

UNH Materials Science Seminar

11:00-12:00, Thursday, March 9, 2006

DeMeritt Hall 209B

University of New Hampshire

Various Applications of Microelectromechanical Systems

Professor Mehmet R. Dokmeci
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The Micro Electro Mechanical Systems (MEMS) field has adopted the technology developed by the semiconductor industry and created successful products in the past 2 decades. Some of these include integrated accelerometers and gyroscopes by Analog Devices, pressure sensors by Motorola, digital mirrors by Texas Instruments, lab on a chip systems by Agilent Technologies. In this talk, I will give a brief overview of the MEMS field both from an academic and industrial standpoint and then describe specific devices that I have been involved in developing including implantable microstimulators, optical actuators for switching light signals, and parylene scaffolds for biomedical applications.

Mehmet R. Dokmeci received the B.S. (with distinction) and the M.S. degrees from the University of Minnesota, Minneapolis and the Ph.D. degree from the University of Michigan, Ann Arbor, all in electrical engineering. His dissertation was on hermetic encapsulation of implantable microsystems for chronic use in living systems. He is currently an Assistant Professor in the Electrical and Computer Engineering Department at Northeastern University. Previously, he was an Assistant Research Scientist in the Electrical Engineering and Computer Science Department at the University of Michigan, Ann Arbor, where he developed a wafer level vacuum packaging technology based on Pb-Sn solders. He has 3.5 years of industrial

experience at Corning-Intellisense Corporation, Wilmington, MA developing MEMS-based products for the telecommunications and life sciences industries. His research interests are concentrated in all areas of micromachining and its applications to biomedical and optical devices, hermetic and vacuum packaging, humidity sensing and implantable biosensors. He has 30 technical publications in these areas. Dr. Dokmeci is a member of IEEE, MRS and HKN.

Host: Jim Harper x1962