An Overview of the Micro/Nano Technology Center

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Abstract

The Micro/Nano Technology Center (MNTC) encompasses the University of Louisville's class 100/1000 $30 million cleanroom facility and adjoining laboratories. The center is open access and supports a wide range of research initiated by faculty, academic institutions, start-ups, medium and large businesses around the country. Expertise resides in micro and nanotechnology, sensors, transducers, microelectromechanical systems (MEMS), advanced materials, biomedical, space, and governmental applications. This core facility is utilized by a wide variety of disciplines in Engineering along with Chemistry, Physics, and Medicine.

Capabilities of the cleanroom include a full array of equipment for deposition of varied materials from dielectrics to precious metals, photolithography including the generation of photomasks, dry and wet etching and high thermal processing. Adjoining laboratories include the Huson Imaging and Characterization Laboratory housing a complete suite of Scanning Electron Microscopes (SEM) with electron dispersive spectroscopy (EDS), Atomic Force Microscopes (AFM) and thermal imaging. Dicing and wire bond capabilities are also available to complete process offerings.

Operations emphasize ease of access to the facilities, on-site fabrication services, protection of intellectual property (IP), a large array of capabilities and experience, online bill payment, competitive pricing and a business mindset.

Biography

Julia Aebersold, Ph.D., earned her doctorate in Mechanical Engineering from the University of Louisville in 2005. Her research developed a micro-electromechanical (MEMS)-based capacitive bending strain sensor with a biocompatible housing for a telemetric strain monitoring system. Julia holds a MEng (1994) and BS (1992) in Mechanical Engineering. After earning her Ph.D. she continued to perform federally funded research as a Research Scientist from 2005 until 2012 until she began managing the Micro/Nano Technology Center in 2012.