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DATES TO REMEMBER

- 3rd Thursday of every month: CATALYST Seminars
- 2nd Monday of every month: Research Advisory Committee Meetings 1-2p.m.
- April 15th—RSVPs Due to attend Research Days
- May 1st—Abstracts Due to Office of Research
- June 16-17: Research Days
- June 16: Marsh Lecture

NUCLEUS

The Newsletter of the School of Pharmacy's Office of Research

Mission of the Office of Research

The Mission of the Office of the Associate Dean for Research is to promote and facilitate both clinical and basic science research for the faculty of the School of Pharmacy (SOP) in conjunction with the School of Medicine, School of Nursing, School of Allied Health, and other health professionals through all phases of research design, procurement of funding, managing the research process, and dissemination of results to the professional community. The Office of the Associate Dean for Research in the SOP (Amarillo campus) is available to all faculty on all campuses. The purpose of this office is to act as a resource for the granting process, facilitate research, and administer internal research programs.

2009 Marsh Lecturer



The 2009 Wendy & Stanley Marsh 3 Endowed Lectureship in Pharmacology & Neurochemistry of Substance Abuse/Addiction will be held on Tuesday, June 16th. Dr. Fulton T. Crews, Professor Pharmacology & Psychiatry, is the Director of the Skipper Bowles Center for Alcohol Studies at the University of North Carolina. Dr. Crews is a neuropsychopharmacologist who has investigated how drugs change the brain and behavior. The overarching hypothesis of his research is the structural and functional changes in brain associated

with binge drinking contribute to the cognitive changes that lead to addiction. Through his studies, Dr. Crews discovered that heavy alcohol use damages cortical brain regions involved in impulse control and planning, which indicates that alcohol abuse changes brain structure. He was the first to discover that adult brain stem-progenitor cells are insulted by alcohol; recently he discovered persistent brain neuroinflammatory gene induction secondary to systemic cytokines and identified reduced neurogenesis as factors in alcohol-related brain damage. Dr. Crews is among the few neuroscientists investigating the adolescent brain as a unique neurodevelopmental period that has considerable risk for future alcoholism. Stud-

ies comparing adult and adolescent rats in a binge drinking model have found the adolescent brain to be more sensitive to damage, although resistant to the sedative effects of alcohol. These models have found reversal learning is disrupted following alcohol induced frontal cortical damage that mimics the increased impulsive-compulsive changes associated with addiction. His goal is to improve understanding and knowledge that promotes better prevention, diagnosis and treatment of addiction. Dr. Crews has received numerous awards including the Research Society on Alcoholism Distinguished Investigator Award, NIH Merit Award, and the John R. Andrews Distinguished Professor in the School of Medicine at UNC. ♦

Names in the News

Dr. Ulrich Bickel of the Pharmaceutical Sciences Department received a grant from the National Institute of Health for his research titled “Drug Delivery to CNS Endothelial Cells by Targeting Peptide-MHC Complexes.”



Dr. Reza Mehvar received a Seed Grant from the Health Sciences Center for his work titled “Pharmacological Approaches to reduce hepatic ischemia reperfusion injury.” ♦

TTUHSC Amarillo Research Building

The TTUHSC Amarillo Research Building opening ceremony is scheduled for Monday, April 6 and the timing couldn't be better. Attendees will have the



opportunity to see a fully functioning research environment. Eight of the Cancer Biology Research Center's faculty and their labs have been successfully relocated. The Center is dedicated to the advanced understanding, prevention, diagnosis and treatment of cancer

by generating new knowledge in normal and cancer cell biology and applying this knowledge to translational and clinical investigation. With more than 16,000 sq ft of open lab space, each PI has a greater opportunity to collaborate with other Center members. ♦



ABRI Mentors Needed

It is time again for the Amarillo Biomedical Research Internship! Applications are in and mentors

are needed. This year's 10 week program will begin on May 26th and runs through July 31st. As always, the Office of Research encourages faculty to be as involved as possible. This is an opportunity for faculty to showcase the SOP research program and encour-

age students to further their education. Any faculty members that wish to host an intern will be responsible for creating and helping interns complete a project within the 10 week period and half of the \$3,300 stipend (\$1,650). If you would like to have an intern in your lab, please contact Logan LaRue in the Office of Research. ♦



New Faculty in the Pharm Sci Department

The Pharmaceutical Sciences Department welcomed 2 new faculty members in January, Karen Mark, Ph.D., and Young Min Kwon



Ph.D. Dr. Mark, Assistant Professor, received her Ph.D. from University of Nebraska Medical Center, College of Pharmacy;

she joined the University of Arizona, College of Medicine as a Postdoctoral Fellow. Her research interests are focused in

understanding the mechanisms and signaling pathways by which the blood brain barrier is disrupted during inflammatory related diseases (diabetes, stroke, Alzheimer's disease, etc), specifically the functional and structural disturbances of the brain microvasculature due to those stressors.

