

M R B NEWS

Featured Faculty: Cory Berkland; Assistant Professor Pharmaceutical Chemistry

Academic Areas:

Chemical Engineering and Pharmaceutical Chemistry

Research Interests

Biotechnology and Biomedical

Educational

Background:

2004 Post Doc, Chemical and Biomolecular Engineering; University of Illinois, Urbana

2003 Ph.D., Chemical and Biomolecular Engineering, University of Illinois, Urbana

2001, M.S., Chemical Engineering, University of Illinois, Urbana

1998 B.S., Chemical Engineering, Iowa State University, Ames

Dr. Berkland and his lab work at the interface of medicine and engineering with an emphasis on precisely controlling the physical and chemical properties of particles and cellular scaffolds. In recent history, through the merger of engineering and biological sciences, biotechnology has pressed toward improving methods for regenerating tissues, developing biosensors, and effectively delivering therapeutic agents. Accomplishing such tasks requires specifically designing biomedical or drug delivery devices that possess the required physiochemical properties. The Berkland lab focuses on developing precision engineering technologies at the macro to molecule scale for

novel or improved biomedical and drug delivery devices. Current Berkland lab projects include:

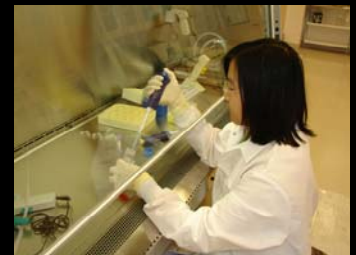
- Targeted nanotherapeutics for cancer treatment
- Nanoparticle targeted angiogenesis
- Particle design for pulmonary delivery via dry powder inhalation
- Particle design for vaccine delivery/cell signaling
- Engineering Islets for transplant to diabetics
- Tissue engineering constructs with chemical gradients
- Intercellular trafficking of nanoparticle therapeutics



Pictured above: Laura Peek; Post Doc



Pictured above: Lianjun Shi; Post Doc



Pictured above: Na Zhang; Post Doc



Pictured above: Cory Berkland in his office; pictured right: Cory enjoys the Winter International Potluck in December with some post docs

FOCUS ON:



NAME: Dr. Baby Chandrika

LAB GROUP: Biomolecular NMR

FIELD OF STUDY: High Resolution NMR Spectroscopy

TIME AT KU: 4 Months

HOBBIES: Traveling

HOMETOWN: Trivandrum, India

Right: Photos of the 600MHz being installed in room 102 at MRB

Dr. Chandrika received her M.S. in Applied Chemistry from Cochin University of Science and Technology and her Ph.D. in NMR spectroscopy from the Indian Institute of Technology, Chennai. Prior to joining the biomolecular NMR spectroscopy laboratory in August 2006, Dr. Chandrika spent several years in the technical cadre of the Sophisticated Analytical Instrument Facility at the Indian Institute of Technology, Chennai. She also held positions as NSF-STC Research Associate at the University of North Carolina at Chapel Hill and Visiting Scientist at the National Institutes of Health, Bethesda.

The Biomolecular NMR Laboratory maintains two high field NMR spectrometers to support Protein NMR research at the University of Kansas. A Bruker Avance 800 MHz NMR spectrometer, equipped with a TCI cryoprobe, is housed in a specialized laboratory in Room 100 of the Structural Biology Center. A Varian Inova 600 MHz NMR is located in Room 102 of the Multidisciplinary Research Building.



The Biomolecular NMR Laboratory staff assists investigators in obtaining high quality results from the two high field NMR instruments at KU in support of their investigations of protein structure, protein folding, protein-protein and protein-ligand interactions. The Biomolecular NMR staff also assists in maintaining and upgrading these spectrometers, implements new methods, assists local and remote users with technical problems, takes data for remote users or arranges for them to have remote control of the spectrometer, and collaborates with investigators needing support for high quality protein NMR research.

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Some of the MRB/KUCR IT Staff

Welcome to our KUCR guests

We now welcome the KUCR guests that I told you about in our last newsletter. Due to HVAC renovations at Youngberg Hall, we're temporarily housing 11 KUCR staff. New to our building are:

Sharon Anthony, HSCL (Human Subjects Committee-Lawrence) Assistant Coordinator, Room 100

John Augusto, Graduate Training Coordinator, Room 320

Mary Denning, HSCL Associate Coordinator, Room 100

David Hann, HSCL Coordinator, Room 100B

Meredith Porter, Executive Assistant to the Vice Provost for Research, Room 320

Alyson Rodee, HSCL Student Assistant, Room 100

Rebecca Ryan, Manager, Networks and Information Systems, Room 157

Derek VanSchmus, Electronic Research Administration Coordinator, Room 114

elise Waldron, Assistant Manager, Networks and Information Systems, Room 157

Information Systems Students, Room 160

James Bley

Robbie Gerling

Altaf Uddin

Dru Walstrom

Taylor Zavala

Altaf Uddin is the NIS Help Desk manager. If you need technical support, you should e-mail rithelp@ku.edu (That stands for Research Information Technology).