



Item: AS: I-4

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, December 15, 2015

SUBJECT: REPORT ON RESEARCH

PROPOSED COMMITTEE ACTION

No action is necessary. This item is only informational.

BACKGROUND INFORMATION

Dr. Daniel Flynn, Vice President for Research, will give a general update on the Division of Research.

IMPLEMENTATION PLAN/DATE

N/A

FISCAL IMPLICATIONS

N/A

Supporting Documentation: PowerPoint Presentation

Presented by: Dr. Daniel Flynn, VP for Research

Phone: 561-297-0268

Division of Research

Making Waves

Presented by Daniel Flynn, Ph.D.
Board of Trustees – Committee on Academic
and Student Affairs
December 15, 2015

FLORIDA ATLANTIC UNIVERSITY

Pillars/Institutes

Increasing FAU researchers' capacity to collaborate across disciplines and administrative domains

PILLARS AND PLATFORMS

These areas of focus will guide institutional goals and strategic actions.

Pillars | Platforms



Click individual pillars
and platforms for
more info

Pillars and Platforms

Pillars

- Sensor Systems
 - Director hired, Programs identified, faculty recruiting
- Healthy Aging
 - Director hired, Programs identified, faculty recruiting
- Neurosciences
 - Director hired, Programs identified, faculty recruiting
- Ocean & Environmental Sciences
 - Programs identified
 - Director search underway, faculty recruiting to follow

Platforms

- Big Data Analytics
 - Director named, steering committee identified
- Community Engagement & Economic Development
 - Director named, steering committee identified
- Leadership/Innovation/Entrepreneurship
 - Under development
- Undergraduate Research
 - Director named, steering committee identified
- Diversity
- Global Perspectives
- Healthy and Environmentally Sustainable campus
- Peace, Justice, Human Rights
- South Florida Culture

I-SENSE (Institute for Sensing and Embedded Network Systems Engineering)

Jason Hallstrom, Ph.D., director — Established January 2015

- Developing network of industrial partners, including Telit and Atmel, both global companies working in the Internet of Things
- Creating a network of FAU collaborators.
 - Led 9 federal proposals, involving about 20 FAU faculty, from some 9 departments/institutes, — and OIT, Scripps, Max Planck and an industry partner (Tyco)
- Hired chief engineer, director research programs and services, and identified four program leaders, including faculty from medicine, engineering and HBOI
- Co-recruiting faculty with civil engineering and medicine

I-HEAL (Institute for Health Aging and Lifespan Studies)

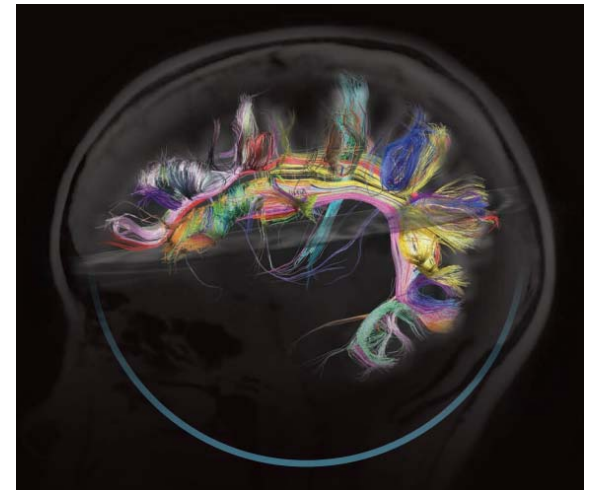
James Galvin, M.D., M.P.H, director — Established June 2015

- Establishing Clinical Trial Research Unit
- Submitting an NIH large center grant (U-54) on Dec. 15 to establish Transdisciplinary Collaborative Centers for health disparities research on chronic disease prevention - called Florida Consortium to Address Disparities Research and Education (CADRE)
- Creating Biostatistical Core and recruiting Core Leader
- Recruiting 8 faculty

I-BRAIN (FAU Neuroscience Institute)

Randy D. Blakely, Ph. D., executive director (Start date: May, 2016)

- Bringing \$1.5M in research funding
- 13 patents pending and/or awarded
- Already recruiting faculty – each hold multiple federal grants



