



**Naval Medical Research Center  
503 Robert Grant Ave.  
Silver Spring, Md.**

**October 26, 2012**

**Contact:**  
**NMRC Public Affairs**  
**Office: 301-319-9378**  
[Doris.Ryan@med.navy.mil](mailto:Doris.Ryan@med.navy.mil)

**United States Naval Academy Professor Contributes to Navy Medicine Research**

SILVER SPRING, Md. - Dr. Daniel Isaac, a microbiologist and U.S. Naval Academy professor, is a guest scientist at the Naval Medical Research Center (NMRC) working with Capt. Stephen Savarino, head of the Enteric Diseases Department. At the Naval Academy, Isaac teaches courses in human anatomy, physiology, entomology and neuroscience to first year midshipmen. At NMRC, he conducts research on the bacterium E. coli supporting the NMRC team's efforts in the development of an ETEC adhesion-based vaccine for traveler's diarrhea. Traveler's diarrhea is one of the most common non-battle related illnesses troops experience when they deploy and it is endemic in third world countries.

Isaac looks for ways to attack the bacterium from the angle of how we can better understand the bacterium and how it is able to infect a body in the first place. "Presumably, if we could learn more about that we could better develop strategies to ultimately design vaccines to protect people," said Isaac.

"It's wonderful he collaborates with NMRC, bringing a molecular and biochemical approach to the department's vaccine efforts, as well as providing a potential bridge for educational rotations for midshipmen at NMRC" said Cmdr. David Blazes, director of Military Tropical Medicine at the Navy Medicine Professional Development Center.

Isaac sees the benefit of working at NMRC as being at the forefront of new knowledge, reading about the latest findings, and working on cutting-edge research. "It's important for people working in academia to be working on cutting-edge research whenever possible," he said.

It was by chance Isaac learned of the position at NMRC when he spotted an advertisement seeking a guest scientist to work on projects related to pathogenic E. coli. What immediately struck Isaac as he read the job description was that the Navy has its hands in basic medical research, which he was unaware of at the time.

“He knew a lot about certain pathways in bacteria that’s not the direct focus of studies we do, but they certainly have impact on some of our vaccine development efforts and I knew his involvement to some degree might have some collateral benefits for us,” said Savarino.

While the mission of the Naval Academy is to educate midshipmen spiritually, intellectually and physically, he is also working towards the mission of NMRC. According to Savarino, “the research we do is certainly driven by our mission of developing vaccines and products for sailors and Marines to prevent disease but it is based on a foundation of basic research that allows us to execute applied research effectively.”

Isaac’s goal is to solidify an avenue where his students can be exposed to a career in Navy medicine. He would like to open up pipelines allowing more Midshipmen to pursue research experiences at NMRC. This is great project and it’s a project that can probably use a second set of hands, I want to bring one of my super talented undergraduates with me every time and I’ll mentor them,” said Isaac.

“Isaac’s teaching is honed from the standpoint of keeping up with the research world, the naval academy students and his classes benefit, the Navy, in general benefits, everyone benefits,” said Capt. Savarino.