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Graduate School of Operational and Information Sciences    Sponsored Research Annual Reports

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2006

**Sponsored Programs Annual Report /  
Graduate School of Operational and  
Information Sciences, Fiscal Year 2006**

Monterey, California. Naval Postgraduate School, Research and Sponsored Programs Office

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# SPONSORED PROGRAMS ANNUAL REPORT

## GRADUATE SCHOOL OF OPERATIONAL AND INFORMATION SCIENCES

NAVAL POSTGRADUATE SCHOOL • FISCAL YEAR 2006

### Program Information

The Graduate School of Operational and Information Sciences (GSOIS) includes graduate resident programs consisting of sixteen technical curricula and awards masters of science and Ph.D. degrees across four academic departments.



Researcher working on CyberCEIGE, a network-defense training game developed in the computer-science department

In response to the needs of naval and military customers, GSOIS graduate education and cutting-edge research are focused in four nontraditional knowledge domains: information science and technology; military computer science; military operations analysis and research; and special operations and related defense analyses.

The emphasis of sponsored activities is on mathematical, scientific, and technical skills needed to understand the state of the art and foster improvements in military systems and operations, including integration of topics contained in classical academic disciplines in militarily relevant ways; and subject matter suited to the corporate university's military customer; and faculty expertise in new delivery methods such as distance learning. Our many sponsors value our ability as a department to combine military benefit with academic excellence.

Curricula sponsored in GSOIS include special operations, information warfare, electronic warfare, psy ops, joint C4I, computer science, information systems and operations, information-systems technology, software engineering, operations analysis, and operational logistics.



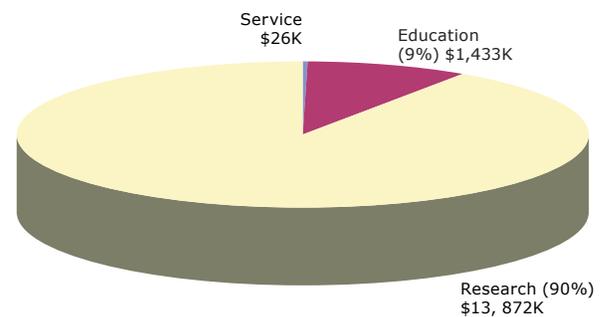
Operations Research student conducting experiments in the Human Systems Integration Laboratory.

