

U.S. DEPARTMENT OF DEFENSE (DOD)

FOR FY2026, THE U OF I SYSTEM REQUESTS **\$2.7 BILLION** FOR 6.1 BASIC RESEARCH AND **\$4.3 BILLION** FOR DARPA

DOD S&T, BASIC RESEARCH (6.1)

FY2025 = \$2.62B

FY2024 = \$2.62B

FY2023 = \$2.92B

FY2022 = \$2.76B

DARPA

FY2025 = \$4.123B

FY2024 = \$4.123B

FY2023 = \$4.052B

FY2022 = \$3.857B

Appropriations Bill: Defense

Agency: U.S. Department of Defense

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DOD R&D EXPENDITURES, FY2024

University of Illinois Urbana-Champaign \$78 Million
University of Illinois Chicago \$15.1 Million

*Source: FY2024 NSF HERD Survey

The U of I System is the state's leading recipient of DOD research funds. The system is prepared to support DOD's research, development, test and evaluation (RDT&E) portfolio at the highest levels, thanks to the construction of a Sensitive Compartmented Information Facility (SCIF), an enclosed area within UIUC's Research Park to process classified information.

It is imperative that DOD—even in a constrained funding environment—invests in the foundational science and technologies to confront looming challenges. U of I System research supports current Department-wide research and technology priorities under the 2018 National Defense Strategy, including hypersonics, artificial intelligence, autonomy, next-generation wireless (5G), cybersecurity, and quantum, and explores long-term research questions to anticipate the military's future needs. The U of I System encourages Congress to support sustained and robust funding for the 6.1, 6.2, and 6.3 science and technology accounts across services.

U.S. ARMY RESEARCH LABORATORY

The U of I System has been strengthening its partnership with the Army Research Laboratory (ARL). Both UIC and UIUC are significantly involved in ARL's Open Campus Initiative, specifically ARL Central.

ARL launched a Center for UAS Propulsion (CUP) to convene a community of academic, industry, and government partners around technologies for small engine power for next-generation UAS. UIUC is the academic lead

for CUP, in close partnership with UIC. Both universities are engaged in multi-disciplinary research to develop next generation multi-fuel engine architecture, novel batteries, advanced materials research, aerospace propulsion, supercomputing aided simulations, advanced control architecture and algorithms, and power optimization.

Both UIUC and UIC were selected to receive awards from ARL through its Internet of Battlefield Things (IoBT) program. UIUC was selected to lead a \$25M initiative to develop the scientific foundations of next-generation IoBTs, designed to enable predictive battlefield analytics and services. The IoBTs will connect soldiers with smart technology in armor, radios, weapons and more to give troops a better understanding of battlefield situations and help assess risks.

The Army Research Office (ARO) sponsors diverse projects at UIUC in catalysis, surface science, and engineering the optical properties of materials.DOD-Supported Projects at UIUC

The Defense Advanced Research Projects Agency (DARPA) has funded several cuttingedge UIUC projects. For instance:

 Through its KAIROS program, DARPA has provided \$12.3M to support a UIUC-led project, named RESIN—Reasoning about Event Schemas for Induction of kNowledge, which seeks to create a framework for the next generation of event understanding systems, with an ambitious goal: being able to provide a comprehensive understanding of evolving situations, events, and trends.

- DARPA is providing \$10M for two projects for research on human performance optimization within U.S. war fighters at the Beckman Institute for Advanced Science and Technology.
- Advanced wireless technology to support
 warfighter communications is a major focus.
 Researchers are developing new low-power
 and ultra-compact radio technology to
 enable communications through soil, rock
 and water. Another project will empower
 individuals to exercise better control over
 the quality of information they are exposed
 to on social media. At a national level, the
 work will help fight adversarial propaganda
 and help maintain integrity of critical
 information from malicious manipulation.
 Methods are in development to safeguard
 the electrical power grid from attacks on its
 GPS synchronization system.
- UIUC received an \$18.7M grant from DARPA to develop a testbed that will enable validation of new technology for faster response and recovery following an attack on the electric grid. The project, called Cyber-Physical Experimentation Environment for RADICS, will leverage expertise, tools and data provided by industry collaborators.

UIUC receives significant funding from the Air Force Office of Scientific Research (AFOSR).

In March 2023, DOD announced 31 new awards through its prestigious Multidisciplinary University Research Initiative (MURI) program. Members of the UIUC research community are leading or participating in six (approximately 20% of all projects!), including four involving Grainger College of Engineering engineers.

DOD's Defense University Research Instrumentation Program (DURIP) supports the purchase of major, state-of-the-art equipment that augments current research institutions' capabilities or develops new capabilities to perform cutting-edge defense research and associated graduate student research training in disciplines of importance to DOD. Two UIUC researchers are among the 2024 recipients of the DURIP awards for their work in quantum computing and bioinspired cameras.

DOD-SUPPORTED PROJECTS AT UIC

With a \$6 million collaborative agreement with ARL, UIC researchers are developing fuels and technologies for sustainable aviation and autonomous vehicles.

With a \$5.8M award from DOD, UIC is working to develop a new treatment for acute respiratory distress syndrome in COVID-19 patients.

A consortium led by the Nathalie P. Voorhees Center for Neighborhood and Community Improvement at UIC was awarded a fiveyear, \$5M grant through DOD's Defense Manufacturing Community Support Program. The Illinois Defense Manufacturing Consortium will consist of the Illinois Manufacturing Excellence Center and four regional organizations that independently and collectively focus on driving growth in four key defense-intensive-regions comprising 23 counties in Illinois and five counties in Iowa.

UIC's Cancer Center has a three-year, \$1.17M DOD grant to develop a new therapy to treat triple-negative breast cancer.

A three-year grant totaling nearly \$1M from the DOD is funding UIC research on the gene SELENOF and its role in the development of prostate cancer among Black men.

