



Item: AS: I-4

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, February 1, 2022

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, with a focus on opportunities for expanded federal engagement.

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



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FAU Board of Trustees
FY22 Mid-Year Report
Roadmap to \$100M

Dan Flynn, Ph.D.
Vice President



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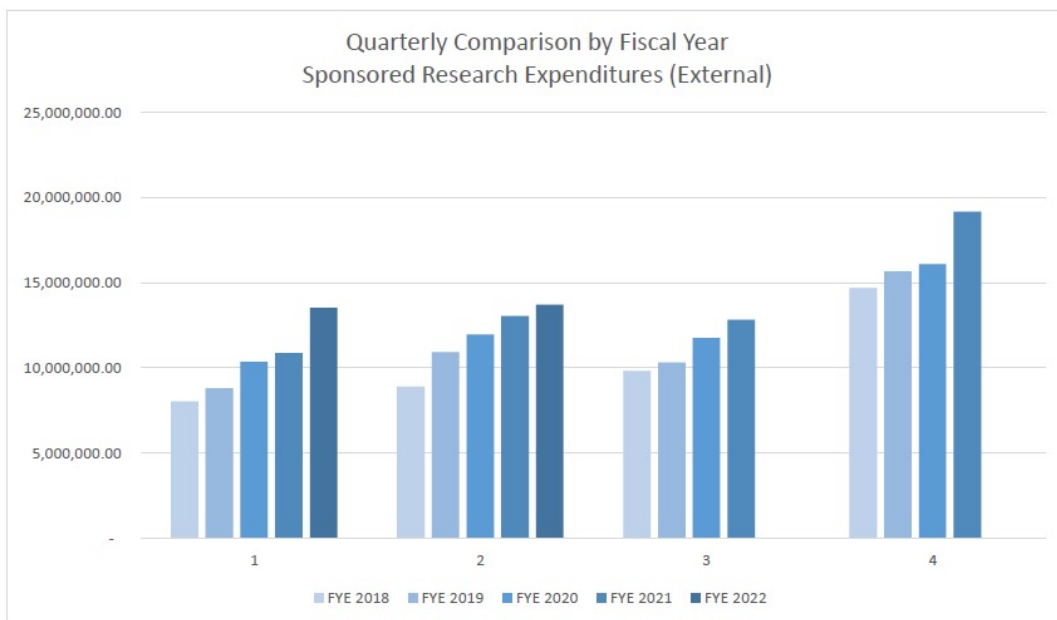
FY22 Mid-Year Report: FAU's Ascent to \$100M Continues

Mid-Year Comparison as of December					
Type of Sponsored Research Expenditure	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Sponsored Direct	14,263,839.01	16,564,641.01	18,709,188.68	19,805,335.59	22,859,192.64
Sponsored Indirect / F&A	2,676,279.67	3,159,713.51	3,612,408.75	4,134,954.87	4,381,799.48
Total Sponsored	16,940,118.68	19,724,354.52	22,321,597.43	23,940,290.46	27,240,992.12
		14%	12%	7%	12%

Total Research Expenditures



**Quarterly Comparison by Fiscal Year
Sponsored Research Expenditures (External)**

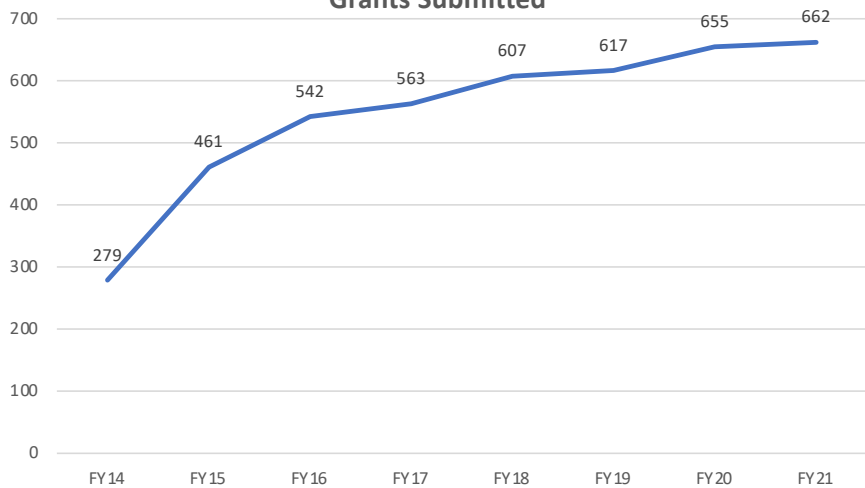




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FY22 Mid-Year Report: *FAU's Ascent to \$100M Continues*

