Information warrior

By KEN SCHACHTER

Bob Giglione

FULL-STEAM AHEAD: Anita D'Amico's research career has spanned projects ranging from ship simulators to cyberwarfare.

Once upon a time, Anita D'Amico was going to become a clinical psychologist, a healer of the sick.

The product of Tacony, an Italian-American neighborhood in Philadelphia, she earned a bachelor's in psychology at University of Pennsylvania. After a stint as a research assistant at a mental hospital connected to Penn., she decided on a research career. She was pursuing her doctorate at Adelphi University when her career abruptly lurched in a new direction.

"When I finished my course work at Adelphi in 1979, I was broke," said D'Amico, 51. "I got a job as a research assistant at the Merchant Marine Academy in Kings Point."

That set D'Amico on a winding path that took her from understanding the sparks of cognition to coping with the void of space, and eventually the fog of information warfare at Northport-based Applied Visions Inc.

At the Merchant Marine Academy, she began working on a ship simulator to research how people get into accidents at sea, a topic that seeped into her doctoral dissertation about the effect of sleep deprivation and circadian rhythm on ships' officers.

As her reputation as a researcher grew, she visited simulators in Wales and the Netherlands and became project manager for a ship simulation involving the Gaillard Cut, the most hazardous stretch of the Panama Canal. D'Amico's job was to assess how much margin ship captains needed to navigate the bottleneck, where engineers were blasting rock to widen the passage enough for two ships to pass simultaneously.

She started the project in 1983 and left that company two years later.

"In the early '80s, it was not considered a good thing to have a female in a high position," D'Amico explained. "In the company where I was working at the time, I experienced a glass ceiling. It wasn't glass. It was concrete."

In short order, a headhunter called. The recruiter recalled that D'Amico had done a study about the assimilation of women into the Merchant Marine. It turned out that Grumman Corp. was looking for a woman who had simulator experience for the design of a space station.

"Sally Ride had just gone up," D'Amico said of the first female astronaut to go into space. "They were looking for a psychologist to deal with cross-cultural gender issues. They were particularly concerned by feminine hygiene in space."

D'Amico eventually worked on displays and controls for the space program's remote manipulator arm, but in 1986 the space shuttle Challenger exploded and projects ground to a halt.

D'Amico shifted to work on design and controls of JointSTARS, a Grumman ground-surveillance aircraft that was used extensively in the first Gulf War in 1991.

That led D'Amico to Grumman Data Systems, where she ran a team that developed digital cartography and explored how to join imagery with a digital map.

In what has become a recurring theme in her career, D'Amico would confer with end users to define the capabilities of a system to be built, surround herself with "really smart people" and instill in her team a common vision of the problems to be tackled.

In 1994, a thunderclap hit Bethpage-based Grumman when it was acquired by Northrop Corp. In the aftermath, D'Amico was one of seven Grummanites sent to a two-week managers' boot camp that June.

In one session, James Roche, then a sen-

ior Northrop executive and now secretary of the U.S. Air Force, took a page from Prussian military philosopher Carl von Clausewitz who declared that "war is the province of uncertainty."

"He said the future was to protect the electronic space," D'Amico recalled. "That war wasn't going just to be in the kinetic space."

But while Roche was preaching preparation for information warfare, when D'Amico surveyed the corporation's landscape she saw little evidence of action. In August, D'Amico wrote a memo to Roche, CEO Kent Kresa and other senior Northrop officials. The memo, co-signed by several other executives, noted the lack of activity in information warfare.

However, the memo, in bypassing the chain of command, was seen by some as an assault on Northrop's corporate culture.

But shortly after the memo was sent, D'Amico's phone rang. On the other end was Roche. He wanted a teleconference on the issue of information warfare. Soon afterward, D'Amico was chosen to lead Northrop Grumman's information warfare effort.

"Here I thought I was going to have my head handed to me," D'Amico recalled, but Roche and others were thrilled that someone had taken the initiative to drive the vision forward.

One novel idea called for an early-warn-

BREAKING THROUGH THE 'CONCRETE CEILING': Anita D'Amico went from hitting the corporate wall early on to being actively recruited to serve as director of Secure Decisions, a network security division of Applied Visions in Northport.

Bob Giglione

ing system for cyber attacks, a research concept that was funded in 1998 by the U.S. Air Force and later Advanced Research and Development Activity, a government agency that funds projects for the U.S. intelligence community.

By 1999, however, D'Amico, weary of an extensive travel schedule, was ready for a new challenge.

At the time, Applied Visions, a maker of private-label software for companies such as Hallmark, Merrill Lynch and Reuters, was considering development of a 3-D visualization system.

Ken Doris, vice president, engineering, who knew D'Amico when they both worked at Northrop Grumman, and President and Chief Executive Frank Zinghini Jr., made their pitch.

"We had been doing internal research work into 3D visualization as a general topic and we realized it needed a focus," said Zinghini. "We approached Anita and the timing was right."

In 2000, the Department of Defense gave Applied Visions a Small Business Innovation Research grant to develop software that translated the spreadsheet-like reports typically used by system administrators into a graphic that would let them see network intrusions at a glance.

"If someone's trying to monitor a banking system's computer network, they need to know what's going on," D'Amico said. "They might get thousands of alerts. Most of them are false positives."

The project also spawned a new division of the 18-person company, Secure Decisions, led by D'Amico, who serves as its director.

Fittingly, the software system, SecureScope, was installed on the Navy Command and Control ship U.S.S. Blue Ridge for war games last year in which a Navy "Red Team" attacked its information network.

Less than four years after launch, Secure Decisions represents half of the business of Applied Visions, nestled in a quaint harborside brick building in Northport whose annual revenues have swung between $3 million and $5 million. Installations already are in place at the Pentagon, the U.S. Computer Emergency Readiness Team and the FBI.
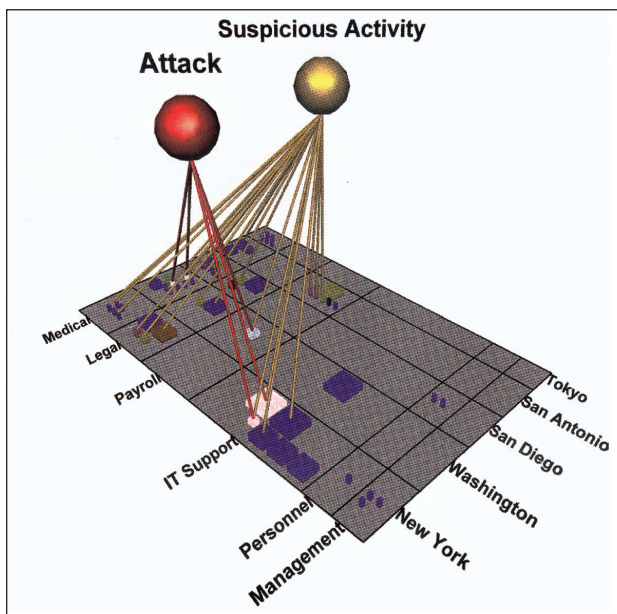
IN 3-D: Secure Decision's three-dimensional SecureScope visualizations show the distribution of attacks and suspicious activities at host workstations in different organizations and locations.