

# THE PETROLEUM INSTITUTE DISTINGUISHED SCHOLARS SEMINARS

## Prof. Robert O. Warrington

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Thursday, May 8, 2008  
12:00 P.M. – 1:00 P.M.  
Room 100, Zarkuh Bldg.

## The World is Changing Rapidly and So is Engineering Education

Unprecedented changes in areas such as the availability of information, climate, energy resources, and the worldwide production of engineering degrees have led to serious debate about the role of the engineer in solving issues associated with sustainability, increasing the wealth of nations in a sustainable manner, eliminating poverty, and in increasing the quality of life for all in manner consistent with a sustainable world. Of paramount importance in these discussions is how we educate engineers now for this very different future. This talk will review some of the recent changes globally in engineering education and then focus on developments in the US. In particular, the 2004 NAE study on "Educating the Engineer of 2020", the Duderstadt Millennium report, the ASCE Body of Knowledge Study, the 5xME NSF workshop in 2007, and the recently completed ASME Education Conference and ASME Global Summit on the Future of Mechanical Engineering (NAE, April, 2008) will be put into context. Examples of recent changes in US engineering education focusing on active learning will be presented for WPI, Purdue, and IIT. A more detailed overview of the Michigan Tech active, discovery based learning environment, the Enterprise Program will be presented along with a discussion of the impact on accreditation activities for Michigan Tech's engineering programs.

Robert O. Warrington is currently Director of the Institute for Interdisciplinary Studies, which houses the innovative Enterprise program and the new Pavlis Institute for Global Technological Leadership at Michigan Technological University. Dr. Warrington was Dean of the College of Engineering at Michigan Tech from 1996 to 2007. Dr. Warrington served on the faculty at Montana State University for eight years. He was the head of the Mechanical and Industrial Engineering Department at Louisiana Tech University for 11 years, and was the founder and Director of the Institute for Micromanufacturing from 1991-1996. He was an associate editor (now emeritus) for the ASME/IEEE Journal of Microelectromechanical Systems and has over 145 technical publications and numerous presentations (35 invited), and 39 research grants from foundations, government and industry. Dr. Warrington is the founder of the Commercialization of Microsystems Conferences, is past founding president of MANCEF and currently is a member of the executive board for MANCEF. Dr. Warrington is currently Associate Director of the Wireless Integrated Microsystems a National Science Foundation Engineering Research Center. Dr. Warrington is currently VP for Education, Centers Sector and sits on the advisory board for the Nanotechnology Institute for the American Society of Mechanical Engineers (ASME). Dr. Warrington has been involved in accreditation for over 25 years and has served on the Engineering Accreditation Council and on the Executive Committee of the Engineering Accreditation Council of ABET. Dr. Warrington is currently involved in international accreditation activities and as VP for Education for ASME leads their accreditation activities. Dr. Warrington is a Fellow of ASME and AAAS.

**For further information on this seminar contact Ms. Margie Abedejos at x75362**