Grants Submitted



Grant Awards (Total)





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FY22 Mid-Year Report: FAU's Ascent to \$100M Continues

Proposals Submitted by FY and Quarter - Report Summary						
FY	No. Proposals	Q1	No. Proposals	Q2	Total No. Proposals	Total
FY20	178	\$82,646,961	142	\$64,193,326	320	\$146,840,287
FY21	179	\$77,003,406	125	\$62,915,345	304	\$139,918,751
FY22	156	\$78,602,354	128	\$62,366,720	284	\$140,969,074
Awards Received by FY and Quarter - Report Summary						
FY	No. Awards	Q1	No. Awards	Q2	Total No. Awards	Total
FY20	137	\$20,269,891	114	\$13,365,883	251	\$33,635,774
FY21	137	\$38,884,548	73	\$ 8,771,294	210	\$47,655,842
FY22	130	\$21,763,845	90	\$11,703,093	220	\$33,466,938



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FY22 Mid-Year Report:
FAU's Ascent to \$100M Continues

A Significant Increase in Invention Disclosures

	CY19	CY20	CY21
Invention Disclosures	35	30	56
Provisional Patents Filed	35	13	20
Non Provisional patents filed	32	44	37
Patents Issued	3	1	7
Licenses & Options Executed	3	4	3

OPSolutions



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FY22 Mid-Year Report:
FAU's Ascent to \$100M Continues

Pillar *Action* Report



HBOI

Harbor Branch Oceanographic
Institute



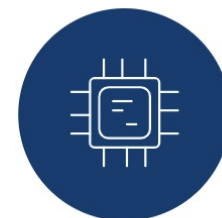
I-BRAIN

Stiles-Nicholson Brain Institute



I-HEALTH

Institute for Human Health
and Disease Intervention



I-SENSE

Institute for Sensing and
Embedded Network Systems
Engineering



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CONCEPTUAL RENDERING



I-BRAIN

Stiles-Nicholson Brain Institute

Approval by Board of Governors for Neuroscience Ph.D. Program

- FAU now one of only two universities offering in Florida
- Recruiting underway for Fall 2022 class, goal to recruit 8 graduate students
- Links Colleges of Science, Engineering, Medicine, Education and WHC and offers opportunities for students to work at MPFI and Scripps

Progression of New Research Facility in Jupiter

- Designed to house both wet lab/animals and dry lab/computational science
- Projected opening for scientist move in mid/late summer with ribbon cutting later in the Fall

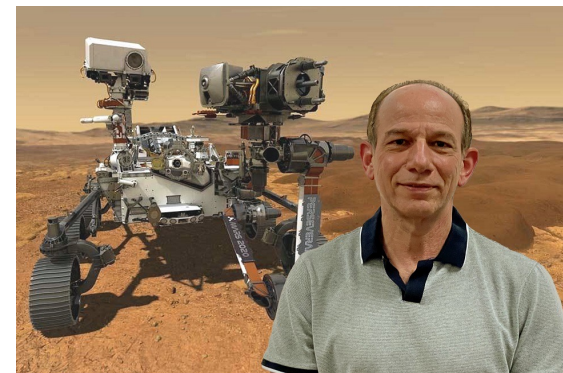
~\$15M FIRST Award Submission to Fund Additional Faculty Positions

- Partnering with I-Health, focused on two thematic areas:
 - Cancer Disparities (Fields)
 - Disparities in Substance Use, Abuse and Resiliency (Blakely)





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Awarded \$1.5M For Alzheimer's Research

