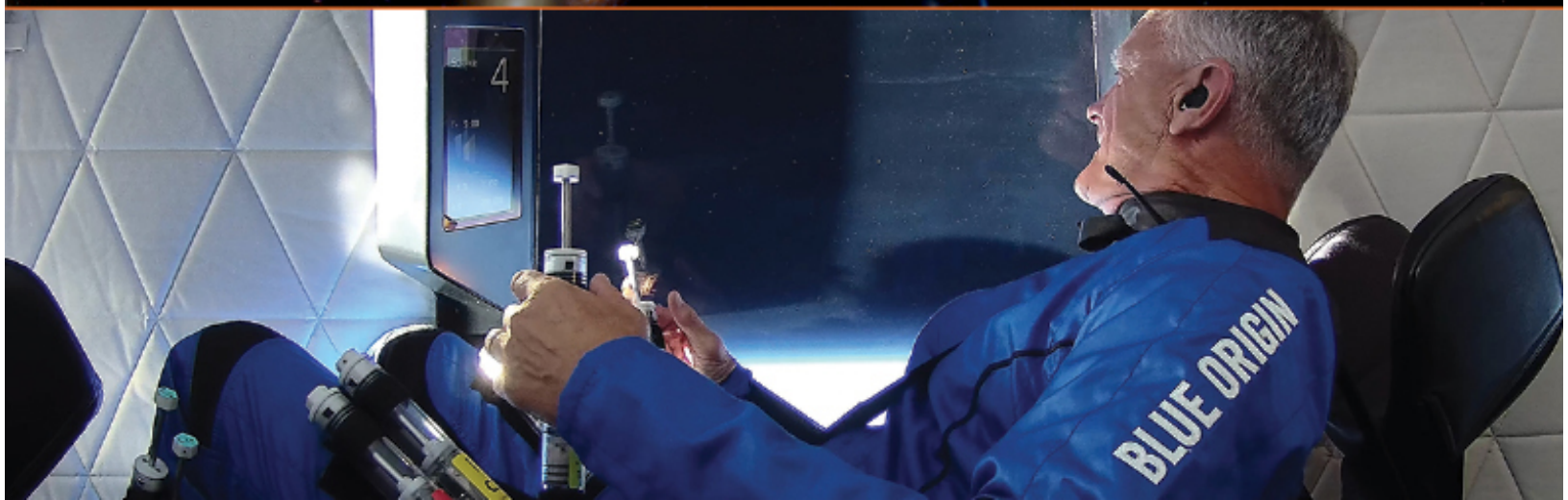
UF | Research
UNIVERSITY of FLORIDA

2024 ANNUAL REPORT



2024 Total Expenditures $1.26B

David Norton, Ph.D.
Vice President for Research

In 2024, University of Florida faculty members with a wide range of expertise in space-related research came together to form the UF Astraeus Space Institute. The institute is a hub in which scientists and scholars from across UF can collaborate, conduct research and innovate, and a prime example of how we are growing the UF Research enterprise.

UF has more than 100 faculty members conducting space research, including with all of the major National Aeronautics and Space Administration (NASA) divisions. In 2024, faculty secured more than $17 million in funding from NASA and millions more for space-related research from the National Science Foundation, the Department of Defense and other agencies.

Astraeus also contributed to the creation of the Florida University Space Research Consortium as the state's official space research entity. The consortium—which currently includes UF, the University of Central Florida and Embry-Riddle Aeronautical University—is poised to foster the relationship between NASA's Kennedy Space Center and Florida's universities to drive innovation in space exploration, research and technology through academic collaboration, joint

2024 Total Awards $1.14B

projects and workforce development.

In addition to their close relationship with colleagues at the Kennedy Space Center, UF researchers have strong connections to Space Florida and the International Space Station National Laboratory. They are also working to leverage UF's proximity to the growing commercial space ecosystem in Florida.

As the historical home to America's space program, Florida's space-related economy is growing rapidly. In 2024, 93 rockets launched from the Space Coast and that number is only expected to grow in 2025. Over 300 aerospace companies have located in Florida since 2022 and Space Florida predicts space will have a $5.9 billion impact on Florida's economy over the next five years as SpaceX, Blue Origin, United Launch Alliance and others grow their Florida businesses.

The institute has already given out more than $600,000 to support interdisciplinary seed projects that will propel UF's capabilities to the forefront of space research visibility, and it is working to recruit more world-class leaders in space science and technology to the university.

UF has a long and distinguished history of research in space—from low-Earth orbit to the moon and Mars and beyond, but this new institute provides a vehicle for a diverse group of researchers to collaborate in new and exciting ways. Astraeus positions UF to play an even more prominent role in space exploration research in the state, the nation, and the world.

