



# Seminar Experience

ELECTRICAL & COMPUTER ENGINEERING

Friday, Jan. 30

11 am—12 pm

FIU Engineering Center

EC Room # 1105

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## *“CMOS-MEMS Integration and Design ”*

**Gary Fedder, Ph.D.**

Associate Dean for Research, College of Engineering

Professor of the Robotics Institute

Carnegie Mellon University

### **ABSTRACT**

The desire by consumer and military markets for more functions designed into phones, sensor motes and other small form-factors is driving simultaneous reductions in multi-physics microsystem size, power and cost and is spurring interest in integration of MEMS devices with CMOS. Currently, CMOS MEMS integration has made commercial inroads in inertial sensors, displays, and RF capacitive tuning systems while several other kinds of CMOS-MEMS microsensors and microactuators have been demonstrated in research labs. I will provide an overview of our prior and present work on heterogeneous MEMS/electronics integration and associated design methodologies along with some prognostication about the future of integrated microsystems.

### **BIOGRAPHY**

Gary K. Fedder is the Associate Dean for Research in the college of engineering, the Director of the Institute for Complex Engineered Systems, and the Howard M. Wilkoff Professor of Electrical and Computer Engineering and of The Robotics Institute at Carnegie Mellon University. He earned his B.S. and M.S. from MIT and his Ph.D. from U.C. Berkeley. His personal research lies in microelectromechanical systems where he has contributed to over 240 research publications and holds several patents. He is an IEEE Fellow and serves on the editorial boards of *IoP J. Micromechanics and Microengineering*, and *IET Micro & Nano Letters* and as co-editor of the *Wiley-VCH Advanced Micro- and Nanosystems* book series. From 2011 to 2012, Professor Fedder served as a technical co-lead in the U.S. Advanced Manufacturing Partnership where he worked with industry, academia and government to generate recommendations that motivated the launch of the National Network for Manufacturing Innovation.