

> A PREEMINENT RESEARCH UNIVERSITY

# The Evolution of a Research University

President Judy Genshaft and Senior Vice President Paul Sanberg Florida Board of Governors, June 2019

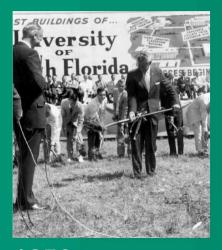
### **TOP 30 Public Research Universities**

- 1 U. Michigan, Ann Arbor
- 2 U. California, San Francisco
- 3 U. Washington, Seattle
- 4 U. Wisconsin-Madison
- 5 U. California, San Diego
- 6 U. North Carolina, Chapel Hill
- 7 U. California, Los Angeles
- 8 U. Pittsburgh, Pittsburgh
- 9 U. Minnesota, Twin Cities
- 10 Texas A&M U., College Station and Health Science Center
- 11 U. Texas M. D. Anderson Cancer Center
- 12 Ohio State U.
- 13 Pennsylvania State U., University Park and Hershey Medical Center
- 14 Georgia Institute of Technology
- 15 U. Florida

- 16 U. California, Berkeley
- 17 U. California, Davis
- 18 Michigan State U.
- 19 Rutgers, State U. New Jersey, New Brunswick
- 20 U. Texas, Austin
- 21 U. Illinois, Urbana-Champaign
- 22 Purdue U., West Lafayette
- 23 U. Arizona
- 24 U. Alabama, Birmingham
- 25 U. SOUTH FLORIDA, TAMPA
- 26 U. Maryland, College Park
- 27 Arizona State U.
- 28 Indiana U., Bloomington
- 29 Virginia Polytechnic Institute and State U.
- 30 North Carolina State U.

Source: National Science Foundation, Research Expenditures, 2017

## **USF's Trajectory**



1956 USF Founded

### 1971

USF President Cecil Mackey Jr. launches a new era of research at USF. U.S. Rep. Sam Gibbons spearheads the creation of the USF College of Medicine alongside the James A. Haley Veterans Hospital.

### 1994

USF earns Research II designation from the <u>Carnegie Foun</u>dation

### 1998

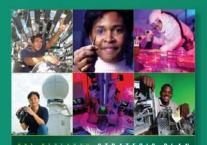
Florida Board of Regents identifies USF, UF and FSU as 'Research I' Universities

### 2000

Carnegie Foundation designates USF as a Research I university

- One of only 63 public universities in the highest tier
- Only Florida university designated Community Engaged

# **Reaching Goals**



USF SAME HORIN

### **2016** USF creates first research strategic plan among Florida public Universities



**2018** USF named a Florida Preeminent State Research University

## **ROI of a Research University**



- Supports Economic Development
- Strengthens the Social Fabric
- Builds Florida's National Reputation
- Draws Additional Top Students and Faculty

