, N. Zhang, T. Thomay, C. Zhou, Q. Gan, and A. Cartwright, "Pore size manipulation of hydrophilic nano/microporous polymer photonic crystal," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest, paper JTh2A.70, (2016).
- D. Ji, B. Chen, X. Zeng, T. Moein, H. Song, N. Zhang, Q. Gan, A. Cartwright, "Atomiclayer lithography of sub-10-nm plasmonic nanogaps on flat metallic surface," Frontiers in Optics, FTh3F.3, (2015).
- D. Ji, B. Chen, X. Zeng, T. Moein, H. Song, N. Zhang, Q. Gan, A. Cartwright, "Flat metallic surface with sub-10-nm gaps using modified atomic-layer lithography,"CLEO: Science and Innovations, SM1G.6, (2015).
- J. R. Murphy, T. Zhang, T. Thomay, A. N. Cartwright, S. Husaini, and R. G. Bedford, "Background-Free Ultrafast Pump-Probe Transmission Spectroscopy of Graphene," *Bulletin of the American Physical Society*, 60, Abstract #L17.007, (2015).
- 14. J. R. Murphy, B. Barman, Y. Tsai, T. Scrace, J. M. Pientka, I. Zutic, B.D. McCombe, A. Petrou, A.N. Cartwright, W.C. Chou, "Magnetic polarons in type-II (Zn, Mn) Se/ZnTe quantum dots," *Bulletin of the American Physical Society*, F48.11, (2014).
- 15. X. Wang, J. Zeng, J. Sun, V. Foroughi Nezhad, A. N. Cartwright, and N. M. Litchinitser, "Metasurface-on-Fiber enabled Orbital Angular Momentum Modes in Conventional Optical Fibers," *Proceedings of CLEO: Science and Innovations,* JTu4A. 34, (2014).
- J. Sun, X. Wang, T. Xu, A. N. Cartwright, and N. M. Litchinitser, "Twisting light using nano-waveguide arrays," *Proceedings of CLEO: QELS\_Fundamental Science*, FF1C. 5, (2014).
- 17. J. Sun, M. Shalaev, Z. Kudyshev, J. Zeng, X. Wang, A. N. Cartwright, and N. M. Litchinitser, "Twisting Light with Metamaterials," *Proceedings of IEEE Photonics Society Summer Topical Meeting Series*, 9-10, (2014).

- 18. J. Murphy, B. Barman, Y. Tsai, T. Scrace, J. Pientka, I. Zutic, B. McCombe, A. Petrou, A. Cartwright, and W. Chou, "Magnetic polarons in type-II (Zn, Mn) Se/ZnTe quantum dots," *Bulletin of the American Physical Society*, Abstract #F48.011 (2014).
- J. Sun, M. Shalaev, Z Kudyshev, J. Zeng, X. Wang, A.N. Cartwright, N. M. Litchinitser, "Twisting Light with Metamaterials," *Photonics Society Summer Topical Meeting Series*, 2014 IEEE, 978-1-4799-2766-1 (2014).
- B. Barman, Y. Tsai, T. Scrace, J. Murphy, A. Cartwright, J. Pientka, I. Zutic, B. McCombe, A. Petrou, and I. Sellers, "Conventional versus unconventional magnetic polarons: ZnMnTe/ZnSe and ZnTe/ZnMnSe quantum dots," *Proceedings of SPIE NanoScience+ Engineering*, 91670L-91670L-7 (2014).
- 21. R. V. Dennis, B. J. Shultz, C. Jaye, X. Wang, D. A. Fischer, A. N. Cartwright, and S. Banerjee, "Near-edge X-ray absorption fine structure spectroscopy study of nitrogen incorporation in chemically and thermally reduced graphene oxide," *Proceedings of Abstracts of Papers of the American Chemical Society*, (2013).
- 22. S.N. Vasan, P. Sharma, C.N. Ionita, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Image acquisition, geometric correction and display of images from a 2×2 x-ray detector array based on Electron Multiplying Charge Coupled Device (EMCCD) technology," *Proceedings of the Society of Photo Optical Instrumentation Engineers*, 8668 (2013).
- 23. V.S. Swetadri, P. Sharma, V. Singh, A. Jain, C.N. Ionita, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Quantitative analysis of an enlarged area Solid State X-ray Image Intensifier (SSXII) detector based on Electron Multiplying Charge Coupled Device (EMCCD) technology," *Proceedings of the Society of Photo Optical Instrumentation Engineers*, 8668 (2013).
- 24. S.N. Vasan, C.N. Ionita, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Graphics Processing Unit (GPU) implementation of image processing algorithms to improve system performance of the Control, Acquisition, Processing, and Image Display System (CAPIDS) of the Micro-Angiographic Fluoroscope (MAF)," *Proceedings of SPIE-The International Society for Optical Engineering*, 8313, 83134C (2012).
- 25. S.N. Vasan, A. Panse, A. Jain, P. Sharma, C.N. Ionita, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Dose Reduction Technique Using a Combination of a Region of Interest (ROI) Material X-Ray Attenuator and Spatially Different Temporal Filtering for Fluoroscopic Interventions," *Proceedings of SPIE-The International Society for Optical Engineering*, 8313, 831357 (2012).
- 26. P. Sharma, S.N. Swetadri Vasan, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "A 2×2 array of EMCCD-based solid state x-ray detectors," *Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 5983-5986 (2012).
- 27. P. Sharma, S.N. Swetadri Vasan, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Implementation of digital multiplexing for high resolution X-ray detector arrays," *Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 5979-5982 (2012).
- P. Sharma, S.N. Vasan, A.N. Cartwright, A.H. Titus, D.R. Bednarek, S. Rudin, "Two dimensional extensible array configuration for EMCCD-based solid state x-ray detectors," *Proceedings of SPIE-The International Society for Optical Engineering*, 8313, 83135A (2012).

March 2020

- 29. P. Sharma, S.N. Vasan, A. Jain, A. Panse, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "EMCCD-based high resolution dynamic x-ray detector for neurovascular interventions," *Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 7787-7790 (2011).
- 30. S.N. Vasan, P. Sharma, C.N. Ionita, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Spatially different, real-time temporal filtering and dose reduction for dynamic image guidance during neurovascular interventions," *Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 6192-6195 (2011).
- 31. B. Qu, Y. Huang, W. Wang, A.N. Cartwright, A.H. Titus, D.R. Bednarek, S. Rudin, "Image geometric corrections for a new EMCCD-based dual modular x-ray imager," *Conference Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, 2634-2637 (2011).
- 32. K. Liu, H. Xu, Q. Gan, and A. N. Cartwright, "One-Step Holographic Lithography Fabrication of a Rainbow-Colored Photonic Bandgap Structure," IEEE Photonics, Arlington, VA, 09-13 October, 2011.
- A.N. Cartwright, H. Xu, K. Liu, and Q. Gan, "Flexible Porous Polymer Photonic Bandgap Structures for Chemical and Biomedical Sensing," Optical Transmission, paper WAA4, IEEE Photonics, Arlington, VA, 09-13 October, 2011.
- 34. A.N. Cartwright, X. Wang, G. Venugopal, J. Zeng, D. Lee, and N.M. Litchinitser, "Bridging Fiber Optics with Metamagnetics," paper 8093-75, Metamaterials: Fundamentals and Applications IV, SPIE Annual Meeting, San Diego, CA, 22-25 August, 2011.
- 35. A.N. Cartwright, T. Moein, A. Pandey, Y. Yao, S.M. Durbin, Q. Gan, and N.M. Litchinitser, "Vertically Emitting Photonic Bandgap Cavity Arrays for Sensing Applications," paper 8099-20, Biosensing and Nanomedicine, SPIE Annual Meeting, San Diego, CA, 22-25 August, 2011.
- 36. A.N. Cartwright, B. Zhou, S.J. Kim, C.M. Bartsch, E.M. Heckman, and F. Ouchen, "Optical and Electrical Properties of DNA-CTMA Biopolymers in Metal-Biopolymer-Metal Photodetectors," paper 8103-07, Nanobiosystems: Processing, Characterization, and Applications IV, SPIE Annual Meeting, San Diego, CA, 22-25 August, 2011.
- 37. A.N. Cartwright, D. Lee, J. Seo, and P.N. Prasad, "Fabrication of Copper Zinc Tin Sulfide (C2ZTS4) Solar Cells Using Spray Chemical Vapor Deposition," paper 8110-94, Thin Film Solar Technology III, SPIE Annual Meeting, San Diego, CA, 22-25 August, 2011.
- A.N. Cartwright, J. Seo, M.J. Cho, D. Lee and P.N. Prasad, "Efficient Heterojunction Photovoltaic Cell Utilizing Nanocomposites of Lead Sulfide Nanocrystals and a Low-Bandgap Polymer, paper 8116-12, Organic Photovoltaics XII, SPIE Annual Meeting, San Diego, CA, 22-25 August, 2011.
- 39. L. Schweidenback, A. Russ, T. Ali, J. Murphy, A.N. Cartwright, A. Petrou, A. Govorov, C. Li, A. Hanbicki, B. Jonker, G. Kioseoglou, "Photoluminescence intensity oscillations with magnetic field in InGaAs quantum wells," Presented at American Physical Society Meeting, Dallas, TX, March 2011.

