

20
23

MOMENTUM REPORT

FLORIDA ATLANTIC UNIVERSITY



RESEARCH RISING



\$67.25M 

Research Expenditures
(external)



Art of Science Winners

Since its inception in 2019, the Division of Research Art of Science photography contest received almost **650** submissions. Displayed are five winners from 2022.

From top left: Creeping it Real by Jennifer Krill, Ph.D., university school assistant professor, FAU Lab Schools, College of Education; Triceratops Leg by Anton Oleinik, Ph.D., associate professor, Charles E. Schmidt College of Science; Nutritious and Delicious by Megan Davis, Ph.D., research professor, FAU Harbor Branch Oceanographic Institute, Tunnel Fishion by Clark Morgan, graduate student, Charles E. Schmidt College of Science, FAU Harbor Branch Oceanographic Institute; and Peek-a-boo by Sydney Bell, graduate student, Charles E. Schmidt College of Science, FAU Harbor Branch Oceanographic Institute.



FLORIDA ATLANTIC UNIVERSITY | DIVISION OF RESEARCH

The Division of Research supports and promotes Florida Atlantic research, scholarship and creative activity by providing faculty tools and resources to be competitive, setting strategic directions in research, ensuring responsible research practices and communicating the importance of research within and beyond the university. In addition, the division oversees four university-wide research institutes and is responsible for economic development and entrepreneurial activities involving faculty, staff, students and the broader university community.

The division is comprised of the following research administration offices:

- | | |
|-------------------------------------|------------------------|
| Comparative Medicine | Research Cores |
| Export Control | Research Development |
| Innovation and Business Development | Research Finance |
| Postdoctoral Affairs | Research Integrity |
| Research Accounting | Sponsored Programs |
| Research Communications | Technology Development |

FAU is designated a Hispanic-serving Institution, ranked as a top public university by the U.S. News and World Report and a High Research Activity institution by the Carnegie Foundation for the Advancement of Teaching.

For more information, visit www.fau.edu/research or email fauresearch@fau.edu.



Welcome to the annual Momentum Report for FAU's Division of Research. Florida Atlantic continues to make great strides and breakthroughs in discovery. The trajectory toward becoming an R1 institute is driven by faculty expertise as well as strategic collaborative efforts with powerful partners.

Florida Atlantic is now among Washington Monthly's top 50 universities in its annual College Guide, ranking No. 46 overall among the nation's best public and private universities for 2023. Those rankings are based on research and social mobility, as well as community and national service.

Join us as we celebrate this year's accomplishments and continue to build an environment of globally recognized research and scholarship, contributing to a better tomorrow for all.

Gregg Fields, Ph.D.

Vice President, FAU Division of Research



RESEARCH GROWTH

When it comes to research, Florida Atlantic is the answer. Through millions of dollars in grants from the federal and state government, as well as private sponsors, scientists at FAU are addressing society's biggest challenges. From discovering new drugs to treat cancer and

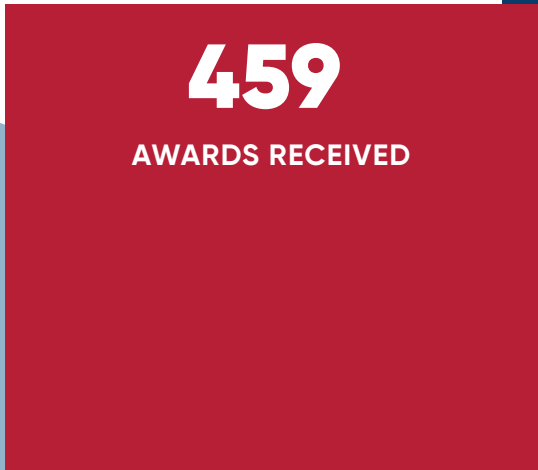
neurodegenerative disorders to understanding the impacts of environmental change, FAU experts are the driving force of it all. The innovative faculty and empowered students conduct research across 10 colleges, coupled with efforts of the four interdisciplinary research institutes.

