Stony Brook University

Relentless in the pursuit of tomorrow's big ideas

DEPARTMENT OF DEFENSE RESEARCH

STONY BROOK UNIVERSITY urges Congress to provide at least $2.760 billion for DOD 6.1 basic research, $3.665 billion for DARPA, and $17.038 billion for DOD S&T in FY21.

Department of Defense (DOD)-funded basic research has contributed significantly to our nation's economic and national security. DOD relies on technological innovation as a force multiplier, and cutting-edge advances have helped make our military the best-equipped and most effective in the world. Addressing complex military challenges requires innovation and technologies and the development of these technologies depends on sustained investments in scientific and engineering basic research performed at U.S. universities.

Engineers build military training and firing range structure in Habbaniyah, Al-Anbar Province Iraq.

STONY BROOK DOD RESEARCH IN THE SPOLIGHT

Earthen structures, like the soil embankment shown, are constructed by military engineers to meet soldier needs. These structures are constructed in order to establish barriers, protective berms for soldiers, defensive positions, military transportation infrastructure (e.g. roads, runways, and helicopter landing pads), and ensure proper drainage during military testing, training, and battlefield operations.

When deployed, the US ships the heavy and costly cement to construct and strengthen these earthen structures. Soldiers who inhale cement during the construction of these earthen structures suffer from sever health issues later. Equally important, these U.S. funded earthen infrastructures are typically left as valuable assets to the enemy after withdrawing U.S. troops.

With DOD funding, SBU researchers are developing a material that is cheaper to produce and ship, safer for soldiers' usage, and that has self-degradation abilities to demolish after troop withdrawal.

More Highlights from Stony Brook University's DOD Funded Research:

- Researching algorithm diversity to prevent cyberattacks—in cyberspace, as in many other domains, diversity provides resilience and a robust defense against attacks
- Developing a new super-resolution light microscopy system to enhance the study of cells, tissues and organ systems in order to better address infectious diseases and chemical agents that our American troops may encounter

In addition to aiding the warfighter, DOD's basic research programs maintain a domestic workforce of scientists and engineers through government university partnerships. Research grants and contracts support cutting-edge research performed by renowned faculty and graduate students alike. The National Defense Science and Engineering Graduate (NDSEG) Fellowships program also helps attract and retain top U.S. citizens for study in fields vital to addressing national security challenges.

Consistent with the 2018 National Defense Strategy, SBU recommends Congress provide the following FY21 DOD funding levels by program element (PE):

Army Defense Research Sciences (PE 00601102A)	$375,749,000
Army University Research Initiatives (PE 00601103A)	$93,129,000
University & Industry Research Centers (PE 00601104A)	$134,794,000
Navy University Research Initiatives (PE 00601103N)	$177,921,000
Navy Defense Research Sciences (PE 00601153N)	$491,659,000
Air Force Defense Research Sciences (PE 00601102F)	$377,473,000
Air Force University Research Initiatives (PE 00601103F)	$189,591,000
High Energy Laser Research Initiatives (PE 00601108F)	$15,683,000
DTRA Basic Research Initiatives (PE 00601000BR)	$27,560,000
Defense-Wide Basic Research Initiatives (PE 00601110D8Z)	$75,126,000
National Defense Education Program (PE 00601120D8Z)	$152,718,000

Basic and applied research funded by the DOD underpins the innovative health treatments and technologies that help save lives on the battlefield and speed recovery from injuries.

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