### Sponsored Program Expenditures

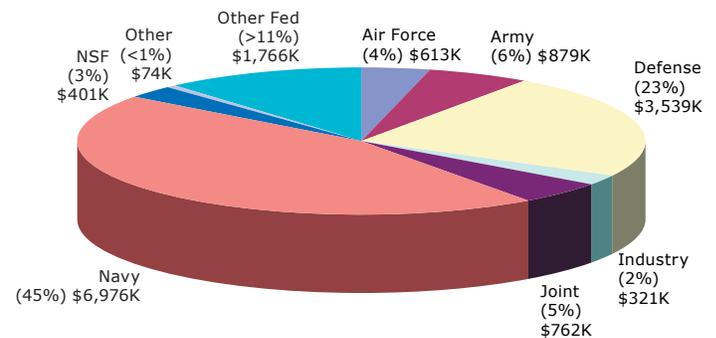
October 2005–30 September 2006

Total Expenditures: \$15,331K

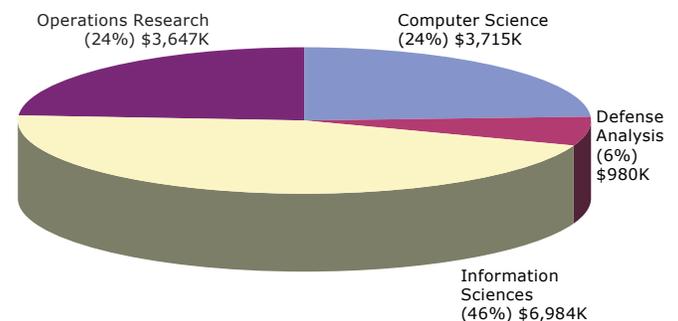
#### By Type of Activity



#### By Sponsor

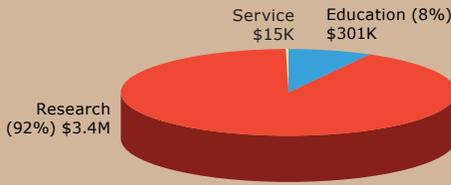


#### By Department

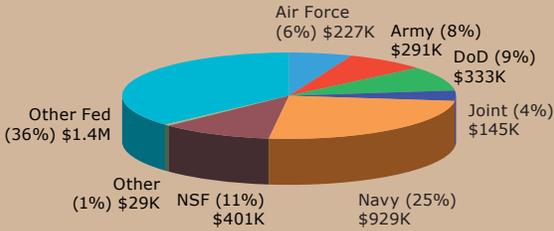


## Computer Science

### By Activity



### By Sponsor



**Size of Program: \$3.7M**

## Computer Science (CS)

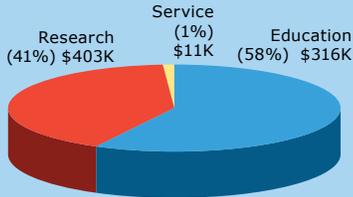
The Computer Science Department offers graduate education in the principles and practice of computing, with thesis options of military relevance. Ours is the first curriculum in the USA to be organized around the great principles of computing. Our curriculum provides concrete experience in the practices, skills, and habits of thought that mark the computing professional, including programming, systems, modeling, and innovation. Our faculty researchers have founded major research centers in information security, software engineering, networking, mobile devices, and modeling, virtual environments, and simulation. Our faculty and students also participate significantly in NPS's three research institutes: the Cebrowski Institute for Information Innovation and Superiority, the MOVES Institute, and the Meyer Institute for Systems Engineering.

## Defense Analysis (DA)

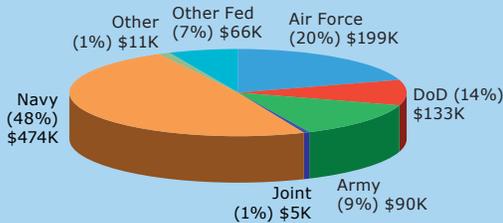
With its roots in special operations, the Department of Defense Analysis is founded on the principle that human capital is the decisive element in modern warfare. The department offers a combined course of instruction in the soft and hard sciences to provide students with the rapid problem-solving skills needed to dominate the unconventional battlefields of the 21st century. Its principal focal areas are in terrorism, counter-insurgency, irregular warfare, and information operations. The result is policy-relevant thesis work and timely sponsored research that is duplicated nowhere. From the strategic level (National Security Council) to the tactical (battalion and company command), defense analysis graduates are planning and executing American strategy in the global war on terrorism.

## Defense Analysis

### By Activity



### By Sponsor



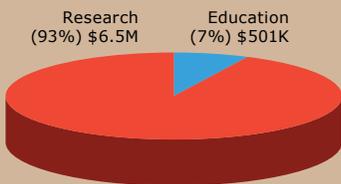
**Size of Program: \$978K**

## Information Sciences (IS)

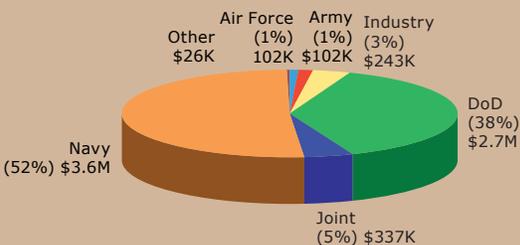
The Information Sciences Department provides in-residence graduate education, as well as a continuum of career-long learning opportunities, in support of defense requirements in the areas of information sciences, systems, and operations. We maintain an internationally respected research program in selected areas of information sciences that are required to support graduate education and provide expertise and support to the Department of Defense in all areas of information sciences, systems, and operations. In addition to several laboratories focused on specific research areas, we are primary users of the Secret Internet Protocol Router Network (SIPRNET) and the Joint Worldwide Intelligence Communication System (JWICS) laboratories.

## Information Sciences

### By Activity



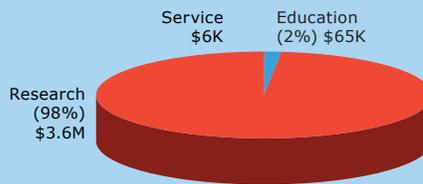
### By Sponsor



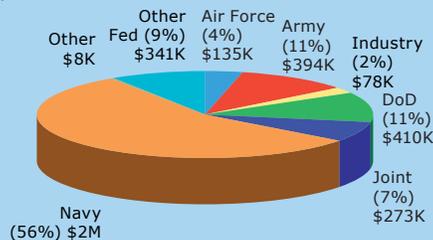
**Size of Program: \$7M**

## Operations Research

### By Activity



### By Sponsor



**Size of Program: \$3.7M**

The mission of the Operations Research Department is to educate graduates to be capable of conducting independent analyses of DoD and national-security problems and to maintain an exemplary research program in operations-research theory and practice. Students and faculty use mathematical modeling, probability, statistics, and computer simulation model, and thereby better understand, a wide range critical, complex problems. Application areas include national-policy analysis, resource allocation, force composition and modernization, logistics, human resources, battle planning, flight-operations scheduling, intelligence, command and control, weapon selection, engagement tactics, maintenance and replenishment, and search and rescue.