- 40. B. Barman, A. Russ, L. Schweidenback, J. Murphy, R. Oszwaldowski, I. Sellers, A. Petrou, I. Zutic, B. McCombe, A.N. Cartwright, A. Petukhov, W.C. Chou, W.C. Fan, "Magnetooptical studies of magnetic polarons in type-II (Zn, Mn)Te/ZnSe quantum dots," Presented at American Physical Society Meeting, Dallas, TX, March 2011.
- S. Delikanli, A. Russ, L. Schweidenback, S. Kim, J. Murphy, A.N. Cartwright, A. Petrou, H. Zeng, "Carrier spin polarization and magneto-polaron formation in colloidal quantum dots," Presented at American Physical Society Meeting, Dallas, TX, March 2011.
- 42. B. Qu, A.T. Kuhls-Gilcrist, Y. Huang, W. Wang, A.N. Cartwright, A.H. Titus, D.R. Bednarek, S. Rudin, "Quantum Performance Analysis of an EMCCD-based X-ray Detector Using Photon Transfer Technique," *IEEE Nuclear Science Symposium Conference Record (1997)*, 3438-3441 (2010).
- 43. Y. Huang, B. Qu, P. Sharma, A. Kuhls-Gilcrist, W. Wang, A.H. Titus, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Component Level Modular Design of a Solid State X-ray Image Intensifier for an M×N Array," *IEEE Nuclear Science Symposium Conference Record* (1997), 2714-2717 (2010).
- 44. B. Qu, Y. Huang, W. Wang, P. Sharma, A.T. Kuhls-Gilcrist, A.N. Cartwright, A.H. Titus, D.R. Bednarek, S. Rudin, "Optical Demonstration of a Medical Imaging System with an EMCCD-Sensor Array for Use in a High Resolution Dynamic X-ray Imager," *IEEE Nuclear Science Symposium Conference Record* (1997), 2607-2609 (2010).
- 45. P. Sharma, A.H. Titus, B. Qu, Y. Huang, W. Wang, A. Kuhls-Gilcrist, A.N. Cartwright, D.R. Bednarek, S. Rudin, "Novel Multiplexer to Enable Multiple-Module Imaging with Adjustable High Spatial Resolution and Predetermined Display Bandwidth for Array Medical Imaging Systems," *IEEE Nuclear Science Symposium Conference Record (1997)*, 2134-2137 (2010).
- 46. S. Delikanli, A. Russ, L. Schweidenback, A. Petrou, S. Kim, J. Murphy, A.N. Cartwright, H. Zeng, "Magneto Polaron Formation in Colloidal CdMnSe Quantum Dots Studied by Circularly Polarized Magneto-Photoluminescence," Presented at 55<sup>th</sup> MMM Conference, Atlanta, GA, November 2010.
- 47. T. Ozbolat, M. Marchany, J.A. Gardella Jr., F.V. Bright, A.N. Cartwright, R. Hard, W.L. Hicks and B. Koc, "Computer-aided Bio-modeling of Micro-patterned Structures for Tissue Engineering," *Annual Industrial Engineering Research Conference*, Miami, Florida, May 30- June 3, 2009.
- S-J. Kim, W-J. Kim, A.N. Cartwright and P.N. Prasad, "Tandem inorganic/organic hybrid solar cell using a PbSe nanocrystal photoconductor for carrier multiplication", SPIE Optics+Photonics, San Diego, 2008 (Proc. SPIE 7042, 704222 (2008), Oral presentation)
- 49. S-J. Kim, W-J. Kim, A.N. Cartwright, R.P. Raffaelle and P.N. Prasad, "Self Passivating Hybrid (Organic/Inorganic) Tandem Solar Cell," *33<sup>rd</sup> IEEE Photovoltaic Specialists Conference* (May 2008, Late News presentation, San Diego)
- 50. W-J. Kim, S-J. Kim, M. Samoc, A.N. Cartwright and P.N. Prasad, "Microfabrication using UV Photo-patternable Semiconductor Nanocrystals", (*MRS Fall Meeting 2008, paper F2.10, oral presentation*)
- 51. W-J. Kim, S-J. Kim, M. Samoc, A.N. Cartwright and P.N. Prasad, "Binding Characteristics of Surface Ligands on PbSe QDs and Impact on Conductivity," (*MRS Fall Meeting 2008, paper F3.9, oral presentation*)

March 2020

- 52. S-J. Kim, W-J. Kim, A.N. Cartwright and P.N. Prasad, "Functionalized Semiconductor Nanocrystal Quantum Dots for Patterned, Multilayered Photovoltaic Devices," (*MRS Fall Meeting 2008, paper N4.4, oral presentation*)
- 53. V.P. Chodavarapu, K. Oh, A.H. Titus, A.N. Cartwright, F.V. Bright, "Integrated Point-of-Care Biosensors for Diagnostics and Therapy," Presented at International Congress on Biophotonics, Sacramento, February 2008.
- 54. M.C. Cheung, V.P. Chodavarapu, P. Golpalam, A.N. Cartwright, "Interactive Web Simulation Tools for Photonics Education," Presented at International Congress on Biophotonics, Sacramento, February 2008.
- 55. M.C. Cheung, I.R. Sellers, I.L. Kuskovsky, A.N. Cartwright, B.D. McCombe, "Ultrafast spectroscopy of Zn-Se-Te multilayers with type-II ZnTe/ZnSe quantum dots," paper 6892-45, SPIE Photonics West Conference, San Jose, CA, 19-24 January (2008).
- 56. S-J. Kim, W-J. Kim, Y. Sahoo, A.N. Cartwright and P.N. Prasad, "Multiple Exciton Generation and Extraction from Hydrazine Treated PbSe Thin Film Device," (*MRS Fall Meeting 2007, oral presentation*)
- 57. S-J. Kim, E. Nio, V.P. Chodavarapu, A.H. Titus, M.T. Swihart, and A.N. Cartwright, "Functionalized Photonic Crystal Sensor Elements based on Nanoporous Polymers," *Materials Research Society Symp. Proc.*, **1056** (2007)
- Z. Lu, A.N. Cartwright, "Novel Methods to Reduce Pattern Size and Pitch for Data Storage Using Electron Beam Writing," *Materials Research Society Symposium O Proceedings*, 961E, (2007).
- 59. S.J. Kim, V.P. Chodavarapu, R. Bukowski, A.H. Titus, A.N. Cartwright, M.T. Swihart, F.V. Bright, and T.J. Bunning, "Nanostructured porous polymeric photonic bandgap structures for sensing," *Proceedings of SPIE-The International Society for Optical Engineering*, **6447**, 644700, *Invited Paper* (2007)
- 60. S-J. Kim, W-J. Kim, Y. Sahoo, A.N. Cartwright and P.N. Prasad, "Multiple Exciton Generation and Extraction from Hydrazine Treated PbSe Thin Film Device," H3: Multiexciton Generation, Materials Research Society Annual Fall Meeting 2007, Boston, MA, 26-30 November 2007.
- 61. S-J. Kim; E. Nio; H. Xu, V.P. Chodavarapu, A.H. Titus, M.T. Swihart; A.N. Cartwright, "Functionalized Photonic Crystal Sensor Elements based on Nanoporous Polymers," HH4: Properties and Applications of Nanophases and Nanocomposites, Materials Research Society Annual Fall Meeting 2007, Boston, MA, 26-30 November 2007.
- 62. S-J. Kim, V.P. Chodavarapu, A.H. Titus, F.V. Bright, V. Govindaraju, A.N. Cartwright, "CMOS Chemical and Biochemical Sensors using Nanostructured Materials," Digest of the IEEE LEOS Summer Topical Meetings, Portland, Oregon, 23-25 July 2007.
- 63. A.N. Cartwright, V.P. Chodavarapu, S-J. Kim, A.H. Titus, R.M. Bukowski, F.V. Bright, "CMOS Microsystems for Phase Fluorometric Biochemical Monitoring," Proceedings of IEEE/URSI ISSSE, Montreal, Quebec, Canada, July 20-August 2, 2007 (Invited Paper).
- 64. A.N. Cartwright, M.C-K. Cheung, F. Shahedipour-Sandvik, J.R. Grandusky, M. Jamil, V. Jindal, S.B. Schujman, L.J. Schowalter, C. Wetzel, P. Li, T. Detchprohm, and J.S. Nelson, "Ultrafast Carrier Dynamics and Recombination in Green Emitting InGaN MQW LED," *Materials Research Society Symposium Proceedings*, vol. 916, p. 77, (2006).

