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Rutgers professor wins two U.S. military awards to study wireless monitoring of soldiers' health in the field

NEW BRUNSWICK, N.J. – Dario Pompili, assistant professor of electrical and computer engineering at Rutgers, recently received two major awards from the U.S. military for his research on wireless systems to remotely monitor the health of individual soldiers in the field.

Pompili was selected for the Office of Naval Research Young Investigator Program award in March and more recently awarded the DARPA Young Faculty Award. ONR is giving Pompili a three-year, \$510,000 grant for his project, “Investigating Fundamental Problems for Real-time In-situ Data Processing in Heterogeneous Mobile Computing Grids.” For a related project, “Towards Real-time Vital Sign Data Processing in Mobile Computing Grids for Advanced Operational Neuroscience,” the Defense Advanced Research Projects Agency has awarded Pompili \$300,000 over two years.

“The prestigious ONR Young Investigator Award and the DARPA Young Faculty Award are wonderful recognitions of Dr. Pompili’s research work and accomplishments,” said Athina Petropulu, professor and chair of the electrical and computer engineering department. She noted that another assistant professor in ECE, Wei Jiang, also received the DARPA Young Faculty Award. “It is amazing that two out of this year’s 51 DARPA awards came here. We are particularly excited by the promise that our junior faculty hold for our department.”

Pompili, who came to Rutgers in 2007, is co-director of the NSF Cloud and Autonomic Computing Center at Rutgers and a researcher with the [Rutgers Discovery Informatics Institute](#) (RDI2), a new universitywide, multidisciplinary center focused on large-scale computation and data, which is powered by an IBM Blue Gene®/P supercomputer. The director of both centers is Manish Parashar, professor of electrical and computer engineering at Rutgers.

“Professor Pompili is one of only 26 investigators selected this year for the ONR award, so it’s quite an honor,” Parashar said. “This program invests in academic scientists and engineers who show exceptional promise for creative study.”

DARPA’s Young Faculty Award, is intended to “identify and engage rising research stars” at U.S. universities. Last year Pompili won the National Science Foundation’s CAREER award – another prestigious and extremely competitive program – for his work on underwater multimedia acoustic communication. He also received the Rutgers/ECE Outstanding Young Researcher award in 2011.

Pompili's ONR project aims to create systems that monitor the physical health of individual military personnel in the field, "to extract non-directly measurable physiological parameters, to interpret the data under context, and to acquire actionable knowledge about the soldier's health." Individuals would wear sensors measuring vital signs such as blood pressure and oxygen saturation. And, rather than overwhelm medical staff at a distant location with a deluge of raw data, the system would analyze the data and communicate results in usable formats (details and diagrams [here](#).)

The DARPA-funding project aims to apply the framework developed in the ONR project to monitor the "psychophysiological" condition of individual military personnel in the field, Pompili said. He also expects the system to assess teams of soldiers, including their operational efficiency, incorporating physiological, kinematic, and environmental data.

Pompili earned a doctorate in electrical and computer engineering from the Georgia Institute of Technology in 2007. A native of Rome, Italy, Pompili completed his first doctorate, in systems engineering, in 2004 at the University of Rome "La Sapienza." He and his wife, Alessandra, are residents of Hillsborough, N.J.

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