

# Graduate Affairs & Research

JUNE 2009



**COLLEGE OF PHARMACY**  
**UNIVERSITY OF OKLAHOMA**  
**HEALTH SCIENCES CENTER**

## ***New grants received by College of Pharmacy researchers***

### **Inside this issue:**

<b><i>New grants received</i></b>	<b>1, 3</b>
<b><i>Ann Howell defends for Masters</i></b>	<b>2</b>
<b><i>Summer students</i></b>	<b>2</b>
<b><i>OU-Tulsa Day</i></b>	<b>3</b>
<b><i>Welcome Dean Smith</i></b>	<b>4</b>

The College of Pharmacy received recent notification that three grants have been awarded to OUHSC with Pharmacy faculty as principal investigators.

### **Dr. Vibhu Awasthi, PI**

National Institutes of Health (NIH)  
National Center for Research Resources  
***“SPECT Imaging Module”***



This new grant allows us to acquire a single photon emission tomography (SPECT) system to further the capabilities of the imaging facility located at the College of Pharmacy. The system will complement our existing capabilities of providing positron emission tomography (PET) and computed tomography for imaging. Acquisition of a SPECT system will facilitate the overall goal of the college to expand nuclear pharmacy education research and service.

The imaging facility will be the first in Oklahoma to provide multi-modality nuclear imaging. It will be leveraged by biomedical researchers in OUHSC as well as other research facilities in Oklahoma to hasten pre-clinical phase of drug development. The proposed SPECT system will also add essential value in the overall educational program of the college, which offers graduate studies in nuclear pharmacy. The OUHSC Nuclear Pharmacy produces ‘orphan’ SPECT radiopharma-

ceuticals for clinical use. The existence of SPECT imaging within the COP will be of immense value in testing these products for their imaging potential and biodistribution before clinical usage. Therefore, SPECT imaging will serve all three components of OUHSC mission – research, education and service, and help OUHSC fulfill its ambition to improve regional health care.

### **Dr. Hari Gali, PI**

OUHSC American Cancer Society Institutional Research Grant (IRG)  
***“Development of Ga-68 labeled NGR conjugates for imaging APN expression on tumor vasculature by PET.”***

Angiogenesis, the formation of new blood vessels, is characteristic of solid tumors and crucial for their growth. Several antiangiogenic drugs are currently being developed for selective destruction of tumor vasculature to block the existing tumor blood supply, prevent tumor angiogenesis, and lead to eventual tumor destruction. However, optimizing their therapeutic potential requires an imaging modality with high sensitivity and specificity. The conventional radiological techniques such as MRI, CT or ultrasound are very useful



*Continued on page 3*

## ***Ann Howell defends thesis; receives Master of Science degree***



Ann Howell, Pharm.D. successfully defended her thesis on June 11 and received her Master of Science degree. Ann has participated in the Pharm.D./M.S. program at the college. Dr. Tracy Hagemann served as her faculty advisor.

Ann's thesis defense was "Variable delayed clearance of methotrexate in pediatric oncology patients: A retrospective review."

### ***ABSTRACT:***

***Purpose:*** The purpose of this study is to identify children who exhibit variable clearance of methotrexate (MTX) and then to identify common variables that are potentially associated with these changes in clearance. These findings could be useful in evaluating processes that can be implemented to prevent delayed clearance and toxicity in these patients.

***Conclusions:*** Over 41% of the variance in log 48-hr MTX plasma concentration was accounted for by the variables included in the model. This model can potentially be used at the bedside by any clinician after the 24-hr MTX plasma level is reported. If the 48-hr MTX prediction is  $>0.2\mu\text{M}$ , precautions should be taken. Precautions might include taking plasma levels every 6-12 hours instead of every 24 hours, increasing hydration, alkalizing the urine, adjusting the leucovorin rescue protocol or simply monitoring closer for toxicities.

*Ann has accepted a position as a Schering-Plough Global Regulatory Affairs Fellow through the Rutgers Pharmaceutical Industry Fellowship Program. She will be providing global regulatory knowledge (FDA and other global authorities) and strategic guidance in all aspects of drug development. She will serve as a liaison between Schering-Plough and the regulatory authorities.*

## **Summer experiences for students**

College of Pharmacy faculty have accepted students this summer for unique research experiences. Most students are working full-time for 8 weeks.