- 65. T.F. Yen, M. Li, N. Chokshi, S-J. Kim, A.N. Cartwright, Y. Jeong, W.A. Anderson, "Analysis and Applications of ZnO Semiconductor Films Deposited by Laser and Sputtering Techniques," *Materials Research Society Symposium Proceedings*, **957**, (2006).
- 66. A.V. Osinsky, J.W. Dong, J.Q. Xie, B. Hertog, A.M. Dabiran, P.P. Chow, S.J. Pearton, D.P. Norton, D.C. Look, W. Schoenfeld, O. Lopatiuk, L. Chernyak, M.C. Cheung, A.N. Cartwright, and M. Gerhold, "ZnCdO/ZnMgO and ZnO/AlGaN heterostructures for UV and visible light emitters," *Materials Research Society Symposium Proceedings*, 891, 371-379, (2006).
- 67. V.P. Chodavarapu, D.O. Shubin, R.M. Bukowski, E.C. Tehan, A.H. Titus, A.N. Cartwright, and F.V. Bright, "CMOS-based biosensor systems using integrated nanostructured recognition elements," *Proceedings of SPIE-The International Society for Optical Engineering*, 6095, 609500/1-609500/8, (2006).
- F. Chen, A.N. Cartwright, H. Lu, and W.J. Schaff, "Carrier recombination, relaxation, and transport dynamics in InN," *Materials Research Society Symposium Proceedings*, 892, 95-103, (2006).
- 69. S. Chikkerur, A.N. Cartwright, V. Govindaraju, "K-plet and Coupled BFS: A Graph Based Fingerprint Representation and Matching Algorithm," *Advances in Biometrics, Proceedings Lecture Notes in Computer Science* 3832: 309-315 (2006).
- 70. V.P. Chodavarapu, D.O. Shubin, R.M. Bukowski, A.H. Titus, A.N. Cartwright, F.V. Bright, "CMOS-based Biosensor System using Integrated Nanostructured Recognition Elements," *Proceedings of SPIE Photonics West*, San Jose (2006).
- Z. (Joe) Lu, A.N. Cartwright, "Novel Methods to Reduce Pattern Size and Pitch for Data Storage Using Electron Beam Writing," Materials Research Society Annual Fall Meeting, Vol. 961E, (2006).
- 72. A.N. Cartwright, "CMOS-based Biosensor System Using Integrated Nanostructured Recognition Elements," SPIE Photonics West Conference, San Jose, CA, 21-26 January (2006).
- 73. V.K-S. Hsiao, W.D. Kirkey, A.N. Cartwright, P.N. Prasad, P.F. Lloyd, and T.J. Bunning, "Organic solvent vapor sensing using porous photopolymer photonic bandgap structures," *Proceedings of SPIE-The International Society for Optical Engineering*, **5926**, 59260K/1-59260K/6, (2005).
- 74. V.P. Chodavarapu, A.H. Titus, D. O. Shubin, A.N. Cartwright, R.M. Bukowski, and F.V. Bright, "CMOS mixed-signal phase detector for integrated chemical sensor systems," *IEEE Sensors 2005, [IEEE Conference on Sensors], 4th, Irvine, CA, United States, Oct. 30-Nov. 3, 2005, 2, 1068-1071, (2005).*
- 75. V.P. Chodavarapu, A.H. Titus, and A.N. Cartwright, "CMOS ISFET microsystem for biomedical applications," *IEEE Sensors 2005, [IEEE Conference on Sensors], 4th, Irvine, CA, United States, Oct. 30-Nov. 3, 2005,* 1, 109-112, (2005).
- 76. Z. Tao, E.C. Tehan, R.M. Bukowski, Y. Tang, E.L. Shughart, W. G. Holthoff, A.N. Cartwright, A. H. Titus, and F. V. Bright, "Biomolecule-less sensors for biomolecules based on templated xerogel platforms," *Proceedings of SPIE-The International Society for Optical Engineering*, **5969**, 59690F/1-59690F/9, (2005).

- 77. V.P. Chodavarapu, D.O. Shubin, R.M. Bukowski, A.H. Titus, A.N. Cartwright, F.V. Bright, "CMOS Mixed-Signal Phase Detector for Integrated Chemical Sensor Systems," Proceedings of IEEE Sensors Conference, 1068-1071 (2005).
- S. Chikkerur, A.N. Cartwright, V. Govindaraju, "Fingerprint Image Enhancement Using STFT Analysis," Pattern Recognition and Image Analysis, PT 2, *Proceedings Lecture Notes in Computer Science* 3687: 20-29 (2005).
- V.P. Chodavarapu, A.H. Titus, A.N. Cartwright, "CMOS ISFET-based Microsystem for Biomedical Applications," *Proceedings of IEEE Sensors Conference*, pp. 109-112, Irvine, (2005).
- Z. Tao, E.C. Tehan, R.M. Bukowski, Y. Tang, E.L. Shughart, W.G. Holthoff, A.N. Cartwright, A.H. Titus, F.V. Bright, "Biomolecule-less Sensors for Biomolecules Based on Templated Xerogel Platforms," *Proceedings of SPIE-The International Society for Optical Engineering*, **5969**, 60-68 (2005).
- V.K-S. Hsiao, W.D. Kirkey, A.N. Cartwright, P.N. Prasad, P.F. Lloyd, T.J. Bunning, "Organic Solvent Vapor Sensing using Porous Photopolymer Photonic Bandgap Structures," *Proceedings of SPIE-The International Society for Optical Engineering*, (Tuning the Optical Response of Photonic Bandgap Structures II), 59260K/1-59260K/6 (2005).
- 82. A.N. Cartwright, V.P. Chodavarapu, M. Davenport, L. Tehan, A.H. Titus, F.V. Bright, "Protein Sensors using Integrated Nano-Structured Sensor Elements with CMOS Detectors," paper 5705-10, Nanobiophotonics and Biomedical Applications, Photonics West, BiOS 2005 Annual Meeting, San Jose, CA (2005).
- W.D. Kirkey, M. Pan, A.N. Cartwright, Y. Sahoo, P.N. Prasad, X. Li, Y. He, and M.T. Swihart, "Optical Properties of Polymer-Embedded Silicon Nanoparticles," *Quantum Dots, Nanoparticles and Nanowires, Materials Research Society Symposium Proceedings Quantum Dots, Nanoparticles and Nanowires*, 789, 357-361 (2004).
- M. Furis, D.J. MacRae, Y. Sahoo, A.N. Cartwright, and P.N. Prasad, "Spectroscopy Studies of InP Nanocrystals Synthesized Through a Fast Reaction," *Quantum Dots, Nanoparticles and Nanowires, Materials Research Society Symposium – Proceedings Quantum Dots, Nanoparticles and Nanowires*, 789, 89-94 (2004).
- M. Furis, A.N. Cartwright, J. Hwang, W.J. Schaff, "Time Resolved Photoluminescence of Si-Doped High Al Mole Fraction AlGaN Epilayers Grown by Plasma-Enhanced Molecular Beam Epitaxy," *Materials Research Society Symposium – Proceedings*, (GaN and Related Alloys-2003) 83(17), 667-672 (2004).
- M. Furis, A.N. Cartwright, H. Wu, W.J. Schaff, "Emission Mechanisms in UV Emitting GaN/AlN Multiple Quantum Well Structures," *Materials Research Society Symposium – Proceedings*, (GaN and Related Alloys-2003) 35-40 (2004).
- 87. A.N. Cartwright, "Nanobiophotonics and Biomedical Applications," *Proceedings of International Society for Engineering*, 144, 26-27 Jan., San Jose, CA (2004).
- 88. V.K-S. Hsiao, G.S. He, A.N. Cartwright and P.N. Prasad, "Holographic Formation of Photonic Bandgap Structures with High Refractive Index Modulation," paper CC4.9, Liquid Crystal Materials and Technology, 2004 Materials Research Society Fall Meeting (2004).

