The Department of Mechanical Engineering is pleased to host

**Dr. Dong G. Lee**

*Pusan National University  
School of Mechanical Engineering*

**Development of Single Particle Mass Spectrometry**

**Abstract:** This talk will mainly focus on the introduction of the working principle and current issues in design of aerosol mass spectrometry or single particle mass spectrometry. This technique is capable of analyzing size and elemental composition of a single nanoparticle. Several approaches will be presented to overcome the technical limits and the effectiveness of the proposed approaches will be demonstrated. In addition, other on-going projects will be briefly introduced, which include Flame-assisted synthesis of Pt-catalyzed PEMFC, Montecarlo simulations on particle aggregation kinetics and, Synthesis of metal or metal-oxide based catalysts for deNOx reaction or carbon combustion.

**Biography:** Dr. D. Lee, an associate professor from the School of Mechanical Engineering of Pusan National University (PNU), has been on sabbatical at UMD since summer 2008. He earned his Ph.D. from Seoul National University in 2000, collaborated with Dr. Michael Zachariah as a Post-doc at the University of Minnesota until 2003, and then moved to PNU as an Assistant Professor in 2003. He is now collaborating with Dr. Zachariah in the area of nano aluminum particle combustion. Dr. Lee has been honored with the "Sheldon K. Friedlander Award" in 2003 from the American Association for Aerosol Research, and twice selected for excellence in research achievements from the Korean Research Foundation and the Korean Institute of Environmental Science and Technology in 2007. Two of Lee’s MS students have been honored with the "Samsung Electronics Humantech Best Paper Award" in 2006 and 2008, respectively. Dr. Lee is now driving his research toward Nanoparticle-based Energy Fields.

**Date:** March 27, 2009 at 2:00 pm  
**Place:** EGR (Glenn L. Martin Hall) 1202  
**Host:** Dr. Lee will be hosted by Professor Michael Zachariah of Mechanical Engineering.