University of Florida

One Administrative View of I/UCRCs

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University of Florida

- Major, public, comprehensive, land-grant, research university
- Annual economic impact ~$8.76B/year; ~106,000 jobs.
- ~50,000 student in 16 colleges and 200+ research, service and education centers, bureaus and institutes
- $700 million in research expenditures in 2014
- ~300 inventions; 85 technology licenses; 17 spinoffs annually
- Cross-campus entrepreneurship and innovation programs - ~10-15 student spinoff companies annually
- Offensively challenged football team

“Research universities are the key to educational access for millions and underlie the economic and social growth that has seen our nation climb from a colony in rebellion to a global leader.”

Time Magazine-October 7, 2013
College of Engineering (COE) Academic Units

COE Departments
• J. Crayton Pruitt Family Biomedical (BME)
• Chemical (ChE)
• Computer & Information Science (CISE)
• Electrical & Computer (ECE)
• Industrial & Systems (ISE)
• Materials Science (MSE)
  - includes Nuclear Eng. Program (NEP)
• Mechanical & Aerospace (MAE)

COE Schools
• Engineering School of Sustainable Infrastructure & Environment (ESSIE)
  - includes Civil & Coastal Engineering (CCE) & Environmental Engineering Sciences (EES)

College of Agricultural and Life Sciences (CALS)
• Agricultural & Biological (ABE)
Engineering Faculty

276 Tenured/Tenure-Track Faculty

• Led by Dean Cammy Abernathy since 2009
• Over 55 faculty have won NSF CAREER or Young Investigator Awards, including 2 PECASE Awardees

College on the Move

• Preeminence designation by the State of Florida will bring in over 30 faculty members with expertise in:
  ‣ Advanced Manufacturing
  ‣ Autonomous Systems
  ‣ Big Data
  ‣ Cybersecurity
  ‣ Human Centered Computing
  ‣ Materials Innovation
  ‣ Renewable Energy & Storage
COE Research Awards by Prime Sponsor Type

$61.9M total for FY13-14

- Federal Agencies - $48.1M (78%)
- Corporations & Companies - $6.3M (10%)
- Florida State Agencies - $4.1M (7%)
- Local & Regional Gov't/Others - $2.6M (4%)
- Foundations & Societies - $800K (1%)
College of Engineering Enrollment – Fall 2014

Total UF Enrollment: 49,555
Total COE Enrollment: 8,644

COE has the second largest student population at UF

MS/PhD: 2,268
Undergraduate (UG): 6,376
COE – Strategic Plan

University of Florida College of Engineering – Powering the New Engineer

Shaping the future of the things that matter to you:
health, security, energy & the environment, educating tomorrow’s leaders and building a vibrant economy

How we are going to get there
- Grow enrollment in areas of high demand
- Develop innovative interdisciplinary programs
- Strengthen quality of undergraduate and graduate programs by enhancing experiential opportunities
- Increase diversity of engineering talent pipeline
- Foster a culture of leadership and encourage engagement in public policy
- Expand entrepreneurial contributions to community, region, state and nation

Initiatives
- UF Institute for Cellular Engineering and Regenerative Medicine
- UF Nanoscience Institute for Medical and Engineering Technology
- Florida Institute for Sustainable Energy
- Florida Institute for Resilient Coastal Communities
- University of Florida Transportation Institute
- Florida Institute for National Security
- Florida Institute for Networked Autonomous Systems
- UF Institute for Big Data and Informatics
- Florida Institute for Computational Engineering
- Bioinformatics, Engineered Systems, Informatics Tools and Techniques
- Hypercomputer High Performance Computing, CTSI
- Quantum Computing System
- Advanced Manufacturing
- Tools For Personalized Learning
- Workforce Development
- Service to Industry

UF Engineering Leadership Institute
UF Engineering Innovation Institute
UF Institute for Engineering Diversity and Inclusion
Engineering Industrial Experiment Station
Innovation Hub
College of Education, College of Fine Arts, College of Journalism and Communications, IFAS, UF Online
Engineering Nexus Building

Leading Edge Drivers
- Engineering the Brain
- Engineering the Living Cell
- Sustainable Energy Systems
- Resilient Coastal Communities
- Cybersecurity
- Autonomous Systems
- Biotechnology, Engineered Systems, Informatics Tools and Techniques
- Hypervisors High Performance Computing, CTSI
- Quantum Computing System
- Engineering Nexus Building

Partners
- McKnight Brain Institute
- Whitney Lab, College of Medicine
- IFAS, Office of Sustainability, Water Institute, Climate Institute
- Graham Center, IFAS
- College of Liberal Arts and Sciences
- Innovation Hub
- College of Education, College of Fine Arts, College of Journalism and Communication, IFAS, UF Online
- Engineering Nexus Building
Innovation

In Gator Engineering over the last five years:
• 556 invention disclosures submitted
• 904 US and Foreign patent applications submitted
• 266 US and Foreign patents issued
• 202 executed license and option agreements
  - ~25% were exclusive
• 35 start-up companies
  - 5-6 annually since 2000
• 2X the national average per research dollar in patents issued
• 4X the national average per research dollar in the number of start-up companies
NSF I/UCRCs

• I/UCRCs led by COE center directors:
  • Center for High-Performance Reconfigurable Computing (CHREC)
  • Center for Particulate and Surfactant Systems (CPaSS)
  • Cloud and Autonomic Computing (CAC) Center
  • Multi-functional Integrated System Technology (MIST) Center
• Additionally:
  • COE faculty members are project PIs in the Center for Cyber-Physical Systems for the Hospital Operating Room (CybHOR)
  • UF leads the I/UCRC in Advanced Forestry Systems

UF is one of two institutions with the most I/UCRCs as the Lead University Site out of the 65 active centers in the program
I/UCRCs – One Administrator’s View

How and why I/UCRCs support our strategic vision – why are they important
• An industry driven indicator of research of interest in current and future fields
• Fill the gap between basic research and industry applications
• Engage junior to senior faculty with industry

What you have done to promote the success of I/UCRCs
• Planning meeting support
• Industry Programs Office - Links to industry, Help with C&G

Benefits to the institution in the short and long term
• Industry recognition from NSF designation
• Gateway to further federal / industry funding
• A means to prove ourselves to industry
• Demonstrable innovation