

**MECHANICAL ENGINEERING DEPARTMENT
ME/ISyE 8773-8774**

Meeting the Environmental Challenges of 21st Century Vehicles

by

Charles L. Gray, Jr.

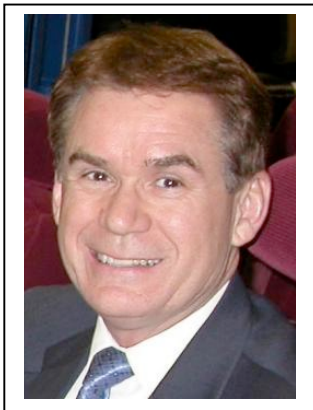
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Wednesday, April 9, 2008

3:15 p.m. — Refreshments before the seminar

**3:30 p.m. — Graduate Seminar
Room 1130 ME**

ABSTRACT —The days of building just any kind of motor vehicle are long gone. Future vehicles will be engineered to meet stringent requirements for emissions, greenhouse gases, fuel efficiency and economics, as well as customer demands/expectations. This presentation examines the drivers that will change vehicle engineering and will explore examples of what will be a cost-efficient future vehicle.



BIO — **Dr. Charles Gray, Jr.** is Director of the Advanced Technology Division at the U.S. Environmental Protection Agency's National Vehicle and Fuel Emissions Laboratory in Ann Arbor, Michigan. He has worked for the U.S. Environmental Protection Agency since the early 1970s, and has been a major architect of the federal motor vehicle and fuels emissions control program. He currently heads the EPA's Clean Automotive Technology program that oversees the Agency's advanced vehicle technology and alternative fuels research and demonstration activities. Current areas of research include hydraulic hybrid vehicles and clean burning engines such as clean diesel combustion (CDC) and homogeneous charge compression ignition (HCCI). Mr. Gray has a longstanding interest in alternative fuels, and in the benefits that such fuels could provide with respect to a cleaner

environment, increased economic growth, and enhanced national security. He is co-author of a book on alternative fuel published by The University of Michigan Press; two Scientific American articles, and numerous other publications. He has a Bachelor of Science degree in Chemical Engineering from the University of Mississippi and a Master of Science degree from The University of Michigan.

Informal Faculty Luncheon: Wednesday, April 9, 2008, 12:00 noon. Meet in 1100 ME and walk to lunch with other faculty. Dr. Charles Gray will be able to attend. Faculty Host is Prof. Kim Stelson.