

MRB NEWS

Featured Faculty: Craig Lunte, Professor, Chemistry

Academic Areas:

Analytical and Bio-Analytical Chemistry

Research Interests

Analytical chemistry: monitoring living systems, micro-separation techniques, electrochemistry, electrochemical detection in liquid chromatography and capillary electrophoresis, drug transport, pharmacokinetics, anticancer drugs, oxidative stress.

Educational

Background:

B.S., 1979, University of Missouri—Rolla

Ph.D. 1984 Purdue University

Post doctoral Associate, 1986—1987, University of Cincinnati



Pictured above: Craig Lunte

Article reprint KU Chemistry and Craig Lunte Group website, Photos: Craig Lunte Group Website and Ann Smith

Professor Lunte's research is focused on the development of new methods for the study of drug metabolism and disposition. All aspects of the bioanalytical problem of drug disposition studies are being addressed, from sampling of living organisms to analysis of minute biological samples. He has taken a leadership role in applying microdialysis sampling to the study of drug metabolism and disposition. His research group has provided both novel applications of microdialysis sampling and fundamental studies of the technique. Several novel microdialysis probes have been developed for sampling from peripheral tissue in awake animals. Studies of drug transport effects on the microdialysis process *in vivo* have led to greater insight into the use of this technique.

Dr. Lunte's research also involves the development of microanalytical techniques based

on separations. New approaches in both microbore liquid chromatography and capillary electrophoresis (CE) are being pursued.

Electrochemical detectors for CE are being developed. On-column sample concentration methods are also being developed for CE. Projects using capillary electrokinetic chromatography (CEC) for drug analysis are being pursued. These microanalytical techniques are being directly coupled to microdialysis sampling to provide separation based *in vivo* sensors. These systems provide near real-time monitoring of multiple chemical species in the tissues of awake, freely-moving animals. These new bioanalytical tools are being applied to several important problems in drug metabolism and disposition studies. Some current projects include studying the transdermal delivery of several investigational drugs, studies of ischemia/reperfusion induced oxidative stress

in the heart and brain using both biomarker and metabolomics approaches, evaluating the pharmacokinetics of novel prodrugs, and evaluation of the neurochemical response to electrical stimulation related to epilepsy.

All of these studies involve the continuous monitoring of tissue concentrations of compounds in living animals. Dr. Lunte has authored and co-authored numerous publications.



MEET THE POST DOC



Name: Laura Peek
Lab Group: Berkland Lab
Field of Study:
Nanotechnology as it relates to drug delivery; Stabilizing proteins and formulating vaccines
Time at KU: 4 years (doctorate)
Hobbies: Volleyball, Fishing, Spending time with family and friends.
Home Town: Williamsburg, KS

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MRB TIDBITS

Please remember that coffee and/or tea is \$.10/cup. Collection jars are beside each coffee maker. If we don't collect enough money to pay for coffee, the service may be discontinued. It would be helpful if those who use the service regularly bring a mug or cup that can be washed and reused. One large expense is the Styrofoam cups. We are cutting back on the number of cups we order.

Please do not chain bicycles to the down spouts. MRB has a bike rack for your convenience.

The espresso machine normally located on the 1st floor is being serviced. Once we get it back, espresso shots are \$.35/shot.

MRB Faculty: If you want to grant building access to a student, please send an e-mail to Ann, Carla or Teri, so we will have a written record for our files.

Congratulations to Barbara Timmermann and Susan Lunte, KU Women of Distinction. There are KU Women of Distinction calendars located on the 1st and 2nd floors.

Carla Ramirez collects pop tabs for Children's Mercy Hospital. When putting a can in the recycle container, pull the tab for Children's Mercy. Pop tab containers are on the aluminum recycle bins.

Refrigerators are cleaned out once a month. Please check the dishwashers for containers that might be yours!

We now have a new procedure for receiving gases from Linweld. You are responsible for taking the tanks to your labs and returning empty tanks to the service area. Let us know if you have any questions.

Artists are almost finished installing their work in the MRB building. This art will be housed here for one year. Please do not touch the pieces.

As more and more visitors are touring and using our building for meetings we'd like to ask that you help us keep our whiteboards looking white. If there is information that you want saved, please write SAVE or DO NOT ERASE. Occasionally we will be cleaning whiteboards.

UPCOMING EVENTS: MRB is hosting An Artists' Reception, Friday, Sept. 22, 4-6:00 p.m. We anticipate having a large number of visitors. The reception marks the first installation of KU faculty artwork in MRB. Meet the artists, Shawn Bitters, Matthew Burke, and Yoonmi Nam, and enjoy refreshments. We will be conducting tours of the building. The reception precedes the opening celebration of the 2006 exhibitions and programs at the Spencer Museum of Art from 5:30—7:30 p.m.



Pictured above: Matthew Burke's artwork "5 Months" and "The Wedge" in the MRB main lobby