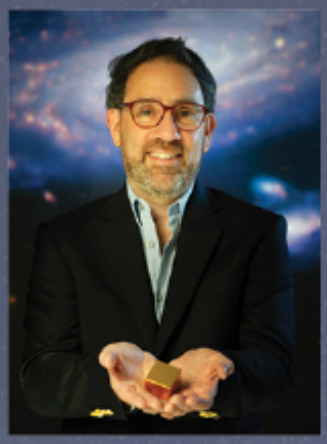
We anticipate development of even more multidisciplinary programs around the most important scientific challenges of the day, including artificial intelligence, cybersecurity, semiconductors, precision medicine and agriculture.

David Norton, Ph.D.
Vice President for Research

Examples of Astraeus Space Institute Research

Amy Williams, a UF astrobiologist and associate professor of geology, is one of just a handful of scientists to work on both the Mars Curiosity and Perseverance rover missions. Williams, an expert in organic geochemistry, has been at the forefront of the search for life's building blocks on Mars. Her team is using a NASA-built instrument that uses cameras, a spectrometer and a laser to scan for minerals and compounds that may hold evidence of past microbial life. Williams is helping to identify mineral samples that NASA and the European Space Agency are hoping to retrieve and return to Earth around 2033.

Rachel Seidler, a professor of applied physiology and kinesiology, is looking at how the human brain reacts to traveling outside Earth's gravity. In microgravity, body fluids shift toward the head and the brain presses against the top of the skull. This can lead to vision problems and conditions similar to accelerated aging. Recently, Seidler also started a NASA-funded study tracking space crews for five years after their flights. An array of brain scans, behavioral measures and eye evaluations are meant to reveal brain and eye changes and the long-term health effects of space travel.