March 2020

- A.N. Cartwright, W.D. Kirkey, M. Pan, V.K-S. Hsaio, R. Thapa, D.W. Lucey and P.N. Prasad, "Nanofabrication of Organic and Inorganic: Organic Structures for Nanophotonics," paper DD12.6, Organic and Nanocomposite Optical Materials, 2004 Materials Research Society Fall Meeting (2004).
- M. Furis, W.D. Kirkey, G. Singh, A.N. Cartwright, D.W. Lucey, and P.N. Prasad, "Effect of Different II-VI Shells on the Photoluminescence of InP Nanoparticles," paper FF9.24, Solid-State Chemistry of Inorganic Materials V, 2004 Materials Research Society Fall Meeting (2004).
- 91. M.C. Cheung, A.N. Cartwright, T. Murphy, J.D. Phillips, and W.E. Bowen, "Time Resolved Photoluminescence of ZnO Thin Films grown by Pulsed Laser Deposition," paper H11.43, Functional and Multifunctional Oxide Films, 2004 Materials Research Society Fall Meeting, Boston, MA (2004).
- 92. T. Murphy, K. Moazzami, and J. Phillips, M. Cheung and A.N. Cartwright, "Time-Resolved Optoelectronic Properties of ZnO Epilayers," paper P2-24, 3rd International Workshop on ZnO and Related Materials, Sendai, Japan (2004).
- 93. M. Furis, A.N. Cartwright, University at Buffalo, E. Waldron, and F. Schubert, Rensselaer Polytechnic Institute, "Spectral and Temporal Resolution of Recombination Dynamics from Multiple Excited States in Modulation-Doped AlGaN/GaN MQW Heterostructures," paper P8.16, International Workshop on Nitride Semiconductors, Pittsburgh, PA, July (2004).
- 94. M.C. Cheung, and A.N. Cartwright, University at Buffalo, G. Namkoong, and W.A. Doolittle, Georgia Institute of Technology, "Photoluminescence Study of MBE Grown InGaN with Intentional Indium Segregation", paper P3.38, International Workshop on Nitride Semiconductors, Pittsburgh, PA, July (2004).
- 95. F. Chen and A.N. Cartwright, University at Buffalo; C. Liu and I. Watson, University of Strathclyde, "Emission Dynamics of Red and Near-Infrared Emitting InGaN/GaN Single Quantum Wells," paper P8.7, International Workshop on Nitride Semiconductors, Pittsburgh, PA, July (2004).
- 96. F. Chen and A.N. Cartwright, University at Buffalo, H. Lu, W.J. Schaff, Cornell University; "Excitation Intensity Dependence of Photoluminescence in Highly Excited InN Epilayers," paper P15.8, International Workshop on Nitride Semiconductors, Pittsburgh, PA, July (2004).
- 97. M. Davenport, V.P. Chodavarapu, E. Tehan, A.H. Titus, A.N. Cartwright, F.V. Bright, "Chemical Sensor Systems Using CMOS Detectors and LED Arrays," Great Lakes Photonics Symposium, Cleveland, OH June, (2004)
- 98. M.C. Cheung, G. Namkoong, A.N. Cartwright, and W.A. Doolittle, "Photoluminescence Study of MBE Grown InGaN with Intentional Indium Segregation," paper P8.38, International Workshop on Nitride Semiconductors, Materials Research Society, Pittsburgh, PA, June (2004).
- 99. M.T. Swihart, X. Li, Y. He, W.D. Kirkey, A.N. Cartwright, Y. Sahoo, P.N. Prasad, "High-Rate Synthesis And Characterization of Brightly Luminescent Silicon Nanoparticles with Applications in Hybrid Materials for Photonics and Biophotonics," *Proceedings of SPIE, The International Society for Optical Engineering*, **5222** 108-117 (2003).

- 100. A.N. Cartwright, W.D. Kirkey, M. Furis, X. Li, Y. He, D. MacRae, Y. Sahoo, M.T. Swihart, P.N. Prasad, "Ultrafast Dynamics in Nanostructured Materials," *Proceedings of SPIE, The International Society for Optical Engineering Nanocrystals, and Organic and Hybrid Nanomaterials*, (Nanocrystals, and Organic and Hybrid Nanomaterials-2003) **5222** 134-139 (2003).
- 101. V.P. Chodavarapu, S.P. Khanolkar, E.C. Tehan, A.H. Titus, A.N. Cartwright, F.V. Bright, "CMOS Integrated Optical Sensor Using Phase Detection," *Proceedings of IEEE Sensors*, 2(2) 1266-1270 (IEEE cat n 03CH37498) (2003).
- 102. W.D. Kirkey, M. Pan, A.N. Cartwright, Y. Sahoo, P.N. Prasad, X. Li, Y. He, and M.T. Swihart, SUNY Buffalo, "Impact of Surface Chemistry on the Optical Properties of Polymer-Embedded Si Nanoparticles," paper N15.30, Symposium Quantum Dots, Nanoparticles and Nanowires, 2003 MRS Fall Meeting, Boston, MA (2003)
- 103. M. Furis, D.J. MacRae, Y. Sahoo, A.N. Cartwright, and P.N. Prasad, SUNY Buffalo, "Spectroscopic Studies of InP Nanocrystals Synthesized Through a Fast Reaction," paper N3.35, Symposium GaN and Related Alloys, 2003 MRS Fall Meeting, Boston, MA (2003)
- 104. M. Furis, A.N. Cartwright, SUNY Buffalo, J. Hwang, W.J. Schaff, Cornell University, Ithaca, NY, "Time-Resolved Photoluminescence of Si Doped High Mole Fraction AlGaN Epilayers Grown by Plasma-Enhanced Molecular Beam Epitaxy," paper Y5.45, Symposium GaN and Related Alloys, 2003 MRS Fall Meeting, Boston, MA (2003).
- 105. F. Chen, A.N. Cartwright, SUNY Buffalo, H. Lu, W.J. Schaff, Cornell University, Ithaca, NY, "Ultrafast Carrier Dynamics in MBE Grown InN Epilayers," paper Y5.57, Symposium GaN and Related Alloys, 2003 MRS Fall Meeting, Boston, MA (2003).
- 106. M. Furis, A.N. Cartwright, SUNY Buffalo, H. Wu, W.J. Schaff, Cornell University, Ithaca, NY, "Emission Mechanisms in UV Emitting GaN/AlN Multiple Quantum Well Structures," paper Y10.5, Symposium GaN and Related Alloys, 2003 MRS Fall Meeting, Boston, MA (2003).
- 107. A.N. Cartwright, "Resources and Infrastructure for Acquisition and Unification of Biometrics," New York State Cyber-Security Symposium, February 24-25 2003, Utica, NY.
- 108. F.V. Bright, A.N. Cartwright, A.H. Titus, "Smart Multi-modal Biosensor Arrays," Infotonics Technology center Inc., University Days, Canandaigua, NY, May (2003).
- M. Furis, F. Chen, A.N. Cartwright, H. Wu, W.J. Schaff, "Room-Temperature Time-Resolved Photoluminescence Studies of UV Emission from GaN/AlN Quantum Wells," *Materials Research Society Symposium - Proceedings*, 743 (GaN and Related Alloys—2002) 689-694 (2002).
- M.C. Cheung, F. Chen, M. Furis, A.N. Cartwright, G. Namkoong, W. A. Doolittle, A. Brown, "Time-Resolved Optical Studies of InGaN Layers Grown on LGO Substrates," *Materials Research Society Symposium – Proceedings* 743 (GaN and Related Alloys-2002), 659-664 (2002).
- 111. H. Wu, W.J. Schaff, M. Furis, A.N. Cartwright, W. Henderson, W.A. Doolittle, Georgia Tech, A.V. Osinsky, "Molecular Beam Epitaxial Growth of AlN/GaN Multiple Quantum Wells," *Materials Research Society Symposium – Proceedings*, **743** (GaN and Related Alloys—2002) 375-380 (2002).

