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Margulies Perruzzi Architects completes design of University of Massachusetts Lowell NERVE Center - a 10,000 s/f robotics lab

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Margulies Perruzzi Architects (MPA) has completed the design of the University of Massachusetts Lowell New England Robotics Validation and Experimentation (NERVE) Center, a new 10,000 s/f robotics lab and testing facility that is being hailed as the nation's most advanced facility for robotics testing to date and the first of its kind in the Northeast.

Located at 1001 Pawtucket Blvd., the NERVE Center resides in an 800,000 s/f R&D building owned and managed by Winstanley Enterprises, LLC of Concord, Mass. The new lab space features open, high bay space for robotics testing and includes a machine shop for fabrication of testing obstacles and equipment, an open office area, and a 9,000 s/f test range. The test range includes demountable obstacles such as ramps, stairs, debris piles, sand traps, a water testing area made up of a 500 s/f fording basin, a series of splash pools, and a 500 s/f rain test sprinkler area.

Features include obstacle courses that use wood, sand, gravel and water to challenge the robots' capabilities as they negotiate rough terrain and a variety of weather systems in real-life situations, such as search-and-rescue missions. There is a separate lab for testing airborne robot control systems.

"The NERVE Center is a cutting-edge testing facility that will improve the development of robotics systems by both academic researchers and private industry, and it is very exciting to see the lab up and running," said Beth Rubenstein, director of campus planning and development at UMass Lowell. "MPA's design of this lab affords us the utmost flexibility in the types of technologies we can test, and we applaud the team effort in seeing this project to fruition."

The NERVE Center tests robots from the private industry and the federal government, as well as UMass Lowell-designed and constructed robots. Research focuses on human-robot interaction (HRI), which includes multi-touch computing, interface design, robot autonomy, trust, and evaluation methods. Application domains include assistive technology, telepresence, and urban search and rescue (USAR). The NERVE Center also functions as a training facility for end-users of robotic platforms.

Winstanley Construction Management served as the project manager for the project. J. Calnan & Associates was the general contractor for the facility.