



March 11, 2014

A matter of physics: NAWCAD internships provide students with experience and help warfighter



Graduate student and physics intern Sara Desavage and Dr. Frank Narducci discuss the next change in their experimental setup Jan. 15 at the Atomic Magneto-Optical Trapping Lab at Naval Air Station Patuxent River, Md. Narducci spearheads an informal internship program through the Naval Air Warfare Center Aircraft Division for St. Mary's College students majoring in physics or applied physics. (U.S. Navy photo)

NAVAL AIR SYSTEMS COMMAND, PATUXENT RIVER, Md. — A Naval Air Warfare Center Aircraft Division ([NAWCAD](#)) physicist at the labs here is doing more than just helping the Navy develop new technologies and practices — he's also helping young men and women complete their college degrees.

For more than 10 years, Dr. Frank Narducci, who works in NAWCAD's electro-optics division, has encouraged college students to experience real laboratory settings and explore and help develop technology that will directly support the warfighter through an informal internship program he helped to create.

"I am a teacher at heart and just love teaching students, so it is very rewarding," Narducci said. "The students ask questions and probe constantly, which really makes me have to stay on my toes and think about things in a different way, keeping my skills sharp."

Narducci said his overall mission is to be the bridge between academia, businesses and the warfighter, and considers the ongoing, year-round internship program a key ingredient



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to that mission. He said he targeted St. Mary's College of Maryland because of the locality, and that several students travel to Naval Air Station Patuxent River during long breaks between classes to work for a few hours.

"It really is the kind of place where you can get a hands-on education," St. Mary's College senior Erin Knutson said. "I can't see myself getting that type of education anywhere else."

Physics internship opportunities are coordinated through St. Mary's College professors Joshua Grossman and Charles Adler, who both work with Narducci and discuss their research with the students. This NAWCAD internship program focuses on students majoring in physics or applied physics, a specialization that recently became available at the college.

"It is really cool to see everything click, to see the connection between the classroom world and then applying it, especially now, since I am a senior and am getting close to trying to find a job," Ellie Meiser said. "Seeing how the connections works in real life is really cool."

Narducci said the return on investment for him as a teacher is just as valuable as the education the students gain, and he hopes they will carry away a sense that they have accomplished something for the Navy's big picture.

"We've had a number of tours from the flag officers who come in and emphasize to the students that they are working on something extremely important to the Navy," Narducci said. "When the flag officers leave, the students are all charged up about it."

Many students undergo an internship the summer before their senior design project, a St. Mary's College graduation requirement, and work an entire academic year on their project. Some stay the next summer before they go to graduate school and others are hired post-graduation to work for another year before they go on to graduate school.

"It is a lot like when you raise kids," Narducci said. "The success of raising a kid is when you push them out the door and they become a productive person in society. The students are like my kids, and that is exactly what we want. We teach them and they learn to have a great appreciation for what we do here, then they go out in the world and do their own thing and hopefully remember what we do here."

VIDEO: Click the image below to play the video.



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