### Research Centers, More than 80



USF Health Morsani College of Medicine and Heart Institute



Neuroscience



Assistive Technologies



Cybersecurity



**Clean Energy** 

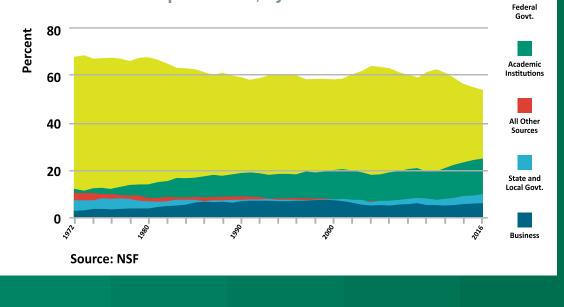


**Gulf of Mexico Research** 

# **Financial Resources are Key**

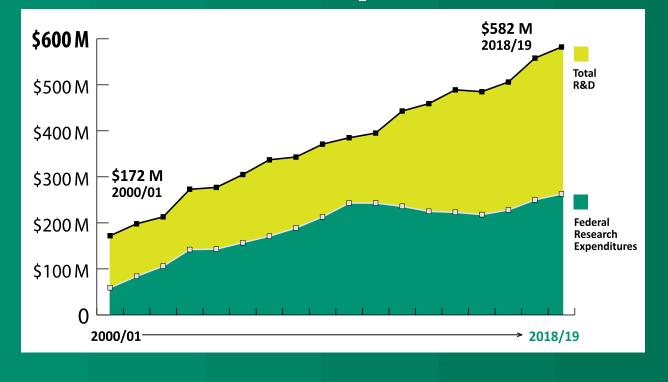
### Sources of Academic R&D funding

- Federal government (around 60%)
- Universities' and colleges' institutional funds
- State and local government
- Businesses and other organizations



### Academic R&D Expenditures, by source: FYs 1972-2016

## **Research Expenditures**



# **Congressional Support** is a Game Changer

\$331.6 million – from 2000 to 2010 – supported vital projects:



- \$54.2 million over 10 years Biological & chemical threats
- \$32 million over five years Functional genomics
- \$14.4 million over five years Underwater autonomous sensors
- \$35.9 million over six years Micro Electrical Mechanical Systems (MEMS) Sensors
- \$1.8 million in 2010 Battlefield-related injury translational research

# Partnerships Fuel Research Capabilities



## World Class Faculty are Central to Research Success



Dr. Jeffrey Krischer Division Chief, Morsani College of Medicine Informatics Institute Top funded NIH researcher worldwide



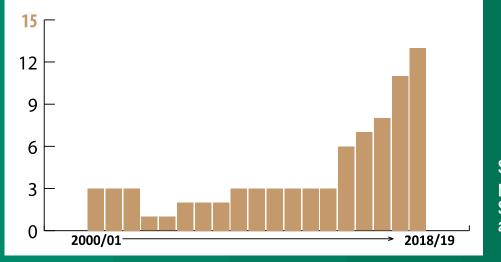
Dr. Sarah Yuan

Professor & Chair, Morsani College of Medicine Molecular Pharmacology & Physiology



**Dr. Ramon Gonzalez** Leads the Laboratory for Metabolic Engineering and Biomanufacturing Florida 21st Century World Class Scholar

# Members of the National Academies 2000/01 to 2018/19 – 333% increase



Source: <u>Natio</u>nal Academies of

Science, Engineering, and Medicine

## Faculty National Awards



## Building a Culture of Innovation



- National Academy of Inventors 1,060 NAI Fellows; over 250 institutions worldwide.
- USF Research Park In the past five years, USF has facilitated the formation of 51 startup companies.

### Inventors Commons

Home of the Florida Inventors Hall of Fame and Inventor's Walk, celebrating Florida's history as a state of innovation and 400+ USF inventors.

### Student Innovation Incubator

Serves more than 25 student companies annually with training through the national I-Corps, entrepreneurial mentoring and business support.

# **Experiential Learning** for Undergrads

- Undergraduate Research Conference 495 student presenters; 336 poster presentations; 13 colleges represented.
- USF Undergraduate Research Society A student-led effort in 2017, now is USF's largest student organization at 1,600 members.
- USF/Howard Hughes Medical Institute (USF-HHMI) STEM Academy

A five-year grant provided a week-long program for more than 1,000 first-year STEM students with a special emphasis on first-generation scholars.



### The Path Forward for Research Universities

- Create Partnerships Federal; universities; private sector
- Write a Strategic Plan Mission, vision and values for success with accountability and metrics
- Update Tenure and Promotion To incentivize research and innovation goals

- Incorporate Research and Innovation Into undergraduate education
- Engage the Wider Community Explain benefits to the economy and quality of life
- Success Fuels Success Prestigious Institutions Average:
  - 65% higher grant application success rates
  - 50% larger awards (2018 Cold Springs Harbor's bioRxiv study)