- FAU is one of three institutions to receive funding from Governor's State Health Improvement Plan to study Alzheimer's drug delivery technology



I-HEALTH

Institute for Human Health
and Disease Intervention



Collaboration with NASA

- Working in collaboration with a team of scientists to ensure a "microbe-free" return of Mars samples



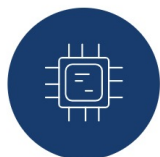
Cancer Center of Excellence Building BioBank

- BioBank building unprecedented sample supply from minority populations



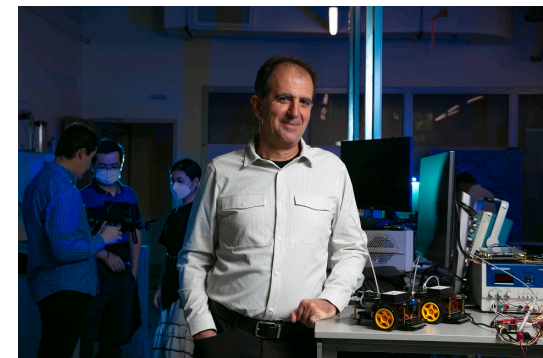


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I-SENSE

Institute for Sensing and
Embedded Network Systems
Engineering



Second I-SENSE Hire Receives NSF CAREER Award

- Yufei Tang received the NSF CAREER award for his physics-inspired AI work in the design and maintenance of marine and hydrokinetic energy systems

\$1M NSF Award for First Networked AI Testbed

- Center for Connected Autonomy and Artificial Intelligence developing new generation of networked, cooperating robots
- Connected robotic platform offers a unique research and training opportunity. Researchers from all U.S. universities will be offered remote access to the FAU platform for experimentation

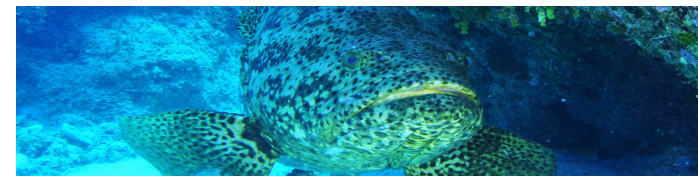
Expanding Atmospheric and Environmental Monitoring

- I-SENSE is the lead technology provider for the **Southeast Atlantic Econet**, a large regional network of weather monitoring stations managed in cooperation with Coastal Carolina University
- Nearly doubled its atmospheric sensing footprint in 2021, now supported by more than 200 stations
- Data used by NOAA to increase accuracy of weather forecasting systems along the Atlantic coast





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\$10M ONR Plus-Up for Coastal Defense Monitoring Pending Budget Approval



Established C-MATE to Facilitate Collaborations

- Center for Marine Applied Technology & Engineering
- Facilitates collaborations with private industry, defense contractors



HBOI

Harbor Branch Oceanographic
Institute

2nd DARPA Grant for \$800K+ In Process

- Under the DARPA “Redefense” program dealing with coral reefs and coastal defense



\$200K+ Donation from FPL Addressing Florida Manatee Starvation Issue

- IRL seagrass restoration research
- High-level of local, state, national press coverage on related HBOI research





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P3 *Action* Report

Defense

- L3 Harris
- Raytheon
- Boston Engineering

Aquaculture

- Zeigler Bros.
- Sea Ventures
- Pebble Labs

Health Science

- Memorial Health System
- ThermoFisher
- Nikon Center of Excellence

Engineering & Comp. Science

- SBA Communications
- OPSolutions
- K-Rain



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Translating Research to
Entrepreneurship and *Economic Development*



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FAU DIVISION OF RESEARCH

FAU INNOVATION AND BUSINESS DEVELOPMENT



IDEATION AND VALIDATION

- FAU WAVE COMPETITION
- BUSINESS PLAN PROGRAM
- UNDERGRADUATE RESEARCH
- MARKET VALIDATION PROGRAM (MVP)
- NATIONAL SCIENCE FOUNDATION (NSF) I-CORPS AT FAU
- SBIR/STTR