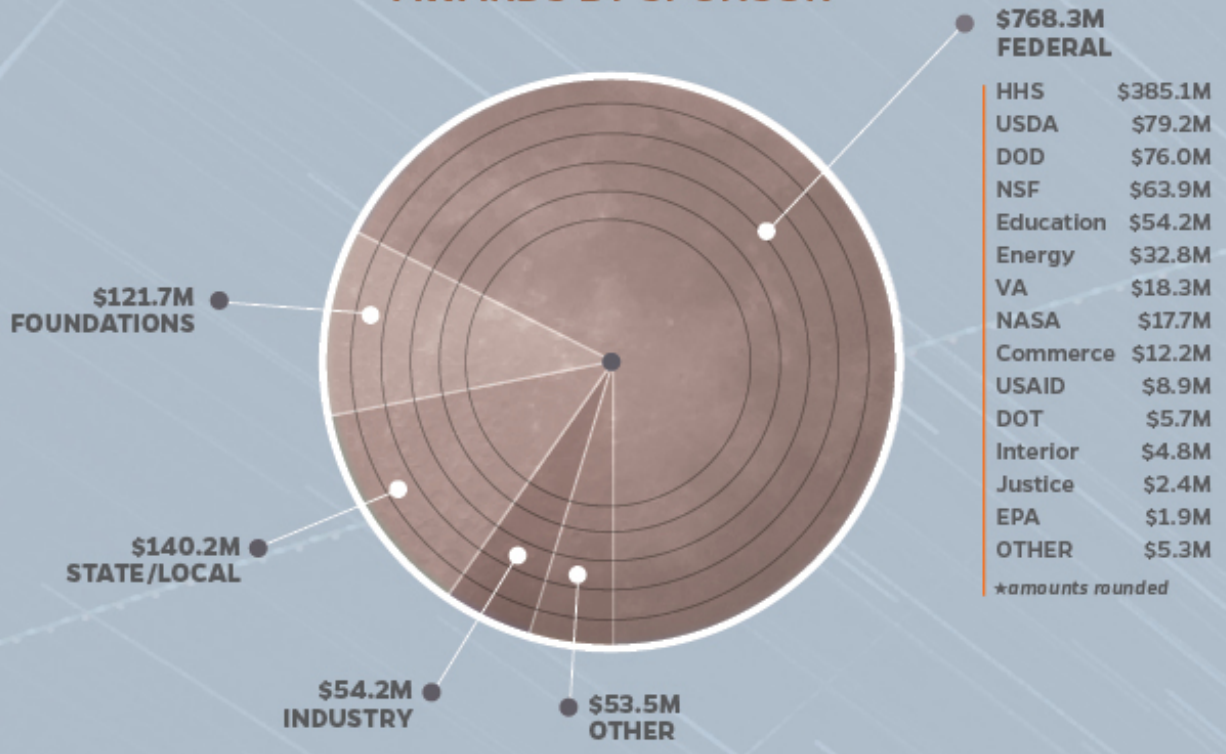


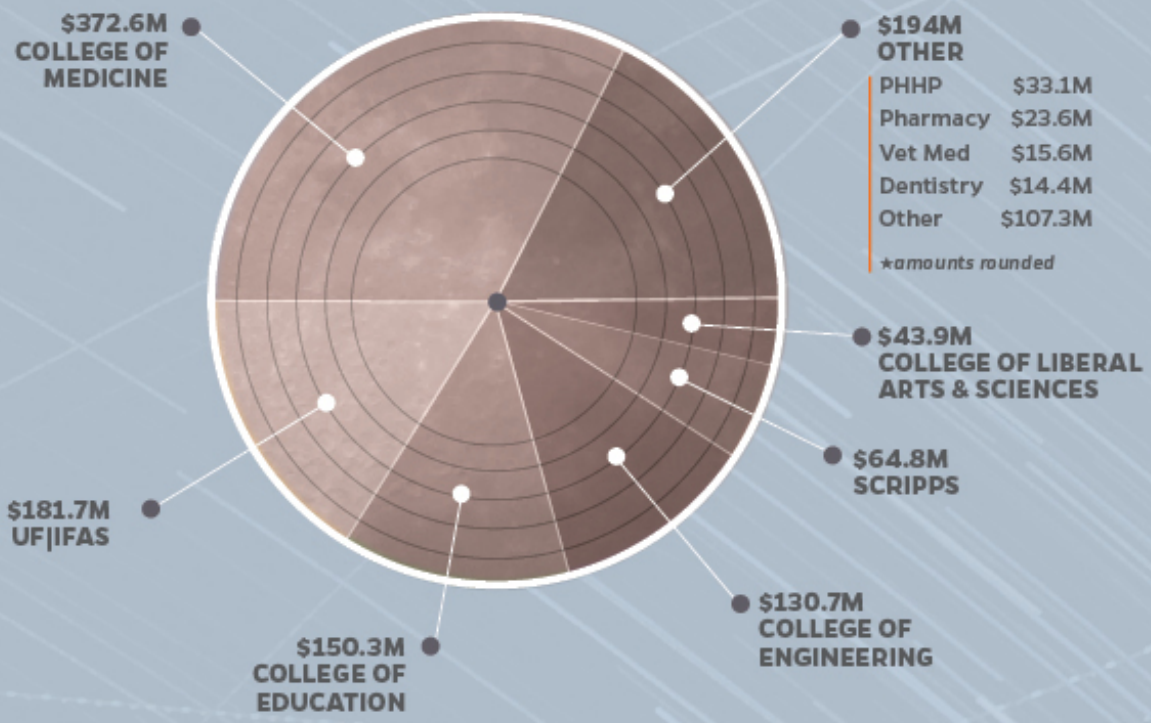
Mechanical and aerospace engineering Professor **John Conklin** is developing technologies to detect low-frequency gravitational waves that provide unique insights into the ancient, violent collisions of stars and black holes. Conklin's team is developing key technologies for LISA, the Laser Interferometer Space Antenna. The same type of instruments that focus on deep space can also be aimed at Earth to track changes in polar ice and water. Earlier this year, Conklin won a $12 million NASA grant to lead a team of UF researchers studying groundbreaking ways to detect changes in Earth's structure. Sensors that measure minute gravitational changes from space will be used to monitor the movement of water, ice and the Earth's tectonic plates.

Andrew Schuerger, a professor of plant pathology, has created a little bit of Mars inside a stainless steel device about the size of a washing machine called the Planetary Atmospheric Chamber. Schuerger is able to mimic the pressure, UV radiation, temperature, gas and dust conditions organisms from Earth — microbes, plants and astronauts — are likely to experience on Mars. His goal: Prevent humans from contaminating Mars and prevent anything on Mars from contaminating Earth.

