

2008-2009 Graduate Seminar Series

The Department of Mechanical Engineering – Engineering Mechanics

Proudly Presents

Professor A. M. Rajendran University of Mississippi

Dr. Raj Rajendran serves the Department of Mechanical Engineering at University of Mississippi (“Ole Miss”), Oxford, MS as its’ Chair from October 2008. Prior to his recent appointment as the Chair and Professor at Ole Miss, he served as the Chief Scientist and technical advisor for the Engineering Sciences Directorate of Army Research Office, Army Research Laboratory (ARL), RTP, NC, 27709 during 2000-2008. Dr. Rajendran was the team leader for computational material modeling group at U.S. Army Research Laboratory at Watertown, MA (1992-1995) and at Aberdeen Proving Ground, MD (1995-2000). His earlier career during 1981-1992 was with the University of Dayton Research Institute, Dayton, Ohio.



He has served in several high-level DoD / DOE / NASA evaluation panels as a member. Dr. Rajendran is an Adjunct Professor at the North Carolina State University, Raleigh, NC. He serves in Ph.D committees and also supports National Research Council (NRC) Associates at NC State University.

Dr. Rajendran has won several research awards: University of Dayton Research Institute’s (UDRI) top research award (Wohlleben/Hochwalt Award) for 1991, Martin-Marietta’s “Manned Space Systems Award, 1988, and Army’s R&D achievement award for 1998, ICCES’s Eric Reissner medal in 2007, and 26th Army Science Conference best paper award in 2008. Dr. Rajendran has authored approximately 150 publications and over 150 presentations.

Dr. Rajendran is a *Fellow* of the Army Research Laboratory, *Fellow* of the American Society of Mechanical Engineers, Associate Fellow of AIAA, current editorial board member: *Journal of Computer Modeling, Simulation in Engineering, International Journal of Plasticity, and Composites Part B: Engineering*. Served as an Associate Editor for the ASME Transactions, *Journal of Engineering Materials and Technology*. He is presently the Co-Chair for the Executive Committee of ASME’s Materials Division.

Dr. Rajendran obtained his Ph.D. (1981) in Aeronautics and Astronautics (Applied Mechanics) from the *University of Washington*, Seattle, WA.

Thursday, Mar. 19, 2009 3:00 – 4:00 p.m. Room 112, ME-EM Bldg.

‘Research Opportunities in Mechanics and Nano/Biosciences at the Army Research Office’

The first part of this talk will include discussions on the various research opportunities at the U.S. Army Research Laboratory, especially at the Army Research Office at Research Triangle Park, North Carolina. To meet Army’s transformation requirements, the future vehicle and soldier systems have to be ultra lightweight. There are challenging scientific hurdles to overcome in order to meet the technological requirements in the area of applied mechanics, and Nano/Biosciences. The short and long term research focuses are on latest developments in computational mechanics, nanomechanics, biomechanics, rotor dynamics, smart structures and materials, heterogeneous materials, etc.

‘Atomistic Modeling of Ductile Failure’

The second part of this talk will discuss recent results from molecular dynamics simulation results on atomistic modeling of void nucleation and growth in nanocrystalline materials.