Here are some of the students visiting us this summer:

***Shanjana Awasthi lab:*** Rose Cooper (LINC).

***Kelly Standifer lab:*** Andrew Mansour; Tony Nguyen

***Mike McShan lab:*** Colin Knapp (SURE); Julien Flamary (France)

***Hari Gali lab:*** Keturah Odoi (INBRE)

***Randy Gallucci lab:*** Mackenzie Smith (Pharm.D./M.S., year 2)

***Tom Pento lab:*** Jason Kesinger (Pharm.D./M.S., year 2)

***Nathan Shankar lab:*** Sarah Payne (Pharm.D./M.S., year 1); Chelsea Berkley (SURE); Jonathan Fogle, Ryan Baggett, Kalon Anthony (all from OCU)

***Elgene Jacobs:*** Nick Hastings (Pharm.D./M.S., year 1)

***Mike Miller:*** Lih-Wern Wang (P-2 student)

***Lourdes Planas/Shane Desselle:*** Kaitlyn Fu (P-2 student)

***Tracy Hagemann:*** Kristie Williams (P3 summer credit); Kirsten Boggs (P3 summer credit)

***Poison Center:*** Misty Broyles (P4); Kaitlyn Fu (P2); Jeff Golla (P2); Ryan Huddleston (P2); Tammy Lambert (P4); Eric Noland (P4); Bethany Patterson (P2); Kristie Williams (P3)

**Welcome to  
Nick Hastings and Sarah Payne,  
who have been accepted to  
the Pharm.D./M.S. program  
this summer!**

## New grants awarded to the College of Pharmacy

(continued from page one)

to evaluate anatomical changes, but fail to validate subtle early molecular changes associated with the tumor vasculature in response to antiangiogenic treatment.

This proposal is to develop novel molecular imaging probes that selectively bind specific receptors expressed on the tumor vasculature. This technology facilitates imaging of tumor angiogenesis by positron emission tomography (PET). PET is a state-of-the-art nuclear imaging method that enables imaging functional processes in the body noninvasively at the molecular level with high sensitivity.

### Kelly Standifer, PI

Department of Defense (DoD) USA Medical Research Hypothesis Development  
*"Blockade of nociceptin signaling reduces biochemical, structural and cognitive deficits after traumatic brain injury."*



Protecting military personnel from blast-induced traumatic brain injury (TBI) has been a tremendous challenge. TBI reduces blood flow in the brain, damages brain tissue and often produces memory defects that impact the quality of life. Recent studies found that protective headgear does not prevent TBI in personnel exposed to blast, though they offer protection against shrapnel from the blast.

Nociceptin, a hormone released in the brain, impairs blood circulation in the brain and is elevated in patients with TBI. Blast exposures also activate molecules called transcription factors that exacerbate the condition. We hypothesize that blocking the actions of nociceptin will significantly reduce these factors, which will in turn protect the brain by

minimizing the extent of injury after the blast. This project will study the potential use of drugs that block the actions of nociceptin (ORL1 antagonists) after a blast exposure to prevent or reduce TBI. Brain tissue damage and memory will be tested in rats that are exposed to a blast using a blast tube with and without post blast administration of ORL1 antagonists. They will also mimic the oxidative stress conditions of a blast in isolated brain cells and study the molecular changes in those cells due to the blasts with and without nociceptin and/or its antagonist.

### June 2009 NIH Extramural Nexus Now Available

The [June 2009 Issue](#) of the *NIH Extramural Nexus*, with the latest news, tips and important information for our research community, is now available.

In addition, all issues may be viewed from the [NIH Extramural Nexus](#) web page.

### OU-Tulsa Research Day April 29

The College was well-represented at the OU-Tulsa Research Day on April 29 which showcased current research activities from all colleges on the Schusterman campus.

#### Submissions from the college included:

- Oller JM, Streck WR, Brahm NC, Palmer T, Dupus GL, Ference JD. OU-Tulsa physician community health insulin management protocol for the medically underserved.
- Dupus GL, Miller MJ, Brahm NC, Grober KA, Shadid JJ, Kirkpatrick AE, Schmitt MR, Planas LG, Palmer T, Hunter TS. Identifying community health needs during a church-sponsored immunization initiative in north Tulsa.
- Krueger SK, Brahm NC, Palmer T. A diabetes education brochure for the medically underserved or working poor population.
- Meixel S, Palmer T, Dupus G, Gaskins J, Willyard D. The STEP Pharmacy: Integrating STEP and MTMS concepts into a unique pharmaceutical experience.
- Adelson D, Doyle N, Hayes-Grudo J, Henley C, Palmer T, Salzow R, Sharma C. Beyond Bedlam: Prototype 0.8

Works in progress and other presentations were also submitted.