Value of Research Awards Received





Number of Research Proposals and Awards Received FY22-23



Colleges Drive Research

Faculty members throughout Florida Atlantic's esteemed colleges drive the university's teaching mission and conduct scholarly research across a broad range of disciplines. Their successful work, coupled with FAU's four research institutes

(pages 8-11), make up an exciting and growing portfolio funded by major agencies such as the National Science Foundation (NSF), National Institutes of Health (NIH), U.S. Department of Education and more.

\$14.5M College of Engineering and Computer Science

\$5.9M Charles E. Schmidt College of Science

\$1.04M College of Business

\$12.4M College of Education

\$5.5M Christine E. Lynn College of Nursing

\$549K Graduate College

\$8.6M Charles E. Schmidt College of Medicine

\$2.1M Dorothy F. Schmidt College of Arts and Letters

\$347K College of Social Work and Criminal Justice

\$1.5M Harriet L. Wilkes Honors College

Florida Atlantic includes six campuses that stretch across 110 miles of Southeast Florida from Broward to St. Lucie counties. This unique stretch of Florida coastline covers a diversity of municipalities, industry clusters, cultures, communities and natural environments, which contribute to worldwide research activities and to living laboratory. FAU is categorized as a High Research Activity institution with four research

institutes that connect the colleges to enhance interdisciplinary and collaborative research. Using cutting-edge approaches, these areas are dedicated to improving and addressing brain diseases and disorders, enhancing human health and quality of life, protecting the oceans and environment locally and globally, and using sensors to study and monitor the world around us.

BE IN THE KNOW

Be in the Know

Watch researchers behind the scenes with **Science in Seconds**
Follow @FAUResearch on Instagram

41K+
VIEWS

55+
HOURS WATCHED



Launched in late August 2023, metrics reflect first six weeks.



Discover the stories of Florida Atlantic research on *Research Daily*



www.fau.edu/research/research-daily



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BRAIN INSTITUTE

Stiles-Nicholson Brain Institute

Transformational research at the Stiles-Nicholson Brain Institute yields insights into major neurological and mental illnesses, such as Alzheimer's disease and dementia, bipolar disorder and schizophrenia, mood and anxiety disorders, substance abuse and addiction. The institute provides a rich and varied intellectual environment where investigators and students make profound impacts on human health and well-being.

In addition, the institution's executive director, Randy Blakely, Ph.D., David J. S. Nicholson Distinguished Professor in Neuroscience, was recently awarded the prestigious Science Educator Award by the Society for Neuroscience.




\$4.4M

Developing screening tools for Alzheimer's diseases reflective of a patient's culture, through two grants, \$2 million from the NIH and \$2.4 million from the National Institutes of Aging.



\$100K

NIH Blueprint for Neuroscience Research program, called Blueprint MedTech, to develop non-invasive, non-opioid-based treatment for chronic pain.



To train the next generation of brain scientists, the FAU Stiles-Nicholson Brain Institute and Charles E. Schmidt College of Science launched the new Neuroscience Graduate Program.

I-SENSE

I-SENSE

FAU's Institute for Sensing and Embedded Network Systems Engineering (I-SENSE) serves as an innovation hub for sensing, computing, communication, artificial intelligence, connected autonomy and cryptography, providing technical expertise and engineering support. I-SENSE is tackling some of society's most pressing challenges, from safeguarding water systems and agricultural resources, to managing growing cities, to supporting health and wellness.

