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# Cobra Gold Presents Physics Faculty Students Golden Opportunity

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## Cobra Gold Presents Physics Faculty, Students ‘Golden’ Opportunity

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Article By: MC3 John R. Fischer

A professor, two current students and one alumnus from the Physics Department of the Naval Postgraduate School were recently afforded a great opportunity – to perform field experiments with a device they have developed that could mean the difference between life and death for troops during combat situations. The experiments were part of the international Cobra Gold exercises held in Thailand in early February.

Professor Nancy Haegel of the Physics Department, part of NPS’ Graduate School of Engineering and Applied Sciences (GSEAS), along with students Lt. Karl Burnett and Lt. Aaron Woolsey, and former student Maj. Eric Rose, traveled to Thailand at the invitation of the U.S. Marine Corps Forces Pacific Experimentation Center to take part in this 29th installation of the annual combined, joint exercise.

“Our team led a demonstration and assessment effort for a Vehicle-Mounted Identification Friend or Foe [VMIFF] device,” Haegel explained. “It’s a prototype device designed to mitigate fratricide – a triggered warning signal for pilots and forward air controllers to prevent from engaging friendly vehicles.”



The research team and device caught the personal attention of even the Thai Permanent Secretary of Defense, NPS graduate ('75) Gen. Apichart Penkitti, who is also slated to be the next inductee into the NPS Hall of Fame.

“We had the benefit of briefing a lot of the top Thai people,” said Burnett. “The briefings kept going up and up until we received a surprise visit from Gen. Penkitti. He appeared to be very happy seeing the U.S. and Thailand keeping such an open, healthy relationship.” Penkitti is the equivalent of the America’s Secretary of Defense

Cobra Gold offers a chance for more than 20 nations to focus on multilateral peacekeeping operations, humanitarian assistance and disaster relief responses, as well as technology demonstrations. The exercises and technology demonstration provided a golden opportunity for Haegel and her team to put one of their newest devices to work in the field.

“It was more successful than we imagined,” remarked Burnett. “Having the results from the Cobra Gold exercise will be invaluable.”

The device is intended to prevent blue-on-blue, or friendly fire, engagements during close air support. The NPS VMIFF is simultaneously more covert and more recognizable than other

existing devices designed for the same purpose, Haegel said.

The NPS team demonstrated the effectiveness of the device when F/A-18 Hornets, which are equipped for air-to-air and air-to-ground combat, observed and activated the VMIFF during a simulated close air support scenario.

The VMIFF produces a mid-wave infrared (MWIR) signal that can be observed during both day and night operations. NPS’ VMIFF work is sponsored by the Rapid Reaction Technology Office within the Office of the Secretary of Defense.



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