2012-2013

Graduate Seminar Series

The Department of Mechanical Engineering – Engineering Mechanics

Proudly Presents

Mark R. Vaugh

Research Professor

Mechanical Engineering – Engineering Mechanics

Michigan Technological University

Mark Vaughn holds a PhD in mechanical engineering and an MS in biomedical engineering from The University of Texas at Austin as well as a BS in biomedical engineering from the University of New Mexico. He began his career at the Center for Electromechanics in Austin designing and building pulsed power flywheel inertial energy storage systems and railguns for SDI. This work required him to invent new hydrostatic bearing technology.

Mark worked for over 26 years at Sandia National Laboratories in Albuquerque New Mexico. He spent four years working in advanced nuclear weapon use control systems. He then worked building one-of-a-kind missile payloads for the next ten years, primarily for SDI. During this time he began work in medical devices including prosthetics, wound healing, and wheelchair assistive devices. A robot project took him to the robotics department for four years, where he worked on a variety of DARPA projects. After doing design and development work for earth penetrators, he worked for several years in the Synthetic Aperture Radar (SAR) gimbal group on heat removal and bearing tasks while also starting up a UAV payload effort. Finally, he followed a DARPA drilling project to the geothermal group, where he also collaborated on a study of energy storage for microgrids. He holds ten US patents.

Thursday, Jan. 24, 2013 **4:00 – 5:00 p.m.** **Room 112, ME-EM Bldg.**

Energy Storage for Power Grid Integration of Renewables

Renewable energy sources, solar, wind, etc, are becoming a larger proportion of overall electrical energy production. In order to improve the utilization efficiency of these new sources in the existing power grid, energy storage will be needed. Numerous energy storage modalities are examined, with commentary on advantages and disadvantages of each. Selection strategies will be discussed.

Funding for the ME-EM Graduate Seminar Series is provided by the Department of Mechanical Engineering – Engineering Mechanics

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