# More News You Can Use Regarding Research

## Welcome Dean Smith



The College of Pharmacy is pleased to announce the appointment of Michael James Smith, Ph.D., as Assistant Dean for Tulsa Programs. Smith received a Master of Science degree in Pharmacy Administration at the University of Texas at Austin in 1999 and a Ph.D. in Pharmacy Administration at the University of Texas at Austin in 2002.

His previous appointment

was at West Virginia University in Morgantown as Associate Professor with tenure at the School of Pharmacy, Department of Pharmaceutical Systems and Policy. Smith holds pharmacist licensure in the State of Texas and also in the Commonwealth of Pennsylvania.

Dr. Smith's recent research experiences include funded projects for the Agency for Healthcare Research and Quality (AHRQ), "Using Claims Data in the Surveillance of Cervical Cancer" and "Analysis of Use of Asthma-Related Prescriptions and Medical Services" through the West Virginia Department of Health and Human Resources, Bureau for Public Health/CDC. A past project, funded through Novartis Pharmaceuticals, was "Medication Persistence and Therapeutic Switch Rates in Patients Treated for Overactive Bladder."

He was elected as a member on the Board of Directors for the American Lung Association of West Virginia and serves as a member on the statewide data sharing committee with the West Virginia Asthma Coalition. He has served as a peer reviewer for manuscripts and abstracts for *Medical Care*, *Pharmacoepidemiology and Drug Safety*, *Value in Health*, *Journal of the American Pharmacists Association* and *Research in Social and Administrative Pharmacy*.

## IRB Education Policy to Include Residents and Fellows - Effective July 1, 2009

The IRB has revised its education policy to include residents and fellows (effective July 1, 2009). Education of all personnel involved in human research is critical for the University to protect the rights and welfare of research participants in a consistent manner. The education requirements include attendance of the IRB Education Program which is held in the Bird Library Auditorium and completion of the CITI Basic Course. Completion of the CITI Refresher Course is required every two years.

Follow this link: [http://www.ouhsc.edu/irb/documents/COURSES\\_AND\\_DATES\\_2009.doc](http://www.ouhsc.edu/irb/documents/COURSES_AND_DATES_2009.doc) OR for more information, call Pam Cedeno at 271-2045

## IRB Fee Increase for Industry Sponsored Studies - Effective July 1, 2009

The IRB will charge a non-refundable initial application fee of \$2,500 to all industry sponsored human research projects. A non-refundable continuing review application fee of \$500 will be charged for continuing reviews. This fee will not affect those studies that are currently approved or that receive approval prior to July 1st. All studies receiving initial approval after July 1st will be subject to this fee at the time of their continuing review.

*\*\*These fees do not apply to federally funded research, investigator initiated research, or research supported by grants from non-profit foundations or organizations.*

## Important Announcement from the OUHSC Laboratory for Genomics and Bioinformatics

The Laboratory for Genomics and Bioinformatics announces changes in sample handling for DNA sequencing. The Laboratory will no longer require that preparations be diluted and contain primers or be delivered in 96-well plates. Any number of samples in 0.5ml or 1.5 ml conical microcentrifuge tubes will be accepted. The concentration of DNA (Template concentration must be at least 100 ng /ul for plasmid DNA, and 10 – 20 ng /ul for PCR product, in water. NO EDTA!) will be determined by the Laboratory and the appropriate primers, indicated on the investigator's order sheet, will be added. In addition, if an investigator prefers to bring a cell pellet, for an additional \$0.50 (total cost per sample \$6.50), the laboratory will prepare the DNA by Qiagen extraction and/or clean up PCR products for sequencing. Cell pellets should be from a 5 ml overnight culture or from a culture volume that results in approximately the same number of cells. Further changes in the Laboratory are in the offing. Several of the analyses presently carried out by genome lab personnel will be converted to a hands-on approach by investigators after appropriate training. The details are being worked out and a reservation system and charge scheme for instrument use will be set up.

***Two free sequence analyses are being offered for those investigators who wish to tryout the Laboratory for the first time.***

