U.S. Department of Veterans Affairs
Louis Stokes Cleveland VA Medical Center

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VA Researcher Receives Presidential Early Career Award for Scientists and Engineers (PECASE)

CLEVELAND – Cleveland VA Medical Center Researcher, Paul Marasco, PhD, will receive the 2016 Presidential Early Career Award for Scientists and Engineers during a White House ceremony this spring. Dr. Marasco is a principal investigator for the Advanced Platform Technology Center of Excellence at the Louis Stokes Cleveland VA Medical Center.

The VA's Research and Development Service nominated Dr. Marasco to represent the entire VA. Only a handful of rising stars from across the country receive this honor.

The PECASE Award is intended to recognize some of the finest scientists and engineers who, while early in their research careers, show exceptional potential for leadership at the frontiers of scientific knowledge during the twenty-first century. The PECASE Award is the highest honor bestowed by the U.S. Government on outstanding scientists and engineers beginning their independent careers.

Dr. Marasco's lab uses neural-machine-interfaces to provide touch and movement sensation to prosthetic limbs so that individuals with amputation feel like the devices are a part of their body. They think about moving their hands and the prosthetic hands move. When the prosthetic hands move they feel like it is their own hand moving. When they touch things with their prosthesis the sensation feels like it is coming from their own fingers. This **helps the individuals integrate their prosthesis into their body image and interact better with the devices so the device becomes more helpful to the amputee**.

Dr. Marasco leads a number of multi-institution and international projects funded across the National Institutes of Health (NIH), the Defense Advanced Research Projects Administration (DARPA), the Department of Defense's Congressionally Directed Medical Research Program (CDMRP), and the VA APT Center's Innovation Incentive. In addition to **investigating how to use perception and cognition to make prosthetics feel**, Dr. Marasco and his teams are also working to develop new validated functional tests for advanced prosthetic systems to **measure the tangible benefit of improved sensation** on the use of prosthetic devices and help communicate the outcomes to clinicians and payers. They are providing **joint movement sensations to amputees without neural-machine-interfaces so that they can move and walk better**, and also developing advanced composite approaches to **make the part of the prosthetic device that attaches to the limbs of the amputee more comfortable.**

In addition to his work with the Cleveland VA's APT Center, Dr. Marasco is affiliated with the Department of Biomedical Engineering at Cleveland Clinic's Lerner Research Institute, and Case Western Reserve University.

"In the 11 year history of the APT Center, Dr. Marasco is now the third investigator to receive this prestigious award," says Ronald Triolo, PhD, APT Center Executive Director. "Since Dr. Marasco joined us in 2009, his work has directly impacted the health and wellness of amputee Veterans. Recently he used his amputee research experience to expand beyond sensation into advanced materials application for amputee care," said Triolo.

The APT Center is one of 13 designated Centers in the Rehabilitation Research and Development (RR&D) Service of the US Department of Veterans Affairs. Established in 2005 as a collaboration between the LSCDVAMC and CWRU, the APT Center focuses on applying the most recent advancements in microelectronics, material science, microfabrication, wireless communication and mechanical design to the pressing medical needs of disabled veterans, and translating them into viable clinical options. Investigators, project staff and support specialists associated with the Center concentrate their professional effort on translational research in the areas of: Prosthetics and Orthotics, Health Monitoring and Maintenance, Neural Interfacing, and Emerging Enabling Technologies. For additional information about the APT Center, please follow the link: http://www.aptcenter.research.va.gov/.

The Louis Stokes Cleveland VA Medical Center provides timely, high quality healthcare to more than 7,800 Veterans daily through its inpatient and outpatient health care services. For more information visit www.cleveland.va.gov.

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