

TRUE VALUE

Lean, mean NPS programs offer maximum bang for the buck

By KEVIN HOWE
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A \$4 million appropriation for the Naval Postgraduate School in Monterey this year will keep alive a group of programs geared to the war on terror.

NPS has been funded year-to-year on programs that have developed innovative technology, organized "peace gaming" workshops that bring together military, political and humanitarian organizations under one roof, and shopped for off-the-shelf cameras, computers and equipment that can be used to immediately help troops on the ground in Afghanistan and Iraq.



Ravi Vaidyanathan, assistant professor in the Department of Systems Engineering, holds an experimental micromorphic air-land vehicle he's developing at the Naval Postgraduate School in Monterey. The carbon fiber device could be used for reconnaissance or seeking out chemical weapons

"Part of the magic of the Naval Postgraduate School," said provost Richard Elster, "is its mix of faculty and students who have been on the ground and know what the problems on the ground are."

That ability to go quickly from the theoretical to the practical, he said, has encouraged funding of programs at the Navy school that can't be duplicated anywhere else.

"Every dollar," said Rear Adm. Richard Wells, president of NPS, "has yielded some kind of value that is recognizable both to the high command and the grunt." Feedback from the field, he added, is often instantaneous, by e-mail.

"While we may get value back, it also extends to saving lives -- how can you measure that? -- and hopefully it brings peace and prevents future conflicts."

The year-to-year funding means that NPS doesn't have the luxury of extended funding of long-term programs, Wells said. "We have to give a quick response, and we have a wonderful combination of hard research, theory and reality to do it."

The Navy school's Center for Defense Technology and Education for the Military Services was established in 2000 and funding for the program in 2001 was used to form three new institutes:

- The Cebrowski Institute for Information Innovation and Superiority, which concentrates on research in information technology, operations and strategies focusing on national security.
- The Modeling, Virtual Environments and Simulation (MOVES) Institute, which focuses on research, application and education in computer modeling, virtual environments and simulation.
- The Wayne E. Meyer Institute for Systems Engineering, which provides graduate education and research for military officers and civilians in systems engineering, systems analysis and engineering projects.

These in turn have spawned projects, strategies and new technologies that have gone from the laboratory to the battlefield, sometimes within months of conception.

The ongoing military efforts in Iraq and Afghanistan now center on stabilization and reconstruction, but these are "worldwide issues," said Leonard Ferrari, associate provost and dean of research at the Navy school.

"Our researchers don't come up with just theories, but practical applications."

Nearly all programs undertaken by the center are interdisciplinary, he said, involving engineering, computer science, political analysis and other fields. "We're at least a couple of years ahead" in developing systems for Internet security, maritime security, stabilization and reconstruction.

An academic institute like NPS has more flexibility in pursuing research than "a huge government agency," said David Netzer, distinguished professor and director of the Navy school's Center for Defense Technology and Education.

Agencies must meet specific goals and limit their programs to a specific aim, he said. The center "allows us to be more inventive."

His group is working on miniaturized, remotely guided robots that can fly and crawl to an objective, take pictures and instrument readings, and send them back.

The center is also working on an improvised explosives device (IED) signal jammer to keep an enemy from remotely detonating a bomb. The group will conduct field trials with a number of its projects next month off the Central Coast and at Camp Roberts in South County. It has been developing a unified electronic surveillance network that would cover entire areas and be shared by different agencies involved in homeland security: military, police, fire, medical, public works and other emergency services.

While the Center for Defense Technology and Education is "a strong supporter of the rapid introduction of new technology," Netzer said, government agencies have to consider, after hearing its findings, where and from whom the money is going to come.

Add a new "gizmo," he said, and money must be spent to acquire it, time and people must be dedicated to learning to use it, and other programs may have to be given up for it.

On Sunday the Navy school's Center for Stabilization and Reconstruction Studies opened its second weeklong peace games conference, bringing together military organizations, government agencies and nongovernmental organizations to "game" problems of how to deliver humanitarian services in a combat zone and learn to work together on how to solve them, said program director Matthew Vaccaro.

The classic problem, he said, is that humanitarian organizations can't deliver relief in the middle of combat and military forces don't want to get involved in relief efforts at the expense of their own mission.

"The military is an instrument of government policy," he said. "A nonstate actor wants to feed anybody that's hungry. There is a natural disagreement in their world view." Getting these disparate groups together for gaming, he said, breaks down stereotypes, helps each group understand the other's problems and constraints, and teaches them to work together. The gaming, Vaccaro said, is building a worldwide network of professionals from all fields who are likely to encounter one another in the world's trouble spots.

Wars, he said, are no longer about land, but people; no longer about borders, but politics, and the media.

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