Mission Capable, Persistent, and Survivable Naval Platforms Department

Naval Enterprise Partnership Teaming with Universities for National Entrepreneurship (NEPTUNE 2.0)

AT A GLANCE

WHAT IS IT?

NEPTUNE is a program providing funding to six universities, the U.S. Naval Academy and the Naval Postgraduate School. The program was established to create meaningful partnerships with universities, private industry, and the Navy in order to better align NEPTUNE projects to solve real Navy needs.

HOW DOES IT WORK?

Program participants will engage in interdisciplinary research aligned to National Defense Strategy (NDS) problems. Each selected project will have at least one Problem Sponsor, and a research team consisting of University researchers and military or veteran students.

WHAT WILL IT ACCOMPLISH?

NEPTUNE establishes long-term university to Naval R&D partnerships to evaluate the feasibility, viability, and desirability of university-derived technologies and products to meet DoN operational needs.

The program also positions NEPTUNE Principal Investigators (PIs) to work on Small Business Technology Transfers (STTRs), develop technology as part of SBIR projects, create opportunities for internships in the private and public sectors for students, and connect university research to tangible opportunities in the commercial and public sectors.

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Attendees at the NEPTUNE Meeting held at UC Davis

The NEPTUNE program aligns university research with the National Defense Strategy (NDS) and establishes entrepreneurial practices to accelerate delivery of university-derived technologies and products to the defense and commercial sectors. NEPTUNE's outreach component involves the education of naval personnel across active duty and reserve military, ROTC and veterans.

How does it work?

Participants and their advisors select research topics and/or projects to pursue that address Navy and Marine Corps sponsored problem statements aligned with the NDS.

Projects have a period of performance of 2 years, with a technical performance up to 18 months, with early prototype/product demonstrated at the end. Hacking for Defense (H4D) methodology is used in the proposal development and research approach to the problems.

Projects must have at least one Military(-affiliated) Student on the team, ensuring military knowledge and experience in evaluating viability of the proposed solution.

Research Thrust Areas:

Forward force maneuver and posture resilience
- Focused on ground, sea, and forward-deployed bases that can operate and maneuver in all domains while facing attack or natural disasters
- Transition from large, centralized, unhardened infrastructure to smaller, dispersed, resilient and adaptive basing
- Projects focusing on cyber-physical security of these systems is encouraged

Advanced Autonomous Systems
- Applications of autonomy, artificial intelligence, and machine learning, including rapid application of commercial breakthroughs, in order to gain competitive military advantages
- Projects focused on advanced manufacturing at scale is encouraged

Resilient and Agile Logistics
- Logistics and supply-chain sustainment while under persistent multi-domain attack or natural disasters
- Cyber-physical security, communication software/hardware, AI applications to support force readiness

Program Participants:

ASU   MIT   Purdue   UC Davis   NPS   USNA   Stanford   URI