Florida Atlantic University
College of Engineering and Computer Science
“Innovative Technologies and New Directions in Applied Research”
FAU Board of Trustees Meeting
January 26, 2012
New Trend: The Entrepreneurial University

- Industry trends: research funding drastically reduced – chances for universities
- Universities can only effectively become incubators of entrepreneurship and innovation if they themselves practice entrepreneurship
- This “re-conceptualization” involves non-traditional, often radical university arrangements
Our New Engineering Building

- Living lab with sensor systems
- Lecture hall
- 6 instructional engineering and computer labs
- 9 research labs
- Cloud computing
- Innovation lab
We Follow Technology Trends

- Cloud Computing
- 3D Technologies
- Augmented Reality
- High-Performance Computing
- Cyber Security
- Social Networks
- Mobile Systems and Applications
- Bioinformatics and Biotechnology
- Data and Web Mining
- And more …..

Our Cloud Computers

They are not in cloud, they are on the 1st floor

Our Apple Lab
New Programs & New Courses

- Master Program in Information Technology and Management (2010)
- Master Program in Media, Technology, and Entertainment (2011)
- Master Program in Bioengineering (2007)

- iPhone Programming
- Android Programming
- Blackberry Programming
- Game Programming
- Computer Animation
- Graphics Programming
- Cloud Computing
- Data Intensive Computing
Our Research and Innovation Strategy

- At College level: Innovation Leadership Program
- NSF Industry/University Cooperative Research Center (I/UCRC) for Advanced Knowledge Enablement
- Collaboration with R&D Park at FAU
- Industry Advisory Boards (College and Departments)
- Creating joint Industry-University laboratories
Industry partners pay the memberships ($5K to $50K++ per year)
NSF sponsors the Center ($60K to $200K per university per year)
Industry Advisory Board selects the research projects
Industry members select the products for commercialization – no royalties
Expectations: $750K from NSF + $7.5M from Industry (5 years)
Similar to MIT Media Lab model
Information, Communication, and Computing, 15 Centers in USA

Center for Autonomic Computing (CAC)
University of Florida, University of Arizona, Rutgers University

Center for Identification Technology Research (CITeR)
West Virginia University, University of Arizona

Center for Information Protection (CIP)
Iowa State University, University of California - Davis - Planned

Center for Advanced Knowledge Enablement
Florida International University, Florida Atlantic University

Center for Embedded Systems - Planned
Arizona State University, University of California - Irvine, Southern Illinois University - Carbondale, Southern Methodist University, University of North Texas, University of Texas - Dallas, State University of New York - Stony Brook, University of Texas - San Antonio

Center for Experimental Research in Computer Systems (CERCS)
Georgia Institute of Technology, Ohio State University

Center for Hybrid Multicore Productivity Research
University of Maryland - Baltimore County, Georgia Tech, University of California - San Diego

I/UCRC for Intelligent Storage - Planned
University of Minnesota, University of California Santa Cruz

High-Performance Reconfigurable Computing (CHREC)
University of Florida, The George Washington University, Virginia Tech University, Brigham Young University

Center for Software for Ultra Large Systems - Planned
University of Virginia, Michigan State University, Vanderbilt University, University of South Dakota

Wireless Internet Center for Advanced Technology (WICAT)
Polytechnic University, University of Virginia, Auburn University, Virginia Polytechnic Institute and State University.

Advanced Space Technologies Research and Engineering Center (ASTREC)
University of Florida and North Carolina State University
NSF-Sponsored I/UCRC Center for Advanced Knowledge Enablement

FIU + FAU (Total 25 industry members)

- **FAU Industry Members:**
  - LexisNexis ($80K + $900 equipment)
  - ProntoProgress ($60K)
  - Wigime, Inc. ($50K)
  - Relli Technologies ($100K)
  - SmartVCR, LLC ($50K)
  - ILS Technology ($30K)
  - Avocent/Emerson Corp. ($38K)
  - Jansyl Technologies ($5K)
  - Tecore Networks ($200K + $960K equipment)
  - Aware Technology ($20K)
  - Adventure Automation ($34K)
  - LastBestChance, LLC ($1M over 5 years)

- **New, potential members**
  - IBM ($46K)
  - MobileHelp (Scott Adams) ($46K)
  - SorenTech ($200K)

- **FAU:** 15 active research projects funded with $1M+ from industry members and $306K from NSF
Success Story:
Distributed Cloud Computing Study to Provide 3D Visualization Services for Climate Data on Demand

- NSF-sponsored project, jointly with FIU and University of Maryland
- New visualization techniques to provide 3-D temperature profiles
New Project: Smart Building Design

- NSF Center with industry partners ILS Technology and Aware Technology
- Using sensors and available measurements develop algorithms for power optimization and building management
- Expand the idea to Smart Campus project
Joint University/Industry Labs

- "Incubator as part of the Department"
- Examples - Motorola (2002-2010): Developing tools and techniques for mobile applications
- Tecore Networks (Jay Salkini): Research in mobile and wireless systems
- Pronto Progress (Tim Proksh): Developing Web services for customers
- LastBestChance, LLC (Mike Levine): $1M for 5 years to work on variety of innovative mobile products.
- New MOU with Telecommunication Industry Association (TIA)
Industry Courses

- Courses Taught by Industry
  - Data Intensive Computing (LexisNexis)
  - Enterprise Software Development (Citrix)

- Industry Training Courses
  - Android and iPhone/iPad Programming courses for LexisNexis and Siemens
  - Programming courses (C++, Java) for PaceAmerica
Interaction With Local Community

- College’s Engineering Scholars Program (ESP)
  - Has been in place for 14 years
  - 150 high school students from Palm Beach and Broward Counties take a dual enrollment engineering courses
- College offers STEM-related courses for middle school students during Summer
- College faculty have recently developed STEM curriculum for Broward County school system
- Provided one-day curriculum training to 50+ Math and Science school teachers and 6 school principals on January 6, 2012
Success Stories
SNMREC

- Southeast National Marine Renewable Energy Center (SNMREC) has more than 40 active partnership agreements
- SNMREC actively participates in Palm Beach Business Development Board
- SNMREC provides outreach activities to local, regional, national communities
- SNMREC provides assistance in educational curriculum development for K-12
Success Stories

- EdgeTech (a local company) has commercialized technology developed in the College and developed sonar systems.
- Hundreds of such systems have been sold.
- STTR for high bit-rate acoustic modems.
- EdgeTech’s business and size has grown in Florida.
- EdgeTech hires graduates from our College.
Success Stories
Our Graduates

Ralph de la Vega
CEO of AT&T Mobility

Jaime Borras
Ex-CTO of Motorola

Steve Swanson, NASA Astronaut

Students at FAU have created a number of iPhone and Android applications, approved by Apple and Google
Success Stories

Signing MOU with Telecommunications Industry Association (TIA), 2011
Our Industry Guests

- Dr. Zee Aganovic, CEO of Hiconversion
- Armando Escalante, CTO of LexisNexis
- Michael Levine, Entrepreneur and CEO of LastBestChance, LLC
- Fred Yentz, CEO of ILS Technology
- Dr. John Yin, CEO of PartnerCommunity