

UNH Materials Science Seminar

11:00-12:00, Thursday, September 23, 2004

DeMeritt Hall 209B

University of New Hampshire

Remote Plasma Sources in Semiconductor Processing

Dr. William Holber
Manager, Advanced Technology
MKS Instruments, Inc.

Over the past decade there has been increasing usage of remote plasma sources for semiconductor manufacturing. Remote plasma sources are plasma-based generators of reactive gases, generally located external to the main processing chambers for semiconductor and flat-panel substrates. While conventional plasma sources produce both ionized and reactive neutral species in the same chamber as the process substrate, remote plasma sources deliver only reactive species to the process chamber. This allows for various unique capabilities. This talk will present some of the applications of remote plasma sources and will also discuss the various engineering challenges related to the design and manufacture of these sources.

Bill Holber received his PhD. in Applied Physics from Columbia University in 1987. For the next seven years he was a Research Staff Member at IBM's T.J. Watson Research Center, working on a variety of projects related to semiconductor processing, including the development of ECR (electron-cyclotron-resonance) high-density plasma sources for etching and deposition. Since 1993, Bill has been employed at MKS Instruments, where he manages the Advanced Technology organization, responsible for the development of remote plasma sources, novel integrated rf generators, and new gas flow control products.