

# Field Robotics Center Seminar Series

**Monday, Aug 15, 2011 GHC 2109 2pm-3pm**



Dr. Eric T. Baumgartner  
Dean and Professor  
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Ohio Northern University

## Mobile Manipulation for the Mars Exploration Rovers

### Abstract

This talk will describe NASA's Mars Exploration Rover (MER) mission which successfully landed the Spirit and Opportunity rovers on the Martian surface in January 2004. The talk will focus on the design, development and operation of the MER Instrument Positioning System and the use of this subsystem to carry out in situ science operations on the Martian surface. All told, the Instrument Positioning System has been critical to understanding of the water processes at both the Spirit and Opportunity landing sites. As such, the MER Instrument Positioning System has paved the way for the use of future robotic devices that advance NASA's capabilities in autonomous mobile manipulation, sample acquisition, and in situ science investigations.

### Speaker Bio

Dr. Eric T. Baumgartner received the B.S. degree in aerospace engineering from the University of Notre Dame, the M.S. degree in aerospace engineering from the University of Cincinnati, and the Ph.D. degree in mechanical engineering from the University of Notre Dame. Currently, he is the Dean of the T. J. Smull College of Engineering and a Professor of Mechanical Engineering at Ohio Northern University. Prior to joining ONU, Dr. Baumgartner spent 10 years at NASA's Jet Propulsion Laboratory in Pasadena, California, where he held a number of technical and management positions including a leadership role on the Mars Exploration Rover project that successfully launched, landed and operated the Spirit and Opportunity rovers on the Martian surface. Dr. Baumgartner was honored with the NASA Exceptional Achievement Medal in 2004 for his efforts on the Mars rover project and, in May 2008, Dr. Baumgartner, along with two of his colleagues at JPL, was presented with the 2008 IEEE Robotics and Automation Award.



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