\$5M

Leading FAU's participation in the NSF Engineering Research Center for Smart Streetscapes

\$1.3M

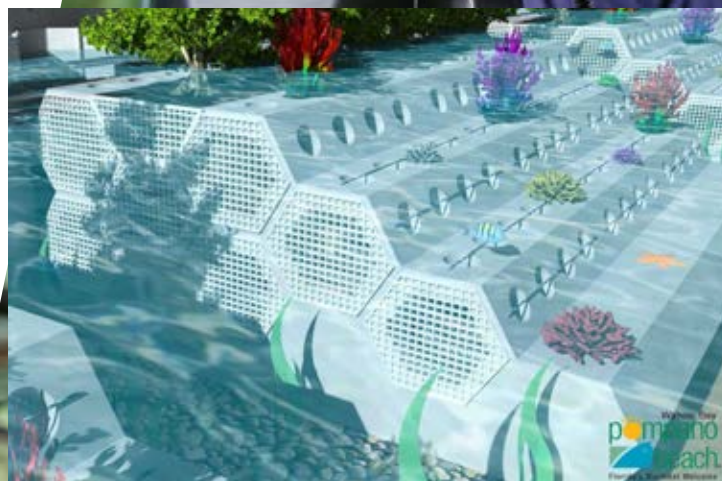
Developing technology that enables autonomous interference-avoiding connectivity of U.S. Air Force assets, through a grant from the Air Force Research Laboratory.

\$1.2M

Empowering amputees to control the full dexterity of artificial hands through a grant from the National Science Foundation.

\$1M

Researching smart technologies and products relevant to the energy sector through a gift from NextEra Energy Foundation, the charitable arm of Florida Power & Light company, to establish the FPL Center for Intelligent Energy Technologies.



Raising awareness to preserve and conserve natural coral reef systems through a grant from Shipwreck Park, a not-for-profit organization dedicated to the creation of an underwater park system establishing artificial reefs and utilizing public art.

HARBOR BRANCH

Harbor Branch Oceanographic Institute

FAU's Harbor Branch Oceanographic Institute prioritizes solution-oriented research addressing critical issues affecting coastal zones, oceans and human well-being. Research scientists take a global approach, conducting studies worldwide in varying climates, ecosystems and cultures, studying everything from tiny deadly bacteria and harmful algal blooms to critically endangered North Atlantic right whales.

Engineering advanced technology is critical to providing enhanced security across the nation. FAU Harbor Branch works with major defense contractors as well as the U.S. Department of Defense on coastal security projects to improve the Navy's ability to detect foreign enemies and other ocean-borne threats.

\$20.9M

Researching persistent maritime surveillance research from the U.S. Office of Naval Research.

~\$600K

Collaborator on a grant from the U.S. Department of Defense for a powerful high resolution imaging technique that can reveal nanoscale structures.

\$400K

Launched a public boat tour of the Indian River Lagoon aboard The Discovery, a 36-passenger pontoon, through a grant from the U.S. Environmental Protection Agency's South Florida Initiative Program.



\$2.8M

Establishing a queen conch hatchery in Grand Bahama with a gift from the Builders Initiative.



I-HEALTH

I-Health

Institute for Human Health and Disease Intervention (I-Health) leads novel intervention programs to provide patients and community with health care for everyday needs, as well as the most specialized services for complex diseases, illnesses and injuries, fueled by multidisciplinary collaborations.

I-Health focuses on patient-centered research that harnesses the power of research discovery, genomics, informatics, and clinical data to drive precision health. The specific research areas include cancer (through a Florida Department of Health Cancer Center of Excellence designation), infectious diseases, human health and dementia.

\$772.5K

Provide age-appropriate, culturally relevant information to diverse young breast cancer survivors through a grant from the National Institutes of Health

In recognition of the quality of Alzheimer's disease and related dementias research being conducted at FAU, I-Health and other colleges and institutes, formed the "New Horizons in Alzheimer's Disease and Related Dementias" Pilot Funding Program.



CANCER CENTER
of
EXCELLENCE

Florida
HEALTH

110

Through the partnership of Memorial Cancer Institute and FAU, the Florida Cancer Center of Excellence, more than **110** physicians and scientists opened more than **65** clinical trials that provide access to patients with new agents that are not yet approved by FDA.

\$248K

Researching epigenetics and resistance in an aggressive childhood leukemia in an effort to increase the five-year survival rate for high-risk patients.

