

## Naval Surface Warfare Center Dahlgren Division (NSWCDD, Dahlgren)

The work performed at NSWCDD delivers affordable and capable 21<sup>st</sup> century warfighting and peace-keeping capabilities to the United States Navy, Joint Forces, and the nation. NSWCDD develops and supports systems, technologies, concepts, and tactics that enable military forces to conduct missions in surface warfare safely and effectively. As a valuable military research institute, NSWCDD understands the technical dimensions of military systems, recognizing needs, problems, and potential solutions.

Dahlgren conducts research in specific technology areas:

- Surface weapons technology, including directed energy
- Unmanned systems
- Sensors technologies, including radar, electric optical, infrared, and quantum sensors
- Management of electromagnetic environments
- Human systems integration
- Metamaterials/nanotechnology
- Network analysis and distributed systems
- Chemical and biological detection, decontamination, and collective protection
- Complex system architecture
- Software intensive systems
- Distributed systems

All of these sectors support the National Security technology sector, and also represent the Information Technology, Communications, and Advanced Manufacturing sectors.

Because of the nature of the laboratory, NSWCDD is not typically a research sponsor, but readily engages with other researchers in demonstrating new technology and transitioning it into the military and commercial sectors. This teaming approach to research allows NSWCDD to target different and more diverse research areas and leverage non-historical funding opportunities. For example, NSWCDD, in collaboration with local governments, state and federal agencies, and first responders, is developing a process that will fuse data from disparate sources, analyze it, and then re-present it in a broad-based usable format. Although not the sole recipient of budgeted funds, NSWCDD does use some discretionary dollars for work typically done at the front-end of the research, development, and production cycle – it develops system specifications, connects with industry, and provides in-service support.

NSWCDD's partnership programs encourage collaboration with the public sector, industry, and academia. Through Cooperative Research and Development Agreements (CRADAs), Navy-developed technology, expertise, and facilities are used to develop dual-use technologies applicable to the warfighter and the commercial marketplace. Educational partnership agreements allow NSWCDD to loan or donate excess equipment to schools and involve students and professors in research. Its staff

can teach classes, provide career advice to students, and offer guidance in curriculum development. NSWCDD is actively involved with six Virginia universities and seven local public school systems. Agreements with local public school systems are promoting science, technology, engineering, and math (STEM) programs, which bring scientists and engineers into middle school classrooms for hands-on projects.