- 112. F. Chen, M.C. Cheung, M. Furis, W. Kirkey, A.N. Cartwright, "Femtosecond Pump and Probe Spectroscopy of Optical Nonlinearities in an InGaN/GaN Heterostructure," Materials Research Society Symposium - Proceedings, 743 (GaN and Related Alloys— 2002) 665-669 (2002).
- 113. A. Patra, M. Pan, C.S. Friend, T-C. Lin, A.N. Cartwright, R. Burzynski, P.N. Prasad, "A New Approach to Design Light Emitting Devices Using Electroactive Dyes," Institute for Lasers, Photonics and Biophotonic, Departments of Chemistry and Electrical Engineering, University at Buffalo, The State University of New York, Buffalo, NY; Ryszard Burzynski, Laser Photonics Technology, Inc., Amherst, NY, Materials Research Society Symposium - Proceedings, **734** (Polymer/Metal Interfaces—Fundamentals, Properties and Applications—2002) 273-278 (2002).
- 114. A.N. Cartwright, P. Gopalam, V.P. Chodavarapu, and W.D. Kirkey, "Optical Design Tools for Photonics Engineering Education," Paper 2024, Session 3232, ASEE National 2002 Montreal, Quebec, Canada, June (2002).
- 115. H. Ye, C. Basaran, D. Hopkins, and A.N. Cartwright, "Reliability of Solder Joints under Electrical Stressing -Strain Evolution of Solder joints," Proceedings from the 8th Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm2002), San Diego, CA (2002).
- 116. F. Chen, M.C. Cheung, A.N. Cartwright, P.M. Sweeney, J.S. Flynn, and D. Keogh, "Ultrafast Spectroscopy of InGaN Quantum Wells for the Development of Efficient Emitters", GaAs MANTECH Conference, San Diego, California, April (2002).
- 117. H. Liu, A.N. Cartwright, C. Basaran, W. Casey, "Moiré Interferometry for Microelectronics Packaging Interface Fatigue Reliability," GaAs MANTECH Conference, San Diego, California, April (2002).
- 118. P. Gopalam, A.N. Cartwright, B. Ramamurthy, "Java Enabled Opto-Electronic Learning Tools and A Supporting Framework," Proceedings of the American Society for Engineering Education Annual Conference (2001).
- 119. P.M. Sweeney, C.M. Harder, M.C. Cheung, A.N. Cartwright, F.H. Long, M.E. Aumer, S.F. LeBoeuf, and S.M. Bedair, "Optimizing Light Emission from Nitride Quantum Wells," Proceedings of the GaAs MANTECH Conference, Las Vegas, NV (2001).
- 120. C. Basaran, Y. Zhao, A.N. Cartwright, T. Dishongh, "Evaluating Solder Joint Fatigue Reliability by Moiré Interferometry," Proceedings of Advanced Packaging Technologies in the Electronics Industry, SMTA, Boston, MA, June (2001).
- 121. F. Chen, A.N. Cartwright, P.M. Sweeney, M.C. Cheung, J.S. Flynn, D. Keogh, "Influence of Growth Temperature on Emission Efficiency of InGaN/GaN Multiple Quantum Wells," paper I6.27, Symposium GaN and Related Alloys, 2001 MRS Fall Meeting, Boston, MA (2001).
- 122. P.M. Sweeney, M.C. Cheung, F. Chen, A.N. Cartwright, M.E. Aumer, S.F. LeBoeuf, and S.M. Bedair, "Spectroscopy and Modeling of Carrier Recombination in III-N Heterostructures," paper P6.12, International Conference on Nitride Semiconductors, Denver, Colorado, July (2001).
- 123. P.M. Sweeney, C.M. Harder, M.C. Cheung, A.N. Cartwright, F.H. Long, M.E. Aumer, S.F. LeBoeuf, and S.M. Bedair, "Optimizing Light Emission from Nitride Quantum Wells", GaAs MANTECH Conference, Las Vegas, Nevada, May (2001).

- 124. P. Gopalam, A.N. Cartwright, "Java Applets as Learning Aids in Photonics," paper NE05-13, Opto Northeast and Imaging 2001, Northeast Regional Meeting on Optoelectronics, Photonics and Imaging, Rochester, NY, April (2001).
- 125. P.M. Sweeney, C.M. Harder, M.C. Cheung, A.N. Cartwright, "Carrier Dynamics in III-N Quantum Well Structures," paper NE04-12, Opto Northeast and Imaging 2001, Northeast Regional Meeting on Optoelectronics, Photonics and Imaging, Rochester, NY, April (2001).
- 126. Y. Zhao, C. Basaran, A.N. Cartwright, T. Dishongh, "Thermomechanical Behavior of BGA Solder Joints under Vibrations: An Experimental Observation," Thermal Phenomena in Electronic Systems -Proceedings of the Intersociety Conference, 2 349-355 (2000).
- 127. Y. Zhao, C. Basaran, A.N. Cartwright, T. Dishongh, "Inelastic Behavior of Microelectronics Solder Joints under Concurrent Vibration and Thermal Cycling," Thermal Phenomena in Electronic Systems -Proceedings of the Intersociety Conference, 2 174-180 (2000).
- 128. A.N. Cartwright, P. Gopalam, N. Liu, Z. Yuan, T. Tang and C.R. Wie, "Context based educational Java Applets using Consumer Products," Proceedings of the American Society for Engineering Education Annual Conference (2000).
- 129. D. Visco, M. Saroka, A.N. Cartwright, "Challenges of Forming an ASEE Student Chapter at the State University of New York at Buffalo," Proceedings of the American Society for Engineering Education Annual Conference (2000).
- 130. A.N. Cartwright, and P. Gopalam, "Providing Java Based Courseware with Educational Context," International Conference on Computer Simulation in Engineering Education (ICSEE2000), **32**(1) 40-46 (2000).
- 131. A.N. Cartwright, P.N. Prasad, H. Pudavar, G.S. He, J. Swiatkiewicz, S.J. Chung, K.S. Kim, T.C. Lin, "Two Photon Technology for 3D Imaging, 3D Optical Circuitry, 3D Data Storage, Up-Conversion Lasing and IR-to-Visible Image Up-Conversion," paper #Tu04, IEEE Lasers and Electro-Optics Society, Rio Grande, Puerto Rico, November (2000).
- 132. A.N. Cartwright, and C.R. Wie, "Context Based Educational Java Applets using Consumer Products", paper #653, American Society for Engineering Education Annual Conference, St. Louis, Missouri, June (2000).
- 133. A.N. Cartwright, and C.R. Wie, "Semiconductor and Photonics Learning Modules Based on Consumer Product Case Studies," National Science Foundation Showcase of Projects, American Society for Engineering Education Annual Conference, St. Louis, Missouri, June (2000).
- 134. A.N. Cartwright, "Development of Java Based Engineering Courseware," St. Lawrence Section of American Society for Engineering Education Spring Sectional Meeting, Alfred, NY, March–April (2000).
- 135. A.M. Bisantz, A.N. Cartwright and A. Aref, "Introducing Students to Engineering Using a Case Study Approach" Proceedings of the American Society for Engineering Education Annual Conference (1999).
- 136. A.N. Cartwright, "Design and Collaborative-learning in Lasers and Photonics Courses," What's New in ECE Education, Proceedings of the American Society for Engineering Education Annual Conference (1999).

- 137. Y. Zhao, C. Basaran, A.N. Cartwright, and T. Dishongh, "Creep Behavior of BGA during Thermal Cycling by Moiré Interferometry and FEM Simulation," *Advances in Electronic Packaging*, ASME-EEP 26(1) 685-691 (1999).
- 138. T. Dishongh, Y. Zhao, A.N. Cartwright, and C. Basaran, "A Study of the Effect of Vibrations Coupled with Thermal Cycling on a BGA Package," InterPACK 1999, ASME, IEEE (1999).
- 139. A.N. Cartwright, P.M. Sweeney, T. Prunty, M. Pan, D.P. Bour, M. Kneissl, "Carrier Dynamics of Piezoelectric GaN/InGaN Quantum Wells," paper #W11.27, Material Research Society Fall Meeting, Boston, Massachusetts, (1999).
- 140. C.R. Wie, A.N. Cartwright, "Integrating Java Applet Courseware Components into Consumer Product Case-Study Modules," poster #12, 11, 10, International Conference on Technology and Education, Tampa, Florida, October (1999).
- 141. P.M. Sweeney, M. Pan, A.N. Cartwright, "Field Distributions in Piezoelectric p-i (MQW)-n InxGa1-xN/GaN Heterostructures," paper #MN3, Optical Society of America Annual Meeting, Santa Clara, California, September (1999).
- 142. A.N. Cartwright, and C.R. Wie, "Development, Testing and Dissemination of Dynamic Visual Learning Tools for Solid State Materials," National Science Foundation Showcase of Projects, American Society for Engineering Education Annual Conference, Charlotte, North Carolina, June (1999).
- 143. A.N. Cartwright, and C.R. Wie, "Semiconductor and Photonics Learning Modules Based on Consumer Product Case Studies," National Science Foundation Showcase of Projects, American Society for Engineering Education Annual Conference, Charlotte, North Carolina, June (1999).
- 144. A.N. Cartwright, S. Nagarathnam, E. Lee, H. Luo, "Study of Photo-degradation in II-VI Heterostructures using n-i-n Photoconductors," in "Applications of Photonic Technology 3 Closing the Gap between Theory, Development, and Application," George A. Lampropoulos and Roger A. Lessard, SPIE The International Society for Optical Engineering, 3491 1060 (1998).
- 145. A.N. Cartwright, "Cooperative Learning Environments for Engineering Courses," Materials Division Session II, Proceedings of the American Society for Engineering Education Annual Conference (1998).
- 146. A.N. Cartwright, N.A. Merkel, M.D. Blasczak, "Femtosecond Interferometry for Analysis of Internal Bond Interface Delamination in Semiconductor Devices," paper CthI1, Conference on Lasers and Electro-Optics, San Francisco, CA (1998).
- 147. A.N. Cartwright, "Incorporating Design in Photonics Courses," St. Lawrence Section of American Society for Engineering Education Spring Sectional Meeting, SUNY at Binghamton, Binghamton, NY (1998).
- 148. H. Hong, W.A. Anderson, A.N. Cartwright, E.H. Lee, H.C. Chang, M.H. Na, H. Luo, "PIN Photodiodes using Nitrogen Ion Implantation on ZnSe/GaAs Heterostructures," Proceedings of the 24th International Symposium on Compound Semiconductors (1997).
- 149. A.N. Cartwright, "Stimulating Student Interest Through Cooperative Learning Environments," St. Lawrence Section of American Society for Engineering Education Fall Sectional Meeting, SUNY at Utica, Utica, NY (1997).