Road to R1

As FAU strives to become a Research 1 (R1) university, a label given to universities meet benchmarks in research, educational activity and vital research staffing including postdoctoral fellows, as measured by the Carnegie Classification of Institutions of Higher Education. The universities receive funding, either federal or private, specifically for research.

Carnegie Classification of Institutions of Higher Education reviews existing R1 designations and new applications every three years. The next adjustment is expected in 2024 and FAU plans to earn that title for 2025.

R1 Classification Criteria Used by Carnegie Classification of Institutes of Higher Education:

- Research expenditures in STEM and non-STEM fields
- Doctorates awarded in science, technology, engineering and math (STEM) fields; social sciences, humanities; and other fields with a research emphasis

Florida Atlantic is on the precipice to achieve Carnegie Classification of Institutions of Higher Education's highest and most coveted Very High Research Activity status (R1) for the next adjustment in 2024.



www.fau.edu/research/road-to-r1

2025

Partnering to Advance Regional Healthcare

Florida Atlantic's Charles E. Schmidt College of Medicine and Broward Health announced a partnership agreement earlier this year to facilitate academic medicine initiatives, including clinical training, health services and research. Florida is currently facing a shortage of **60,000** nurses and more than **17,000** doctors in Florida and expected to be short nearly 18,000 physicians by the year 2035. Yet, Broward, Palm Beach and Martin county populations continue to grow.

Within FAU, the College of Medicine trains doctors for the community. Together with the recently launched FAU Health Network – including all 10 colleges at FAU – the medical school works to ensure the workforce of tomorrow and cutting-edge technology and innovation. Additionally, students in health sciences enrolled at FAU will have access to physicians and clinical facilities within Broward Health thanks to this agreement.

As part of the collaboration, FAU and Broward Health plan to explore opportunities for joint research and scholarship at the student and faculty level, community engagement, fundraising opportunities, and integrating academic medicine, first prioritizing the uninsured, Medicaid, and other vulnerable patients within the Institute's safety-net hospital.

FAU is not just a place to earn a degree, but it's also a major community and state resource to promote regional development, entrepreneurship and business growth, global partnerships, and social innovation. The university's continuum of services flows from student ideation to faculty companies and inventions, to real-world, large-scale businesses.

From innovation to commercialization, Florida Atlantic has built a robust pipeline for growth. Imagine, build, grow, expand and thrive with FAU's Innovation and Business Development programs:

- FAU Tech Runway
- Florida Small Business Development Center (SBDC) at FAU
- Florida APEX Accelerator at FAU
- Office of Technology Development
- FAU Wave
- FAU's Market Validation Workshop
- NSF I-Corps at FAU
- And strategic partners, like Adams Center for Entrepreneurship and Research Park at FAU

Register today to gain access to the services, resources and support offered by these programs.



www.fau.edu/innovation-and-business-development

NEWSMAKERS In the News

Florida APEX Accelerator at FAU launches as part of the Innovation and Business Development pipeline.

APLU Innovation and Economic Prosperity Universities appointed a representative from FAU to serve in an official committee role.

Discoveries Move to Market FY22-23

The Division of Research promotes, manages and protects intellectual property created by Florida Atlantic University faculty, staff and students.

40% 

Intellectual Property Agreements Executed

35% 

Patent Applications Filed FY22-23

FAU Chapter of the National Academy of Inventors won the 2023 Chapter Excellence Award.



QUICK FACTS QUICK FACTS

\$680M

Florida SBDC at FAU (since 2018) and FAU Tech Runway (since 2014) helped clients acquire **\$680M** through investments, loans, grants and government contracts, through July 2023.