Ocean Science and Engineering/Environmental Sciences

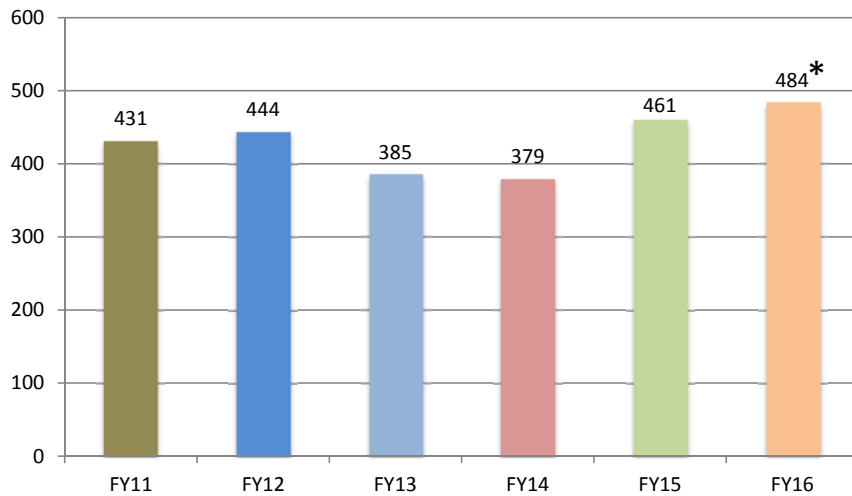
- National search underway for director/executive director



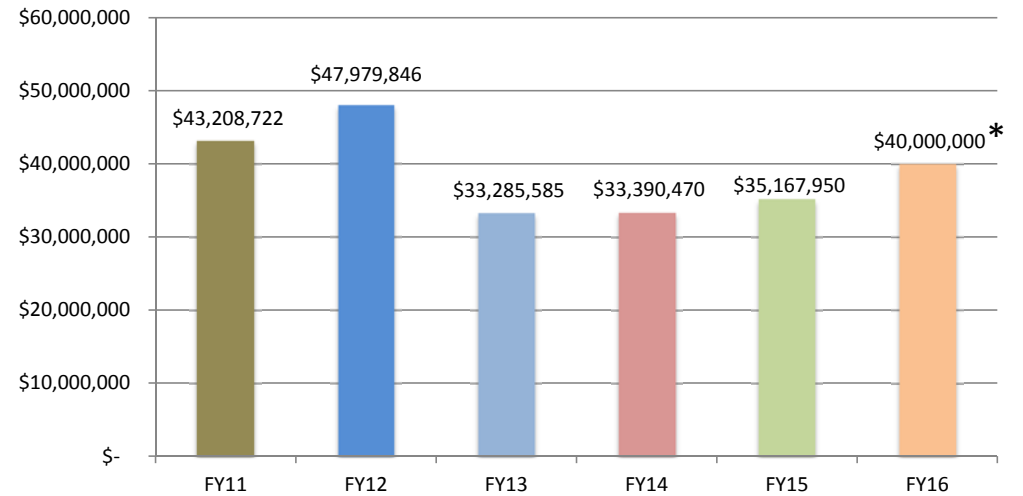
Grants Activity

Grants Submitted and Awards

Grant Proposals Submitted



FAU Research Awards



* Pro-rated based on Q1 activity

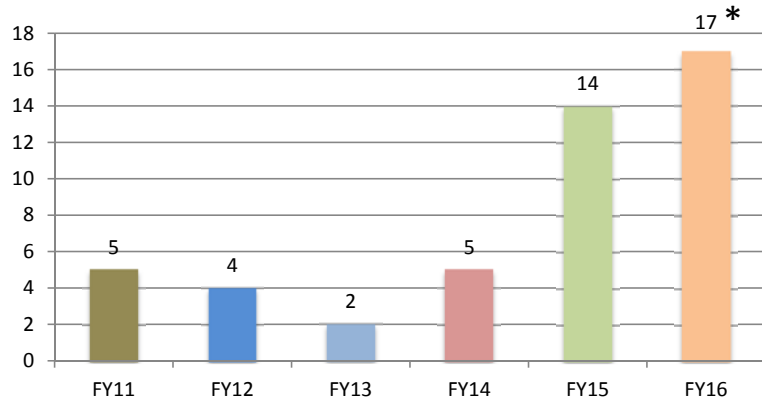
Top 5 Federal Agencies that provide grant support to FAU