- C. Wengerter, S. Nagarathnam, A.N. Cartwright, J.L. Sanchez-Rojas, "Differential Reflection Measurements of Quantum Well Structures for Optical Modulators", Workshop on Photonic Materials and Devices, Buffalo, NY, October (1997).
- 151. A.N. Cartwright, A.E. Paul, W. Sha, A.L. Smirl, J.G. Pellegrino and W.F. Tseng, "Ballistic Plasma Oscillations in Bulk Semiconductors," paper WeC3, Ninth International Conference on Hot Carriers in Semiconductors, Chicago, Illinois (1995)
- 152. X.R. Huang, D.R. Harken, A.N. Cartwright, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, E. Calleja, E. Muñoz, "In-Well Screening Nonlinearities in Piezoelectric Multiple Quantum Wells," paper, Conference on Lasers and Electro-Optics, Baltimore, MD (1995).
- 153. A.N. Cartwright, X.R. Huang and A.L. Smirl, "Scaling of Stark-shifted Nonlinearities in Multiple Quantum Well Structures," paper JWB3, Quantum Optoelectronics Conference, Dana Point, CA (1995).
- 154. X.R. Huang, A.N. Cartwright, D.S. McCallum, D.R. Harken and A.L. Smirl, Sánchez-Rojas, A. Sacedón, E. Calleja and E. Muñoz, "Nonlinear Optical Response of Piezoelectric Multiple Quantum Wells under Bias," paper QthE8, Quantum Optoelectronics Conference, Dana Point, CA (1995).
- 155. X.R. Huang, A.N. Cartwright, D.R. Harken, D.S. McCallum, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, E. Calleja, E. Muñoz, "Nonlinear Optical Properties of Piezoelectric Multiple Quantum Wells," paper Q15, March meeting of the American Physical Society, San Jose, CA (1995).
- 156. D.R. Harken, X.R. Huang, D.S. McCallum, A.L. Smirl, J.L. Sánchez-Rojas, A. Sacedón, E. Muñoz and E. Calleja, "Nonlinear Optical Cross Sections of Strained Piezoelectric [111] InGaAs/GaAs Multiple Quantum Well p-i-n Structures," paper TuZ2, Annual Meeting of the Optical Society of America, Dallas, TX (1994).
- 157. A.N. Cartwright, D.S. McCallum, A.L. Smirl, W. Tseng, J. Pellegrino, and J. Comas, "Nonlinear Optical Measurement of Recombination in Multiple Quantum Well Hetero ni-p-i's," paper TuZ3, Annual Meeting of the Optical Society of America, Dallas, TX (1994).
- 158. J.L. Sánchez-Rojas, A. Sacedón, E. Muñoz, E. Calleja, F. Calle, F. González-Sanz, D.R. Harken, X.R. Huang, D.S. McCallum, A.N. Cartwright, A.L. Smirl, "Conduction Band Engineering and Time Response in Piezoelectric [111] Multiple Quantum Well Photodiodes," WOCSDICE Conference, Cork, Ireland (1994).
- 159. X.R. Huang, D.S. McCallum, D.R. Harken, A.N. Cartwright, A.L. Smirl, A. Sacedón, J. L. Sánchez-Rojas, E. Calleja, E. Muñoz, "Strained Piezoelectric [111] Multiple Quantum Wells: Clamped or Free?," paper p1.36, 7th International Conference on Superlattices, Microstructures and Microdevices, Banff, Canada (1994).
- 160. A.L. Smirl, X.R. Huang, D.R. Harken, A.N. Cartwright, D.S. McCallum, J.L. Sánchez-Rojas, A. Sacedón, F. González-Sanz, E. Calleja and E. Muñoz, "Piezoelectric Optical Nonlinearities in Strained [111] InGaAs-GaAs Multiple Quantum Well p-i-n Structures," Nonlinear Optics: Materials, Fundamentals and Applications Conference, Waikaloa, HI (1994).
- 161. A.N. Cartwright, D.S. McCallum, A.L. Smirl, W. Tseng, J. Pellegrino, and J. Comas, "Scaling of the Nonlinear Cross Sections and Dynamic Range of GaAs/AlGaAs Hetero n i p i's," paper C20 7, March Meeting of the American Physical Society, Pittsburgh, PA (1994).

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- 162. A.N. Cartwright, D.S. McCallum, A.L. Smirl, W. Tseng, J. Pellegrino, and J. Comas, "Magnitudes of Optical Nonlinearities in GaAs/AlGaAs Hetero n-i-p-i's," paper P12 4, Interdisciplinary Laser Science Conference (ILS-IX), Toronto, Canada (1993).
- 163. A.L. Smirl, D.S. McCallum, A.N. Cartwright, T.F. Boggess, T.S. Moise, L.J. Guido, R.C. Barker and B.S. Wherrett, "Optical Nonlinearities Associated with Piezo-electric Field Screening in [111] Strained-layer InGaAs/GaAs Quantum Wells," paper QFB4, Quantum Optoelectronics Conference, Palm Springs, CA (1993).
- 164. A.N. Cartwright, D.S. McCallum, X.R. Huang, T.F. Boggess, A.L. Smirl, and T.C. Hasenberg, "Enhanced Ambipolar In-plane Transport in a Hetero n i p i," International School of Material Science and Technology, NATO Advanced Studies Institute, "Nonlinear Optical Materials and Devices for Application in Information Technology," Ettore Majoranna Centre for Scientific Culture, Erice, Sicily, July (1993).
- 165. D.S. McCallum, A.L. Smirl, A.N. Cartwright, T.F. Boggess, T.S. Moise, L.J. Guido, R.C. Barker and B.S. Wherrett, "Comparison of Optical Nonlinearities in [111] Strained InGaAs/GaAs Quantum Wells," paper Q28 1, March Meeting of the American Physical Society, Seattle, WA (1993).
- 166. A.N. Cartwright, D.S. McCallum, X.R. Huang, T.F. Boggess, A.L. Smirl, and T.C. Hasenberg, "Enhanced Ambipolar In-plane Transport in a Hetero n i p i," paper Q28 6, March Meeting of the American Physical Society, Seattle, WA (1993).
- 167. D.S. McCallum, A.N. Cartwright, T.F. Boggess, A.L. Smirl, T.S. Moise, L.J. Guido and R.C. Barker, "Magnitude and Evolution of Piezoelectric Nonlinearities in (111)-oriented Strained Multiple Quantum Wells," paper WD3, Nonlinear Optics: Materials, Fundamentals and Applications, Maui, HI (1992).
- 168. A.L. Smirl, D.S. McCallum, A.N. Cartwright, X.R. Huang, T.F. Boggess and T.C. Hasenberg, "Ultrafast Decay of Photodiffractive Gratings in Hetero n-i-p-i's by Enhanced In-plane Transport," paper, 8th International Conference on Ultrafast Phenomena, Antibes Juan-les-Pins, France (1992).
- 169. A.N. Cartwright, D.S. McCallum, X.R. Huang, T.F. Boggess, A.L. Smirl and T.C. Hasenberg, "Picosecond Dynamics of Photorefractive and Photoabsorptive Gratings in an All-binary InAs/GaAs Hetero n-i-p-i," paper C W K4, Conference on Lasers and Electro-Optics, Anaheim, CA (1992).
- 170. D.S. McCallum, X.R. Huang, A.N. Cartwright, D.R. Harken, T.F. Boggess, A.L. Smirl, T.C. Hasenberg and A. Kost, "Photorefractive and Photoabsorptive Nonlinearities in an All-binary Hetero n-i-p-i," paper S21 10, March Meeting of the American Physical Society, Indianapolis, IN (1992).

### **Contributions to Book Chapters**

- 1. J. Zeng, X. Wang, M. I. Shalaev, A. N. Cartwright, and N. M. Litchinitser, "Tailoring Nonlinear Interactions in Metamaterials," in *Nonlinear, Tunable and Active Metamaterials*, ed: Springer International Publishing, **200**, 217-235, (2015).
- A.N. Cartwright, A.H. Titus, "Integrated Optical Sensors for Biophotonics Applications," NATO Advanced Study Institute on Biophotonics, North Atlantic Treaty Organization Scientific Affairs Division, Brian Wilson (Editor), (2005).
- 3. M. Furis, A.N. Cartwright, "Quantum Dot Devices," Dekker Encyclopedia of Optical Engineering, Marcel Dekker, Inc., New York, NY 2188-2196 (2003).