10K+

Number of businesses that received Florida SBDC at FAU's direct business consulting, since 2018

550+

Community members and 25 organization supported between 2021 to 2023 by social innovation and grassroots programs

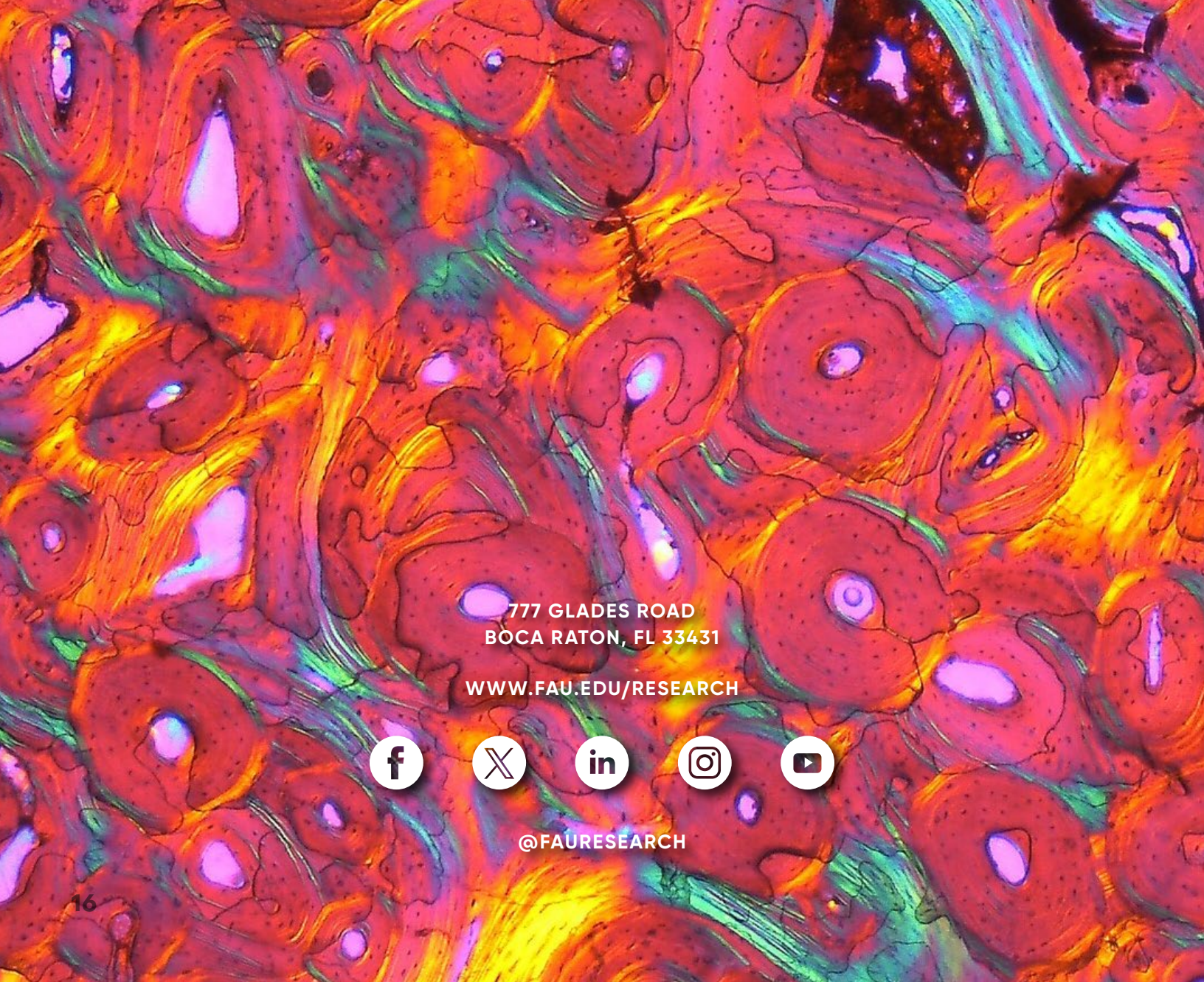
150+

Specialized consultants, mentors and professionals serving the regional development fueling the pipeline of resources

12

Locations with consultants, mentors and professionals serving Florida Atlantic's Innovation and Business Development pipeline





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