The University of Cincinnati

Department of Aerospace Engineering and Engineering Mechanics

GRADUATE SEMINAR

Microsystems for Fun and Profit!

Walter C. Merrill

Executive Director
Glenman Microsystems Initiative

Date: **Friday, May 7, 2004**
Time: **3-5:00 pm**
Place: **757 Baldwin Hall**

ABSTRACT

Dr. Merrill will describe some recent work in the development of microsystems in Ohio, focusing on devices for harsh environment applications, such as high temperature locations within gas turbine engines and chemically challenging *in vivo* applications. The discussion will include not only technical information about the design and fabrication of these devices but also the business opportunities that they represent.

BIOGRAPHICAL SKETCH

PhD	Engineering Science, 1975	University of Toledo
MS	Electrical Engineering, 1971	Auburn University
BSEE	Electrical Engineering, 1972	General Motors Inst.

Dr. Merrill is the Executive Director of the Glennan Microsystems Initiative, a public-private partnership in microsystems for harsh environments founded in 1999. The Initiative focuses on the commercialization of silicon carbide based microsystems, particularly sensors for aerospace, industrial and biomedical applications. As Director of the Initiative, Dr. Merrill has guided over 30M$ of research into non-intrusive instrumentation, high temperature electronic devices, microsystems, biomedical devices and micro-power systems. From 1975 to 1999, Dr. Merrill performed and directed research at the NASA Glenn Research Center specializing in aeronautic and aerospace propulsion instrumentation and control technology. Individual research interests include microsystems as well as multivariable control methodology, dynamic systems identification, fault tolerant control through analytical redundancy, diagnostics, and intelligent control systems. At NASA he managed the research of 50 professionals to develop fiber optic controls, laser based instrumentation and measurement systems, high temperature thin film thermocouples and strain gauges, Silicon Carbide based electronic devices, MEMS, integrated propulsion controls for aircraft, and high stability engine controls. Dr. Merrill has authored 70 technical articles, papers and reports and is a senior member of the IEEE and an Associate Fellow of the AIAA and has won the NASA Medal for Exceptional Engineering Achievement.

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