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# PROPOSED EMPLOYMENT Agreement

SECTION 9



## EMPLOYMENT AGREEMENT

This Employment Agreement ("Agreement"), is entered into by and between the University of Central Florida Board of Trustees (the "Board," or the "Board of Trustees"), and Alexander Cartwright ("Dr. Cartwright") and shall become effective on April 13, 2020. The Board and Dr. Cartwright may hereinafter be collectively referred to as "the Parties."

### RECITALS

WHEREAS, the Board of Trustees has conducted an extensive nationwide and public search for the next President of the University of Central Florida ("UCF" or University); and

WHEREAS, the Board has offered Dr. Cartwright the position of President of UCF and Dr. Cartwright has accepted such offer subject to execution of this agreement and ratification by the Florida Board of Governors; and

WHEREAS, the parties desire to memorialize the terms and conditions of Dr Cartwright's employment as President of UCF in this agreement.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and conditions contained herein, and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**Section 1.0 Term.** The Board shall employ Dr. Cartwright as its President for a term beginning on April 13, 2020 and ending on April 12, 2025. This agreement may be renewed for additional one-year terms upon approval of the Board of Trustees and confirmation by the Florida Board of Governors following an annual review of performance.

**Section 2.0 Powers and Duties.** Dr. Cartwright shall be the President of the University, subject to UCF regulations and policies, and supervision by the Board. Dr. Cartwright shall have the powers and duties reserved to the position of President by the Delegation of Authority to the President dated May 2019 and as established from time to time by the Board (collectively, the "Duties").

### Section 3.0 Goals/Evaluation.

Section 3.1 Goals. On or before November 1 of each year, Dr. Cartwright shall provide to the Chair of the Board of Trustees' Compensation and Labor Committee (the "Committee Chair") a list of proposed goals and objectives for the upcoming year, as well as the next thirty-six (36) months. The Committee Chair and Dr. Cartwright shall discuss Dr. Cartwright's proposed goals and objective, after which time the Board, or a committee thereof, shall agree upon finalized goals and objectives for the upcoming year and the next thirty-six (36) months.

**Section 3.2 Evaluation.** Dr. Cartwright shall initiate the annual evaluation process by submitting to the Committee Chair a summary of his performance during the previous twelve months. Dr. Cartwright will submit the summary by November 1 of each year. This summary shall address performance related to each of the goals and objectives established for the previous year. After Dr. Cartwright has submitted this summary, the Board shall evaluate his performance during the previous appraisal period based primarily on his achievement of the mutually agreed upon goals and objectives and to a lesser extent such other criteria as the Board deems appropriate.

### Section 4.0 Compensation.

**Section 4.1 Annual Base Salary.** As compensation for the services to be performed by Dr. Cartwright pursuant to this Agreement, the Board shall pay Dr. Cartwright an initial annual base salary of \$600,000. No more of this amount than is allowed by Florida Statutes shall be paid from public funds. The base salary shall be

payable according to the pay plan for executive service employees at the University, with appropriate deductions for taxes and benefits. The Board shall review Dr. Cartwright's compensation in connection with the annual evaluation of his performance, as set forth in Section 3.2 of this Agreement.

Section 4.2 Deferred Compensation. While employed as University President, Dr. Cartwright shall receive annual deferred compensation equal to 20% of base salary, payable quarterly. To the maximum extent possible, this sum shall be provided through qualified plans (e.g. 403(b), 457, etc.). The material terms of the plan document shall provide for credited deferred compensation to be payable: (1) at the end of the initial contract term; or (2) upon the President's involuntary termination without cause; or (3) the President's death or permanent disability while in office; and shall further provide that the credited deferred compensation will be entirely forfeited if the President were to voluntarily resign prior to the end of the initial contract term or in the event the President were terminated for cause.

**Section 4.3 Incentive Compensation.** Dr. Cartwright shall be eligible for an annual incentive award, based on the accomplishment of the annual goals reasonably agreed to between Dr. Cartwright and the Board, as reasonably determined by the Board. The incentive bonus shall not exceed 50% of base salary.

### Section 5.0 Benefits.

**Section 5.1 Standard Benefits.** While employed as University President, Dr. Cartwright shall be eligible to participate in all present and future benefit plans maintained by the University for executive service employees. Such benefits shall include, without limitation, health care, disability and life insurance programs, retirement plans, tax-deferred savings plans, flexible spending accounts, and vacation and sick leave.

**Section 5.2 Business/Travel Expenses.** While employed as University President, the University shall cover the cost of Dr. Cartwright's reasonable business expenses, including professional dues, meetings, business travel, and entertainment, including travel for the President's spouse or partner where attendance of same is in the best interests of the University. All travel expenses paid with state funds shall conform to the laws of the State of Florida, University regulations and University travel policies.

**Section 5.3 Automobile**. While employed as University President, the University shall provide Dr. Cartwright with a monthly automobile allowance of \$1000, which will be increased five percent per year.

<u>Section 5.4 Relocation Expenses.</u> The University shall provide a one-time payment of \$50,000 for relocation-related expenses

Section 5.5 Executive Health and Wellness Program. Dr. Cartwright shall be entitled to participate in a Florida-based executive health and wellness program of his choice and shall be entitled to reimbursement of any amounts not covered by his current health insurance policy.

Section 5.6 Club/Association Memberships. The University will provide, from non-state funds, the cost of annual dues and membership fees for mutually agreed upon private club memberships that will facilitate the performance of President's duties. The University will also pay any dues for professional organizations that the President joins for the benefit of the University.

**Section 5.7 Documentation**. Dr. Cartwright shall provide receipts and other supporting documentation for all expenses for which he is seeking reimbursement, in accordance with University or UCF Foundation policies.

**Section 6.0 Housing.** For the benefit and convenience of the University in having the functions of the Office of President most efficiently discharged, while employed as University President, Dr. Cartwright shall reside in the University-owned Burnett House, at the University's expense, during the term of this Agreement. The University shall provide staff with responsibilities for grounds-keeping, repairs, housekeeping services, and general maintenance of the Burnett House and cover all related expenses, including utilities.

For the convenience of the University, the Burnett House shall be available and shall be used for Universityrelated business and entertainment on a regular and continuing basis. Costs associated with such University

events shall be paid by the University. If it is not feasible to entertain at the Burnett House due to a large number of invited guests, the University shall provide Dr. Cartwright with another location suitable to host such events and will bear the costs.

Section 7.0 Outside Activities. Dr. Cartwright agrees to faithfully, industriously, and with maximum application of experience, ability, and talent, devote full-time attention and energies to his Duties as President. The expenditure of reasonable amounts of time for personal or outside business, as well as charitable and professional development activities, shall not be deemed a breach of this Agreement, provided such activities do not interfere with the Duties. Dr. Cartwright shall not engage in any activity that may be competitive with or adverse to the best interests of the Board and the University.

With prior approval from the Board, and subject to state statutes regarding conflicts of interest/commitment, Dr. Cartwright may serve on up to two (2) boards of directors of for-profit corporations. Any and all income or other compensation earned by Dr. Cartwright in connection with board service shall be paid to and retained by him, and such income or other compensation shall have no effect on the amount of salary, compensation, and benefits (he/she) is otherwise entitled to receive hereunder. Dr. Cartwright shall use annual leave when attending to matters pertaining to such personal service if it is during normal work hours and requires a half day or more. Dr. Cartwright may also serve on any national, state or local boards which further the interests of UCF and such service shall not be deemed personal in nature.

**Section 8.0 Tenure.** Dr. Cartwright will be granted a tenure with hire faculty appointment at the rank of professor in the Department of Electrical and Computer Engineering, College of Engineering and Computer Science, with all rights and privileges associated with such appointment.

### Section 9.0 Termination/Resignation

<u>Section 9.1 Termination for Cause.</u> The Board may terminate this Agreement and Dr. Cartwright's employment hereunder for Cause. Cause for this purpose shall mean any one or more of the following:

- A. Neglect or inattention by Dr. Cartwright to the duties of President of the University or Dr. Cartwright's refusal or unwillingness to perform such duties in good faith and to the best of Dr. Cartwright's abilities after reasonably specific written notice of such neglect or inattention has been given to Dr. Cartwright from the Chairman of the Board of Trustees and Dr. Cartwright has continued such neglect or inattention during a subsequent period specified by the Board of not less than sixty (60) days; or
- B. Material, significant or repetitive violation or breach by Dr. Cartwright of this Agreement; or
- C. Conviction, a plea of guilty, or a plea of nolo contendere by Dr. Cartwright to a felony, or to a misdemeanor involving moral turpitude; or
- D. Fraud or dishonesty of Dr. Cartwright in the performance of his duties or responsibilities hereunder; or
- E. Fraud or dishonesty of Dr. Cartwright in the preparation, falsification or alteration of documents or records; or
- F. FKnowing failure by Dr. Cartwright to obtain prior approval for outside activities as required by law or this Agreement; or
- G. Commission of or participation in any act, situation, or occurrence by Dr. Cartwright which brings Dr. Cartwright into public disrepute, contempt, scandal or ridicule or failure by Dr. Cartwright to conform his personal conduct to conventional standards of good citizenship, with such conduct offending prevailing social mores and values and/ or reflecting unfavorably upon the University's reputation and overall primary mission and objectives including but not limited to, acts of dishonesty, misrepresentation, fraud,

or violence that may or may not rise to a level warranting criminal prosecution by the relevant authorities.

