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This document was prepared as a tool to help researchers seeking extramural federal funding understand the variety of research opportunities offered at the Department of Defense. Some of these opportunities are geared toward universities and institutions, while others are intended for individual researchers. Not all funding opportunities and research initiatives will be addressed in this document; the agency web page should be visited for the most current information. It is also important to note that specific research programs and directions can differ year to year, oftentimes as a result of Congressional action or directive.

Department of Defense

The Department of Defense (DOD) maintains a robust research and development portfolio aimed at developing new technologies in support of soldiers and military operations. In total, DOD spends about \$70 billion annually on research, development, test, and evaluation (RDTE) activities. Within this amount, over \$12 billion is devoted to the basic research (6.1), applied research (6.2), and advanced technology development (6.3) accounts which comprise DOD's science and technology (S&T) program and are of primary interest to universities. The remaining money is for prototype development, testing, and evaluation accounts which predominantly service industry.

Despite recent agreement to cut total planned defense spending by \$487 billion over the next decade, defense S&T programs maintain considerable bipartisan support on Capitol Hill. Members of Congress from both parties have emphasized the important role these programs will play as the military relies on continued technological dominance to help offset planned reductions in manpower. While many DOD programs will see reductions proportional to overall cuts in coming years, defense S&T, and particularly basic research programs, appear well positioned to weather the storm.

DOD funds research largely through the individual service branches, with the Army Research Office (ARO), Air Force Office of Scientific Research (AFOSR), and Office of Naval Research (ONR) being the primary distributors of basic and applied research funding. DOD also administers numerous defense-wide research initiatives, including through the Defense Advanced Research Projects Agency (DARPA), which funds high-risk, high-reward projects aimed at generating transformative discoveries, and the Defense Threat Reduction Agency (DTRA), which is charged with countering weapons of mass destruction and supports research in areas including biological science, chemical science, computer/networking science, material science, mathematics, medical science, nuclear science, physics, and the social sciences. Further, the National Security Agency (NSA) funds a limited amount of research designed to advance DOD's cryptology and communications abilities. Key NSA programs include a robust mathematics research enterprise and a centers of excellence program that engages universities in support of the agency's cybersecurity and information assurance goals.

DOD program managers enjoy broad autonomy in awarding research dollars, as DOD does not employ a strict peer review process in the mold of the National Institutes of Health (NIH) or the National Science Foundation (NSF). This makes it imperative for researchers to develop strong relationships with DOD officials in programs of interest.

Research Scope &

While DOD has significantly ramped up its investments in basic and applied research, the Department is principally concerned with supporting projects which

Objectives

hold the capacity to enhance future military capabilities. Recent DOD support for RDTE programs have centered on seven S&T priorities: autonomy; counter weapons of mass destruction; cyber; electronic warfare and protection; human systems; data-to-decisions; and engineering resilient systems. DOD has also announced six basic research priorities which permeate recent funding opportunities across the service branches: synthetic biology; engineered materials; quantum information and control; human motivations and behavior; cognitive neuroscience; and nano-science and engineering. Additionally, DOD maintains biomedical research programs in areas affecting soldiers and their families through the Army Medical Research and Material Command, part of the Army Research Laboratory.

Degree of Engagement



While DOD has its own network of laboratories, it relies heavily on universities and other research institutions to perform much of its basic research. There are also limited opportunities for researchers to partner with DOD labs on specific projects. Most of DOD's awards to research institutions take the form of competitive grants, although contracts and other mechanisms are also used. Many awards are made through Broad Agency Announcements (BAA) released annually by ARO, AFOSR, ONR, DARPA and others which outline an agency's broad research interests and invite proposals on a variety of topics. DOD uses BAAs in place of the targeted solicitations released more frequently by agencies like NSF and NIH, although some narrower competitions are run each year. Beyond BAAs, DOD supports a network of University Affiliated Research Centers (UARC) at institutions across the country. Difficult to obtain, UARCs normally focus on a particular topic area and allow universities to receive considerable funding through non-competitive streams.

Signature Programs

Broad Agency Announcements (BAAs) – As noted above, BAAs are the most common mechanism through which DOD funds university research. Released annually by each of the service branch research offices and DARPA program offices, BAAs provide a broad outline of each entities' research priorities for the current fiscal year. BAAs are the vehicle through which core programs, including many basic science topics, are funded by ARO, AFOSR, ONR, DTRA, and DARPA. Because of program managers' sway over funding decisions, DOD strongly encourages investigators to discuss their ideas with the appropriate program contacts prior to submitting a white paper or full application in response to a BAA.

Multidisciplinary University Research Initiative (MURI) – Funding research of interest to the military at the nexus of multiple scientific disciplines, MURI is one of DOD's most popular programs within the academic community. Administered jointly by ARO, AFOSR, and ONR, MURI supports multidisciplinary and often multi-institutional teams in the pursuit of transformative scientific advances. DOD releases new topics for the MURI competition each year. *More information:* <http://www.onr.navy.mil/Science-Technology/Directorates/office-research-discovery-invention/Sponsored-Research/University-Research-Initiatives/MURI.aspx>.

Defense University Research Instrumentation Program (DURIP) – DURIP provides funding for the purchase of equipment to support research in areas of interest to

DOD. While always popular, DURIP has gained added importance in recent years as one of the few DOD mechanisms for securing instrumentation dollars following the elimination of Congressional earmarks. The FY 2013 competition will be administered by AFOSR in collaboration with ARO and ONR. Investigators submit proposals directly to the service branch whose priorities best align with their research interests. *More information:* <http://www.onr.navy.mil/Science-Technology/Directorates/office-research-discovery-invention/Sponsored-Research/University-Research-Initiatives/DURIP.aspx>.

Minerva Initiative – Minerva is DOD’s primary social science research initiative. Minerva solicits projects which help DOD better understand the regions, cultures, and geopolitical environments in which it operates. *More information:* <http://minerva.dtic.mil/>.

***Additional
Resources***

DOD Research and Engineering Website: <http://www.acq.osd.mil/chieftechologist/index.html>
ARO Website: <http://www.arl.army.mil/www/default.cfm?page=29>
AFOSR Website: <http://www.wpafb.af.mil/afrl/afosr/>
ONR Website: <http://www.onr.navy.mil/>
DARPA Website: <http://www.darpa.mil/>
DTRA Research Website: <http://www.dtra.mil/Research.aspx>
NSA Research Website: <http://www.nsa.gov/research/index.shtml>