Florida Atlantic University (FAU)	Funds Received	Funds Requested
U.S. DEPARTMENT OF EDUCATION	\$ 5,869,713	\$ 20,292,621
NATIONAL SCIENCE FOUNDATION	\$ 4,909,797	\$ 44,028,955
U.S. DEPARTMENT OF AGRICULTURE	\$ 4,068,890	\$ 4,528,912
HEALTH AND HUMAN SERVICES	\$ 4,039,070	\$ 57,001,763
U.S. DEPARTMENT OF COMMERCE	\$ 2,033,801	\$ 6,444,242

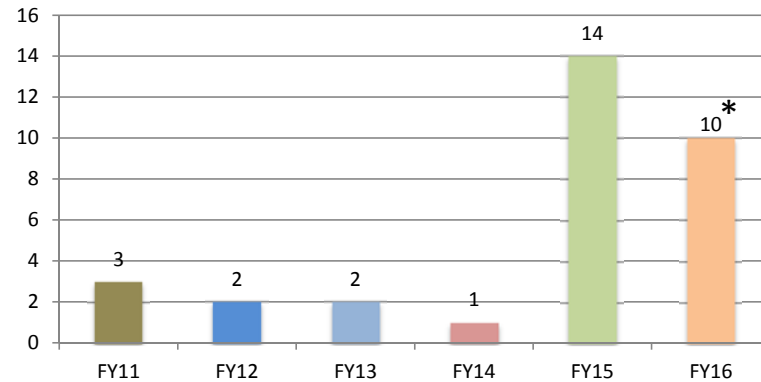
Technology Transfer Activity

Invention Disclosures & Provisionals Filed

Invention Disclosures



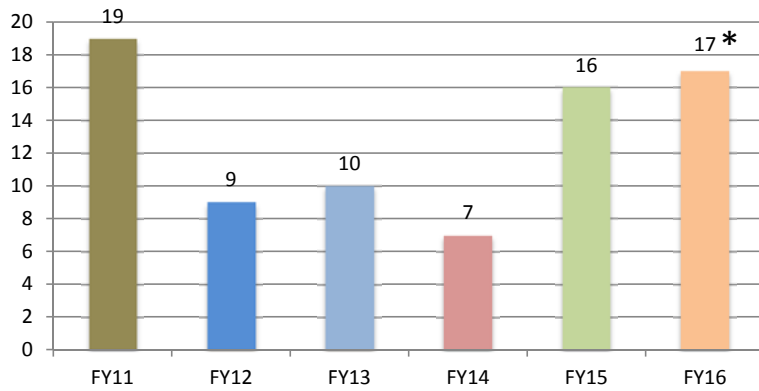
Provisional Patents Filed



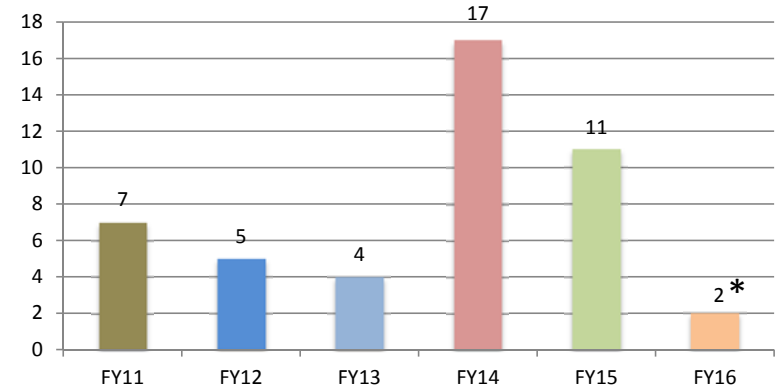
* Pro-rated based on Q1 activity

Patents Filed and Awarded

Patents Filed



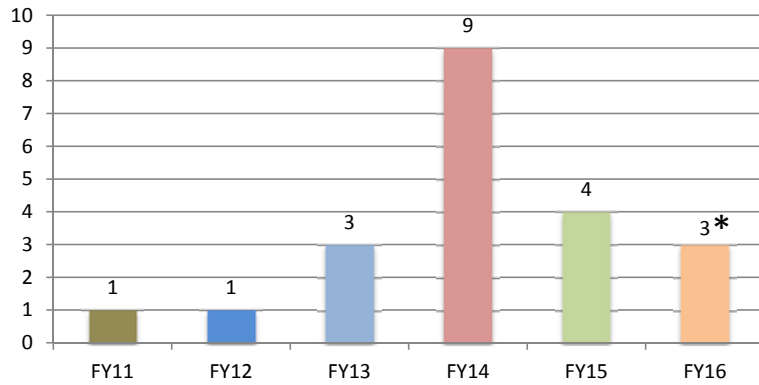
Patents Awarded



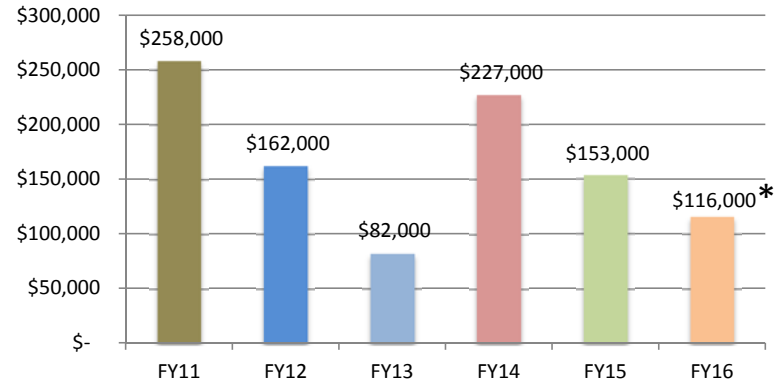
* Pro-rated based on Q1 activity

Licensing Deals and Royalties

Licensing Deals



Revenue - Royalties



* Pro-rated based on Q1 activity

Economic Development Activity

Start-Up Companies

- Forseti Biosciences, Inc. (2000)
- CHS Pharma (2005)
- Rose Pearl (2010)
- Interact TEAM Strategies, LLC (2013)
- Eco Neurologics, Inc. (2014)
- Circular Logic, LLC (2014)
- Zebra Pet, LLC (2015)

Tech Runway

Capital Investment as of 12/7/15: \$4.67 M

Media/Programs/Events as of 9/1/15

4 startup boot camps

15,242 mentor hours

65 vetted mentors

8,500 attendees to events

2.5M views

(Miami Herald, Entrepreneur Mag, Florida Trends)

Economic Impact

14 startups

\$6.565M in investment dollars

51 new jobs

\$75K/per year salary average \$\$\$

CAKE (Center for Advanced Knowledge Enablement)

- **Smart Building Optimization Systems And Algorithms** - The Engineering East power, HVAC systems, and the server room are heavily instrumented with hundreds of sensors to investigate the relationships between the outside environmental parameters and the power generated.
