

M R B NEWS

Featured Faculty: Dr. Karen Nordheden, Associate Professor, Chemical and Electrical Engineering; Physics

Academic Areas:

Chemical and Electrical Engineering; Physics

Research Interests

Plasma etch processes for semiconductor device fabrication

Educational Background:

B.S., Physics, Michigan State University

M.S., Electrical Engineering, University of Illinois at Urbana-Champaign

Ph.D., Electrical Engineering, University of Illinois at Urbana-Champaign

Dr. Nordheden's major research interest is in the area of development and characterization of new plasma etch processes for semiconductor device fabrication. Plasma etching is a key processing step in the manufacture of semiconductor devices. It involves the selective removal of materials using chemically reactive gases such as chlorine, boron trichloride, silicon tetrachloride, and sulfur hexafluoride. The formation of a plasma (ionized gas) provides the mechanism to dissociate the parent

molecule in order to liberate atomic chlorine or fluorine (which are the main etch species). Current work is focused on the development of etch processes for InGaAsSb, GaN, SiC, and ZnO based devices. Various diagnostic techniques such as mass spectrometry, optical emission spectroscopy, and Langmuir probe or microwave phase measurements of electron density and electron temperature are used to understand and optimize these processes, especially with gas mixtures. Dr. Nordheden is also currently collaborating with the develop-

ment of microfabrication processes for microfluidic peptide detection with Dr. Sue Lunte and with oxygen permeable membrane catalysis for hydrogen production with Dr. Susan Williams (C&PE).



Pictured above: Clean Room



Pictured left: Pradyot Nandi (L). Sue Lunte Lab with a visiting scientist



Pictured above L-R: Laura Francoviglia, Bogdan Pathak, Michael Santilli, Karen Nordheden, John Alexander



Pictured right: Karen Nordheden with the Plasma Lab System 100

MEET THE POST DOC:



Name: Gemma O'Donnell

Lab Group: Timmermann

Field of Study:
Phytochemistry

Time at KU: 1 month

Hobbies: White-water
Kayaking, Photography

Home Town: Banbury,
Oxfordshire, UK

If you have any special housekeeping needs, or need to contact Craig, Aron or Traci, you can e-mail:

HSKPMRB@ku.edu Also please help us keep the building nice. Our housekeepers leave at 1:30 p.m., so any lunch, snack or party food left out after that will stay out until the next day. Please bus your own tables. We often have visitors in the afternoons.

IMPORTANT BUILDING INFORMATION

Congratulations and good luck to the following graduates and post-docs in their new positions. Please let Teri know if there is anyone you'd like us to recognize.

- Beth Erickson, **Dunn Lab**; Stowers Institute for Medical Research, *Kansas City, Missouri*
- Olivia Mooren, **Dunn Lab**; University of Virginia, *Charlottesville, Virginia*
- Vionette DeChoudens, **Gonzalez Lab**; Conoco Phillips, *Houston, Texas*
- Stacy Rosner, **Gonzalez Lab**; ENCAN, *Denver, Colorado*
- Arvind Chappa, **S. Lunte Lab**, Bausch and Lomb, *Rochester, New York*
- Celeste Frankenfeld, **S. Lunte Lab**, Schering Plough, *New Jersey*
- Salvador Ausar, **Middaugh Lab**; Sanofi-Pasteur, *Toronto, Canada*
- Laura Peek, **Middaugh Lab/Berkland Lab**; On-cimmune, *Lenexa, Kansas*
- Haihong Fan, **Middaugh Lab**; Merck, *West Point, Pennsylvania*
- Jianxin Guo, **Middaugh Lab**; Talecris, *RTC, North Carolina*
- Tim Kamerzell, **Middaugh Lab**; Genetech, *San Francisco, California*
- Nazila Miller, **Middaugh Lab**; Shire Pharmaceuticals, *Cambridge, Massachusetts*
- Akihisa Nonoyama; **Middaugh Lab**; Wyeth, *Pearl River, New York*
- Raja Thyagarajaburam; **Middaugh Lab**; Amagen, *Thousand Oaks, California*
- Brena Mauck, **Roberts Lab**; AP College of St. Mary, *Omaha, Nebraska*

Be sure to write your lab name and account number on empty cylinders. The list of account numbers is posted above the empty cylinder area.

Procedure for reserving 2nd and 3rd floor conference rooms is the same on weekends as on weekdays. A weekend schedule will be posted at each conference room on Friday afternoons.

Bike racks in the front of the building are under video surveillance. Please do not chain your bike to downspouts or hand-rails.

Lower your sash, save some cash. Please pay attention to your hood sashes. We will save much on energy costs by keeping sashes lowered.

Kansas Storm Season

It is storm season in Kansas and we need to be prepared for severe weather. See the KU Public Safety Office website

<http://www2.ku.edu/~kucops/resources/weather.shtml>

For specific safety locations at MRB see Teri, Carla or Ann.

Pictured right: From a friend of a friend.....this picture of a tornado in Maple Hills (near Topeka, Kansas) was taken from her front lawn.

