University of Illinois System

NATIONAL AERONAUTICAL & SPACE ADMINISTRATION (NASA)

FOR FY2027, THE U OF I SYSTEM REQUESTS **$9 BILLION FOR THE NASA SCIENCE MISSION DIRECTORATE, INCLUDING $1 BILLION FOR AERONAUTICS RESEARCH DIRECTORATE AND $1.1 BILLION FOR SPACE TECHNOLOGY**

Science Mission Directorate	
FY2026	= $7.250B
FY2025	= $7.334B
FY2024	= $7.334B
FY2023	= $7.795B

Aeronautics	
FY2026	= $935M
FY2025	= $935M
FY2024	= $935M
FY2023	= $935M

Space Technology	
FY2026	= $920M
FY2025	= $1.1B
FY2024	= $1.1B
FY2023	= $1.2B

Appropriations Bill: Commerce, Justice, Science, and Related Agencies

Agency: National Aeronautics and Space Administration (NASA)

NASA R&D EXPENDITURES, FY2025	
University of Illinois Chicago	$784,000
University of Illinois Urbana-Champaign	$15.8 Million

*Source: FY2025 NSF HERD Survey

The NASA Science Mission Directorate is an essential part of meeting the growing challenges to fully understand global changes to the Earth and answer fundamental questions regarding the universe through space exploration.

NASA-SUPPORTED PROJECTS AT UIUC

Space

In Dec. 2020, NASA announced the selection of just two projects to "to share a ride to space in 2025 with the agency's Interstellar Mapping and Acceleration Probe (IMAP)." A UIUC researcher will lead one of the missions, a $75M project, called Global Lyman-alpha Imagers of the Dynamic Exosphere, or GLIDE.

UIUC graduate students have received NASA Space Technology Research Fellowships, which provide financial and material support to graduate students through thraining grants and opportunities to conduct research at a NASA Center.

Undergraduates benefit from NASA's CAPSat project, where we are responsible for one of three payloads on the "CubeSat" (a mini-satellite), which launched in fall 2018. Our payload will test techniques to reduce the deleterious effects of background space radiation on single-photon detector noise.

Some of the data collected as part of the Ionospheric Connection Explorer (ICON) mission, which launched in 2019, was the result of work done at UIUC's Grainger College of Engineering.

Aviation

With $6M in funding from NASA's University Leadership Initiative, UIUC leads the Center for Autonomous Vehicles in Air Transportation Engineering (AVIATE), which focuses on bringing Advanced Air Mobility into real life. UIUC is a partner in another project supported under ULI, a $9.9M research center for aviation innovation. The goal of this research center is to mature a disruptive airfoil design concept, known as the Slotted Natural Laminar Flow Airfoil, aimed at producing low-drag wing configurations for commercial transport vehicles.

NASA is providing $6M over 3 years to UIUC to support the Center for High-Efficiency Electrical Technologies for Aircraft (CHEETA), which seeks to develop, mature, and design disruptive technologies for electric aviation. Research themes include distributed electric propulsion, electrical components, energy storage, and systems integration.

UIUC has been helping to break down technical barriers to hybrid electric propulsion for commercial transport aircraft. Multiple grants from NASA's AATT and LEARN programs (roughly $4M over four years) have supported work on high-power density electrical machines and drives and system level modeling and analyses.

Remote Sensing

UIUC researchers provide critical ongoing support for instruments on NASA's

Terra satellite, the flagship of the Earth Observing System, providing data critical for understanding weather, air pollution, food security, the hydrological cycle, radiation budgets, and the link between aerosol pollutants and health problems.

These include the Multi-Angle Imaging SpectroRadiometer and the Moderate Resolution Imaging Spectroradiometer, and will include the Multi-Angle Imager for Aerosols instrument, with a nominal launch date of 2021. UIUC is a key site for the ACCESS to Terra Data Fusion Products project, which aims to harmonize use of the 1.2 petabytes of data from instruments on the Terra satellite through the use of a common format and grid, and development of needed software tools and cyberinfrastructure.

NASA funds research in the use of novel sensing technology and satellite data to improve monitoring and predictability of the broader U.S. Midwest carbon budget and food productivity. Awards totaling more than $1.2M focus on the integration of multi-source satellite data with improved land surface modeling to improve monitoring of the carbon budget for the U.S. Corn Belt, and the use of chlorophyll fluorescence measurement to improve crop modeling from both ground and space.

NASA-SUPPORTED PROJECTS AT UIC

NASA's long-term exploration goals for missions to the Moon and Mars need reliable in-space manufacturing and assembly processes. To make these voyages a reality, NASA awarded nearly $750,000 to a UIC professor for a project titled "Weld-ASSIST: Weldability Assessment for In-Space Conditions using a Digital Twin."

In 2024, a UIC professor was awarded more than $4.6M to open the Center for In-Space Manufacturing: Recycling and Regolith Processing at UIC.

Also in 2024, a UIC doctoral student won the Best Use of Technology award at the 2023 NASA International Space Apps Challenge by designing an app that allows users to virtually explore the moon.

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