Electrical & Computer ENGINEERING

Special Seminar

MONDAY
OCTOBER 15, 2007

Hamerschlag Hall 1112

12:00 p.m.
Refreshments—11:30 p.m.

Michael McQuade
SENIOR VICE PRESIDENT
UNITED TECHNOLOGIES CORPORATION

Dr. J. Michael McQuade is Senior Vice President, Science and Technology at United Technologies Corporation, responsible for ensuring the health and vitality of the company's technology and engineering strategies and operations.

Prior to joining UTC, McQuade was Vice President of 3M Health Care's Medical Division and was formerly the President of the Health Imaging business at Eastman Kodak. His early career was focused on research and development of high-end acquisition, processing and display systems for health care, industrial imaging and remote sensing.

McQuade obtained his Ph.D. in experimental high-energy physics from Carnegie-Mellon University for research performed at the Fermi National Accelerator Laboratory.

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Creating Technology Innovations for Critical Infrastructure

This talk presents the aspects of the business and technology drivers for critical infrastructure in the buildings and aerospace systems sectors. The talk focuses on products and development processes in United Technologies Corporation (UTC) which is a large ($48B in 2006 revenues) global company with presence in both building and aerospace sectors.

There are significant drivers that are creating new engineering challenges for large complex systems. Elements reviewed in this presentation include market pressures for cost reduction, environmental pressures from energy conservation and global warming and technology pressures particularly found in security systems.

A key technology enabler to overcome engineering development barriers is systems engineering and the role that it plays in creating integrated solutions. The use and needs of systems engineering at UTC is described particularly in the context of engineering energy efficient buildings. The combination of system level physics based modeling, nonlinear dynamical systems analysis and control system implementation into embedded systems form key thrusts in technology development across UTC.

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