In the event the Board determines there are grounds to terminate Dr. Cartwright for cause pursuant to subparagraphs B through G, the Board may terminate Dr. Cartwright's employment in any capacity with UCF and Dr. Cartwright shall no longer be entitled to receive any compensation under this agreement and shall forfeit any additional compensation accrued but not earned pursuant to paragraph 4.0. The Board may suspend Dr. Cartwright for a period not to exceed ninety (90) days for any one or more of the acts or omissions representing grounds for termination for cause under this sub-paragraph without waiving the right of termination. During a period of suspension under this sub-paragraph, Dr. Cartwright shall only be entitled to receive the base salary provided by section 4.1. If the Board terminates Dr. Cartwright's employment for Cause pursuant to subparagraph A, Dr. Cartwright may continue to be employed by UCF as a full professor with the compensation described in paragraph 9.3

Section 9.2 Termination Without Cause. The University may terminate this agreement without cause at any time for the convenience of the University upon the lesser of ninety (90) days prior written notice to Dr. Cartwright or the remaining term of the contract. In that event, Dr. Cartwright shall, at his discretion, either leave the University and receive a lump sum payment equal to twenty weeks of base salary and all accrued deferred compensation or return to faculty as provided in section 9.3, and also receive any deferred compensation accrued as of the date of termination. Dr. Cartwright's death or permanent disability as defined in Section 9.4, shall not constitute termination without cause.

**Section 9.3 Resignation as President.** In the event Dr. Cartwright resigns his employment as President of the University in a timely manner that is acceptable to the Board, and elects to return to the tenured faculty in a teaching, research or service role, Dr. Cartwright shall be paid the lower amount of (a) 81 % of his base salary or (b) a salary equal to the highest paid faculty member in the department to which Dr. Cartwright is relocating) and shall have the option of spending the first academic year (two semesters) immediately following his resignation on professional development leave, to prepare for his return to faculty. The professional development leave is subject to the terms and conditions of the University's professional development leave program, including, without limitation, Dr. Cartwright's agreement to repay the University any salary he receives while on leave if he does not return to the University for at least two consecutive semesters (excluding summers) immediately following participation in the program. No other benefits or compensation referenced in this Agreement shall continue other than standard benefits for faculty.

**Section 9.4 Permanent Disability/Death.** In the event Dr. Cartwright is unable to complete the term of this Agreement due to disability as defined in section 409A of the Internal Revenue Code, he shall be entitled to receive the amounts payable under the university's short term disability policy and continue to receive his base salary until his long term policy begins payment, not to exceed 90 days.

In the event of Dr. Cartwright's death during his service as President, his spouse shall be entitled to remain in the University-owned residence for up to ninety (90) days after Dr. Cartwright's death. The Board, in its sole discretion, may extend this ninety (90) day period.

Section 10.0 Dispute Resolution. The Board and Dr. Cartwright agree that if any dispute arises concerning this Agreement, they will first attempt in good faith to resolve the dispute to their mutual satisfaction within 60 days. If they are unable to do so, the Board and Dr. Cartwright agree that they will submit the dispute within 30 days following end of the informal resolution period, to binding arbitration in Orlando, Florida, in accordance with the Commercial Arbitration Rules of the American Arbitration Association then in effect. The Board and Dr. Cartwright agree that an arbitrator may not be a University employee or have any material ongoing relationship with the University. The filing fee and all costs of the arbitration and the arbitrator(s) fees shall be divided equally between the parties. Each party shall bear their own costs of any legal fees associated with the dispute and the arbitration proceeding.

<u>Section 11.0 Notice</u>. Unless and until changed by a party giving written notice to the other, the addresses below shall be the addresses to which all notices required or allowed by this Agreement shall be sent to:

If to the University: Chair, Board of Trustees University of Central Florida 4365 Andromeda Loop N. Suite 308 Orlando, FL 32816 If to Dr. Cartwright: Dr. Alexander Cartwright, President University of Central Florida 4365 Andromeda Loop N. Suite 308 Orlando, FL 32816

Section 12.0 Severability/Waiver. If any portion of this Agreement shall be held to be invalid, inoperative, or unenforceable, then, so far as possible, effect shall be given to the intent manifested by the portion held invalid, inoperative, or unenforceable, and the remainder of this Agreement shall remain in full force and effect. No waiver or failure to enforce any or all rights under this Agreement by either party on any occasion shall constitute a waiver of that party's right to assert the same or any other rights on that or any other occasion.

**Section 13.0 Governing Law.** This Agreement shall be interpreted and construed, and the rights and obligations of the parties hereto shall be determined in accordance with the laws of the State of Florida, excluding its choice of law rules.

**Section 14.0 Counterparts.** This Agreement may be executed in counterparts, and by the parties on separate counterparts each of which, when so executed, shall constitute but one in the same instrument.

Section 15.0 Modification of Agreement. This Agreement represents the complete understanding of the parties and supersedes any previous or contemporaneous written or oral representations made by either party. There are no other promises, understanding, obligations, inducements, undertakings, or considerations between the parties or owed by either party to the other that are not set forth in this Agreement. This Agreement may be modified or amended only by mutual written consent of the parties.

<u>Section 16.0 Personal Contract.</u> The obligations and duties of Dr. Cartwright shall be personal and not assignable or delegable in any manner whatsoever. This Agreement shall be binding upon and inure to the benefit of Dr. Cartwright and his executors, administrators, heirs, successors, and permitted assigns, and upon the University and its successors and assigns.

**Section 17.0 No Trust Fund.** Nothing contained in this Agreement and no action taken pursuant to the provisions of this Agreement shall create or be construed to create a trust of any kind. To the extent that Dr. Cartwright acquires a right to receive payments from the University under this Agreement, the University's obligation to make such payments represents an unfunded promise or covenant to pay such amount running from the University to Dr. Cartwright.

**Section 18.0 Understanding of the Agreement.** Both parties represent that they have thoroughly read this Agreement, that they understand it to be a binding contract, that they understand each provision, term, and condition of this Agreement as well as its legal effect, and that they have signed the Agreement voluntarily and of their own free will with the intention to comply with its terms.

**Section 19.0 Disclosure of the Agreement.** Both parties agree and acknowledge that this Agreement may be subject to the Florida public records law, Chapter 119, or other provisions, and may, therefore, be subject to disclosure by and in the manner provided for by law.

**Section 20.0 Section 409A.** The parties intend that benefits under this agreement are to be either exempt from, or comply with, the requirements of Section 409A of the Internal Revenue Code and the regulations issued thereunder ("Section 409A"), and this Agreement shall be interpreted and administered in accordance with the intent that Dr. Cartwright not be subject to tax under Section 409A. If any provision of the Agreement would otherwise conflict with or frustrate this intent, that provision will be interpreted and

deemed amended so as to avoid the conflict. Any reference in this Agreement to "termination of employment", "separates from service" or similar phrase shall mean an event that constitutes a "separation from service" within the meaning of Section 409A. All reimbursements and in-kind benefits shall be provided in accordance with Treasury Regulation Section I.409A-3(i)(iv).

Section 21.0 Miscellaneous. The headings in this Agreement are for convenience only and shall not be used in construing or interpreting this Agreement. The terms "Board," "Board of Trustees" and "University" or "UCF" as used herein, where applicable or appropriate, shall be deemed to include or refer to any duly authorized board, committee, or officer of said entity. Whenever the context requires, the masculine shall include the feminine and neuter, the singular shall include the plural, and conversely.

Section 22.0 Board of Governors Ratification. This Agreement is subject to and shall not be enforceable until ratification by the Florida Board of Governors.

IN WITNESS WHEREOF, the President and the authorized representative of the Board of Trustees have executed this Agreement to be effective as of April 13, 2020

University of Central Florida Board of Trustees

Dv.		
Dy.		

Beverly Seay Chair, Board of Trustees Date: \_\_\_\_\_

Ву: \_\_\_\_\_

John R. Sprouls Chair, Board of Trustees Compensation and Labor Committee Date: \_\_\_\_\_

Ву: \_\_\_\_\_

Alexander Cartwright
Date: