

## Dr. Bradshaw helping advance Navy technical training program

Senior Research Scientist Dr. Jeff Bradshaw is collaborating with the Pensacola branch of an international communications technology firm to develop advanced technical training programs at the U.S. Navy's Center for Information Dominance in Pensacola.

Dr. Bradshaw brings his high level of expertise in cyber security, ontology-based models (a way of structuring knowledge in a form that can be "understood" and used by machines), and the science of learning to the project with the company, Telecommunications Systems, Inc.

The goal is to develop the Intelligent Tutoring Authoring and Delivery System (ITADS), with the ability to develop, maintain and reuse technologically and pedagogically advanced instructional content at a reasonable cost. Intelligent tutoring technologies have demonstrated strong

potential for improving training effectiveness as compared to more traditional methods.

"It is an R&D project," said TCS Senior Director Keith Pabst, who heads the 65-employee Pensacola office. "Over the next two years we will build a proof of concept demonstrating that we can build an affordable, effective intelligent tutoring system for the Navy."

The Center for Information Dominance handles about 1,000 student technicians a year. But "if it works for the IT technicians, then the electronic technicians can maybe use it over on NAS Pensacola, and the cryptologic technicians could maybe use the same technology," Pabst said. "The bigger



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picture from the Navy standpoint is let's prove this concept, build the system and then propagate it throughout all the Navy's training domains. Then you are getting into the tens of thousands of students."

Pabst called it "the perfect marriage" for collaboration with IHMC. "We have been looking for a good project to partner with them on," he said. "IHMC has good cyber security experience as well as obviously good Artificial Intelligence experience, and with the human-machine interface, that's three things we really need for ITADS."

The collaboration is a good fit for the institute too, said Dr. Bradshaw.

"IHMC has a long-standing interest in learning of all kinds, and particularly technology-assisted learning," he said. "The more intelligent it gets, the more interesting it becomes. And the more challenging." ★

## Dr. Pratt, Dr. Neuhaus earn promotion to senior research scientist

Dr. Jerry Pratt and Dr. Peter Neuhaus, two of IHMC's most respected robotics researchers, have earned promotions to senior research scientist.

They are innovative researchers who are among the leaders in their fields. They were instrumental in helping lead the IHMC Robotics team to strong showings against an international field in the first two phases of the DARPA Robotics Challenge, initiated to advance the use of humanoid robots in high-risk disaster scenarios such as the Fukushima nuclear plant in Japan.

"It's a well-deserved promotion for both of them," said IHMC Director/CEO Ken Ford. "They are among the best in the world at what they do, and we're very happy to have them here at IHMC."

Dr. Pratt, who joined IHMC in 2003, holds a Ph.D. in mechanical engineering, and bachelor's degrees in mechanical engineering and computer science from M.I.T. He leads a



Dr. Jerry Pratt



Dr. Peter Neuhaus

research group focused on the understanding and modeling of human gait and the applications of that understanding in the fields of robotics, human assistive devices and man-machine interfaces.

Prior to coming to IHMC, Jerry co-founded Yobotics, Inc., a small company where he helped develop RoboWalker, an exoskeleton intended to enhance the gait of individuals with disabilities.

"IHMC has been a fantastic place to work," Dr. Pratt said. "We've been able to build an amazingly talented team of researchers who have made significant contributions to

robotics. I'm excited to see what the next decade has in store."

Dr. Neuhaus also joined IHMC in 2003. He holds a Ph.D. in mechanical engineering from UC Berkely, and a bachelor's in mechanical engineering from M.I.T. His focus is on research on lower extremity robotic exoskeleton and orthotic devices. These devices have application in mobility assistance for people with paralysis and paresis; gait rehabilitation; strength and endurance enhancement; and smart exercise devices. Peter is also involved in researching legged locomotion. Among the projects he has worked on are Learning Locomotion, Mina and the M2V2 bipedal robot.

"Working at IHMC has been a great opportunity to pursue cutting edge research on robotics," Dr. Neuhaus said. "I've had the privilege of working with bright, talented individuals who make coming to work every day a real pleasure." ★