TECHNOLOGY DEVELOPMENT

- ONLY AVAILABLE TO FAU FACULTY, STAFF AND STUDENTS
- TECHNOLOGY ASSESSMENT
- MARKETING STRATEGY
- LEGAL PROTECTION
- LICENSING AGREEMENTS
- INVENTION DISCLOSURE



FAU TECH RUNWAY

- VENTURE PROGRAM
- MENTORING
- CO-WORKING SPACE
- ANGEL INVESTORS



FLORIDA SBDC AT FAU

- GOVERNMENT CONTRACTING
- ORGANIZATIONAL DEVELOPMENT
- ACCESS TO CAPITAL
- MARKET ENTRY



ECONOMIC DEVELOPMENT

- STRATEGIC PARTNERSHIPS



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FAU *WAVE*

Supported **180** student entrepreneurs since FY16

55% of students are from diverse backgrounds (Black, Hispanic, Asian)

19 students accepted into Tech Runway for their student startups

Some of the **19** students have competed for cash prizes and collectively won over
\$150,000 in pitch competitions around the state of Florida



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Tech *RUNWAY*

Mentoring Program

80 mentors, **2400** volunteer hours

Venture Program

Class 8 ('19-'21) **21** companies (5 student, 4 faculty) **\$2.9M** revenue, **18** patent applications, **55** new jobs created, **44** internships, **\$20.4M** capital raised

Class 9 ('20-'22) – **20** active companies (7 student, 1 faculty), **7** TR companies competed in FL Venture Forum Early Stage – most of any University

Tech Runway Investor Network (TRIN)

13 investors, **\$1500**/yr/investor

11 TR companies participated. 1 raised **\$295,000**

Facility

Assessing BRiC for TR Program

Satellite Location Opening in Boynton Beach Spring 2022

\$110,000 in grants to support facilities expenses



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Active Faculty *Companies*

BiuWave

- Oscar Curet
- Autonomous Underwater Vehicles

Extreme Comms Lab

- Dimitris Pados/George Sklivanitis
- Underwater WiFi

PQ Secure Technologies

- Reza Azarderakhsh
- Security systems for quantum computing

e-Spectoco

- Jason Hallstrom
- Ag monitoring products and forecasting services

MMP Biopharma

- Therapeutic strategies intended to cure osteoarthritis

Videopura

- Hari Kalva
- Video services with tech to reduce bandwidth needs for video services



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FY22 Mid-Year Report:
FAU's Ascent to \$100M Continues

Steps to *R-1 Classification*

145 Additional
STEM Research
Faculty

43,500 sq. ft.
Research Space
Expansion

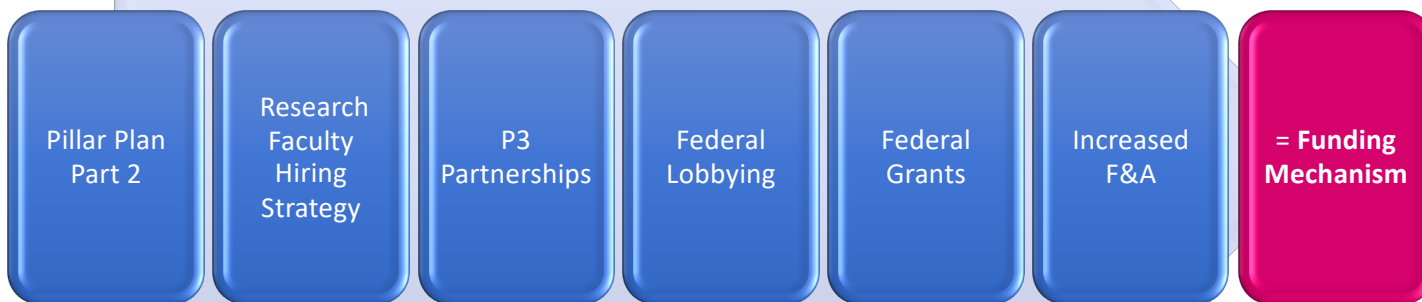
= \$100M



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Steps to *R-1 Classification*





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Thank you for your support!