*Featured on the cover: From top, **Christopher "Chrispy" Peterson**, Assistant Professor of Mechanical & Aerospace Engineering; **Siobhan Malany**, Associate Professor of Pharmacodynamics; **Anna-Lisa Paul**, Professor of Horticulture and Director of UF's Interdisciplinary Center for Biotechnology; **Rob Ferl**, Distinguished Professor of Horticulture and Director of UF's Astreaus Space Institute.*

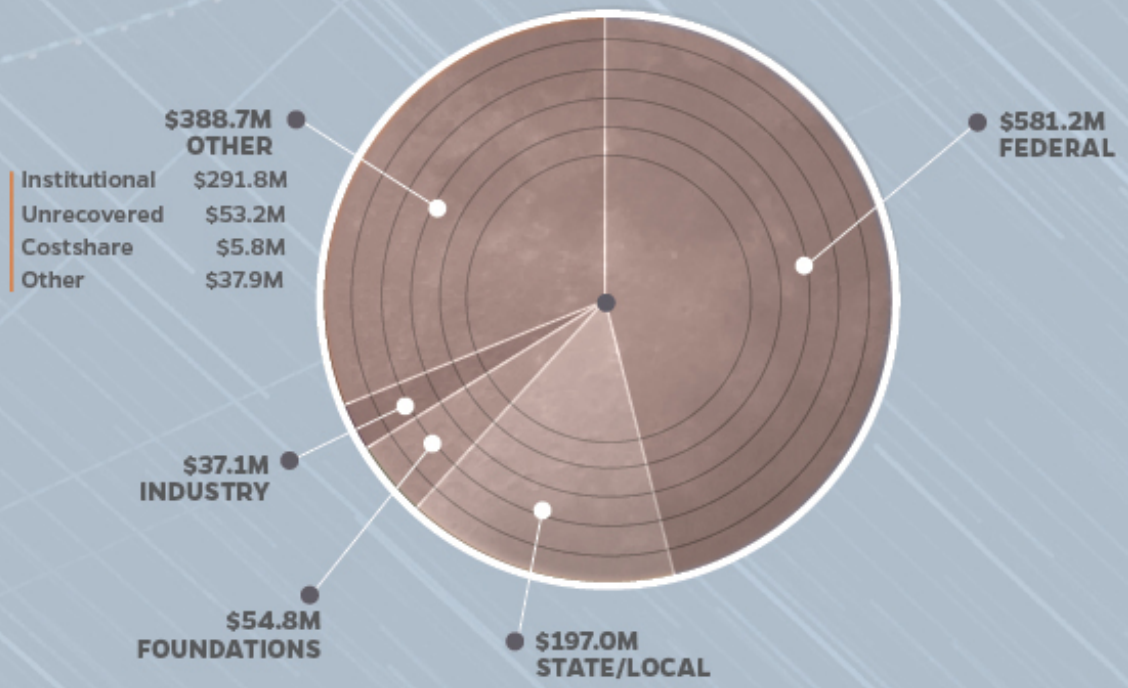
2024
AWARDS BY SPONSOR

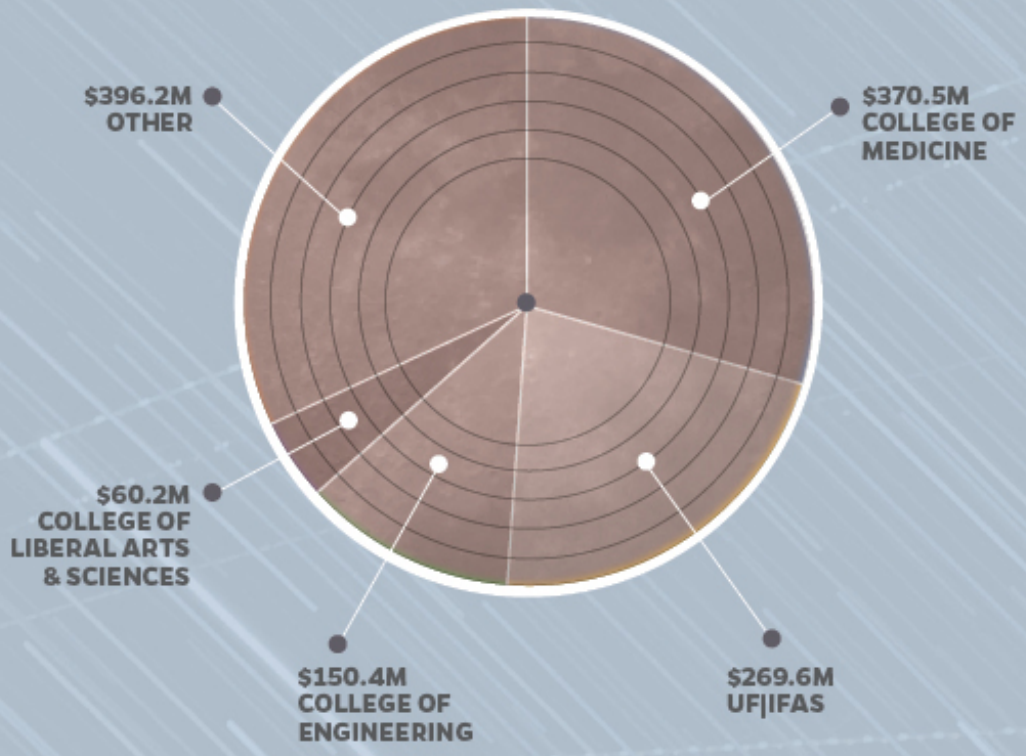




2024
AWARDS BY ACADEMIC UNIT

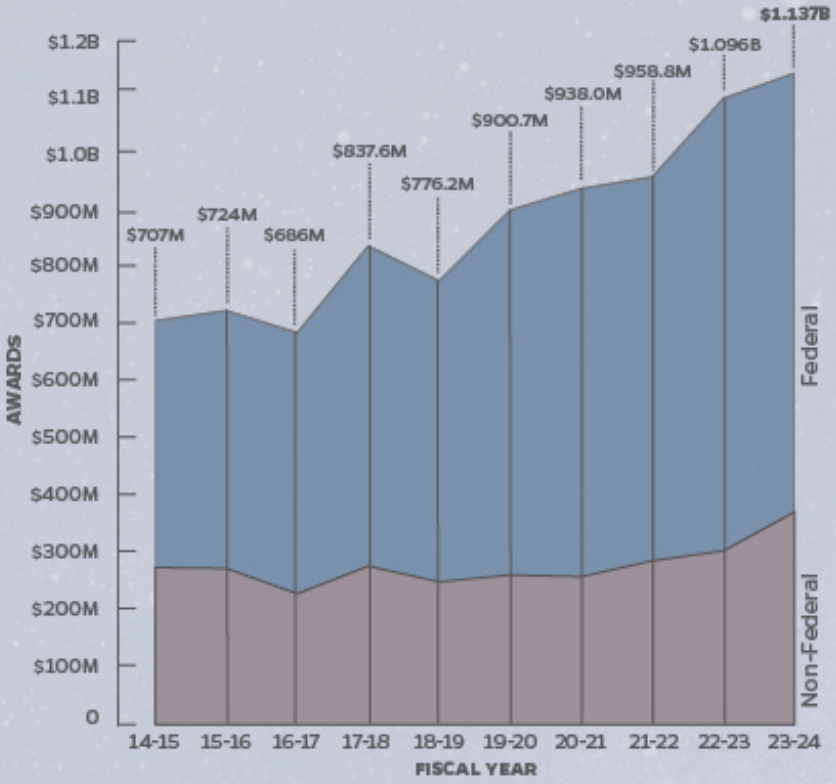
2024
EXPENDITURES BY SPONSOR
(ESTIMATE)





2024
EXPENDITURES BY ACADEMIC UNIT
(ESTIMATE)

SPONSORED AWARDS — 2014–2024



R&D EXPENDITURES U.S. INSTITUTIONS

(SOURCE: NATIONAL SCIENCE FOUNDATION, FY 2023)

1	Johns Hopkins University	$3.80B
2	University of California, San Francisco	$2.05B
3	University of Pennsylvania	$1.95B
4	University of Michigan, Ann Arbor	$1.93B
5	University of Washington, Seattle	$1.734B
6	University of Wisconsin-Madison	$1.732B
7	University of California, Los Angeles	$1.72B
8	University of California, San Diego	$1.71B
9	University of North Carolina, Chapel Hill	$1.55B
10	Stanford University	$1.54B
11	Duke University	$1.51B
12	New York University	$1.46B
13	Cornell University	$1.452B
14	Ohio State University	$1.449B
15	Harvard University	$1.44B
16	Georgia Institute of Technology	$1.41B
17	University of Pittsburgh, Pittsburgh	$1.40B
18	University of Maryland	$1.39B
19	Columbia University, New York, New York	$1.34B
20	Yale University	$1.33B
21	University of Minnesota, Twin Cities	$1.32B
22	Texas A&M University, College Station and Health Science Center	$1.28B
23	University of Texas M. D. Anderson Cancer Center	$1.26B
24	Vanderbilt University and Vanderbilt University Medical Center	$1.253B
25	**University of Florida**	**$1.25B**
26	Penn State University, University Park and Hershey Medical Center	$1.21B
27	Washington University, Saint Louis	$1.17B
28	University of Southern California	$1.15B
29	Northwestern University	$1.11B
30	Emory University	$1.09B

UF INNOVATE

Inspires Excellence in Innovation

372 Invention Disclosures

279 Licenses/Options (Including IFAS)

9 Startups

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