- **Distributed Cloud Computing: 3-D Visualization Services For Climate Data On Demand** – CAKE researchers have developed the capability to deliver a decade of 3-D gridded arrays of animated visualizations of spectral IR satellite radiance data from instruments on AQUA.
- **Asset Identification Using Image Descriptors** - A mobile/tablet-based solution is being developed to automate the process of asset identification by capturing the images of assets that can be searched an annotated database.

Research Highlights

Partnerships

- With Max Planck on a research and education program to recruit promising scientists to FAU's John D. MacArthur Campus in Jupiter
- With SK Telecom, South Korea's largest telecommunications company, on the development of secure communications using quantum physics
- With University MRI to provide FAU neurosciences researchers with access to the newest imaging technologies available today

New Grants

- \$620,000 NSF grant to increase the number of STEM undergraduates with the University of Central Florida and Western Carolina University
- A nearly a \$300,000 NSF grant as part of a three-year, \$2.2 million collaborative project with Lehigh University on the resilience of critical infrastructure
- A \$1.2 million U.S. Department of Education graduate program grant to better prepare teachers to work with Autistic children

New Grants

- A nearly \$190,000 grant from the Digital Trust Foundation, formed by Facebook, to collect national data on cyber bullying and teen dating violence
- A one-year Florida Department of Transportation \$187,000 grant to research the use of unmanned marine vehicles for on-water bridge inspections
- A two-year \$2.1 million contract with Otsuka America Pharmaceutical Inc. to study long-acting antipsychotic medication and 30-day hospital readmission rates