



DEPARTMENT OF MECHANICAL ENGINEERING Purdue School of Engineering and Technology

FALL 2003 SEMINAR SERIES

Date: **Thursday, September 25, 2003**
Time: 11:00 am - 12:00 pm
Room: **SL 165**

Reception at 10:45 am (cookies and refreshments served)
Everyone is invited

Thermal Management of Automotive Vehicles

Dr. James Hou

Structural Specialist

Allison Advanced Development Corporation, Indianapolis

Abstract. To be more competitive in the market, automotive industry has been trying to find ways of manufacturing products more efficiently, improving product quality and cost saving. One of the focuses is Thermal Management which affects the vehicle performance, fuel economy, environmental safety, passenger comfort and safety.

Applications of thermal management on different components or systems (eg., powertrain, underhood, HVAC, brake) will be presented. Presentation will include the concept of product development and the use of numerical analysis to improve design and resolve practical problems.

About the Speaker. Dr. Hou graduated from the Department of Aeronautical Engineering of National Cheng-Kung University at Taiwan in 1980. He joined the Aeronautical Industry Development Center as an aircraft system engineer in 1982 after military service. In 1987, he finished his masters in Aerospace Engineering at Arizona State University. His master's thesis focused on the rotor dynamics analysis including nonlinear squeeze-film bearing and foundation effect.

He received his Ph.D. in Engineering Mechanics from Georgia Institute of Technology in 1992. His main research was the development of Mixed and Displacement methods of *hp* -version space-time finite element. He joined NASA Lewis Research Center at Cleveland in 1992. Later on, he joined the Daimler Chrysler Corporation and worked as an engineering specialist for seven years, and then worked at GE Aircraft Engines for two years. He is currently working as a Structural Specialist at Allison Advanced Development Company (AADC).