Dr. Kwon completed his doctorate from the University of Utah. He began as a Research Fellow under Prof. Victor Yang at the University of Michigan, College of Pharmacy where he explored antibody targeting, polymer drug conjugates, red-blood cell carriers and cell-penetrating peptides for



the delivery of therapeutic macromolecules for potential application in some solid tumor targeting, leukemia and inflammatory

diseases. His current research, Dr. Kwon is striving to use polymer synthesis and bioconjugate chemistry techniques as tools for constructing a custom-design system that makes delivery of specific drugs more likely. ♦

2009 Research Days

The Office of Research is gearing up for the 2009 Research Days event that will be held June 16th and 17th. The Research Advisory Committee has decided to try something new with this year's program; instead of holding the poster judging session as we have in previous years, the committee



will review all submitted abstracts and judge these based on rationale, significance, results, and study outline. From these scores, 5 abstracts from the Pharmaceutical Sciences department and 5 from the Pharmacy Practice department will have the opportunity to present a 20 minute podium presentation. These presentations will then be critiqued by faculty in the audience to determine the overall winners. All abstracts are due to the Office of Research by no later than **May 1st** and should be 250 words or less (not including title/authors). The podium presentations will be done by the first author listed on the abstract.

As in previous years, there will still be opportunities for poster

presentations. The Graduate Program Committee as well as the Resident program will also conduct poster judging. Each department will send out further information on their judging criteria at a later date. Also, there will be a vendor show on the afternoon of the 16th in room 210.

Anyone on distant campuses wishing to attend will need to send in their RSVP by **April 15th** to Logan LaRue of the Research Office in order to have a hotel room reserved. Flight and vehicle expenses are to be put on your travel card and will be reimbursed by TTUHSC. If you have questions about this, please contact Logan or your designated coordinator. See you in June!!! ♦

Dissertation Defenses

Ph.D. Candidate, Katie Bennett of Dr. James Stoll's lab presented "Brain Transport Systems: Characterization of the basal forebrain choline transporter, novel organic cation transporters and lipocalin-2" as her doctoral dissertation defense. The presentation took place March 18th and was healthlinked to each distance campus.



Ph.D. Candidate Chandan Thomas of Dr. Fakhru Ahsan's lab presented "Respirable Particulate Carriers for Pulmonary Delivery of hepatitis B Vaccine" as his Doctoral Dissertation Defense. The presentation took place March 23rd and was healthlinked to each distance campus. ♦

Seminars

Snehal Padhye, Graduate Student/Research Assistant, Monday, January 26, 2009. SOP rooms AMA-107/AB-1130. "Preparation of RON Targeted Gemcitabine Immunoconjugates For Pancreatic Cancer Cytotoxicity."

Imam Shaik, Graduate Student/Research Assistant, Monday, February 2, 2009. SOP room AMA-107/AB-1130. "Cytochrome P450 Induction by Phenobarbital Increases Warm Hepatic Ischemia-Perfusion Injury."

Sunny Guin, Graduate Student/Research Assistant, Monday, February 9, 2009. SOP rooms AMA

-107/AB-1130. "Evaluation of RON Targeted Immunoliposome Uptake in Epithelial Cancer Cells."

Venki Chithambaram Pillai, Graduate Student/Research Assistant, Monday, February 23, 2009. SOP rooms AMA-107/AB-1130. "Delivery of Cytochrome P450 Reductase Antisense Oligos using Avidin-Biotin Technology."

Rachita Sumbria, Graduate Student/Research Assistant, Monday, March 2, 2009. SOP rooms AMA-107/AB-1130. "Microdialysis as a Tool to Study the Dynamics of Blood-Brain Barrier Opening."

RK Samala, Graduate Student/Research Assistant, Monday, March 2, 2009. SOP rooms AMA-107/AB-1130. "The Ketogenic Diet in

Mice and its Effect on Brain Extracellular Fluid Composition."

Kunal Taskar, Graduate Student/Research Assistant, Monday, March 16, 2009. SOP rooms AMA-107/AB-1130. "The Problem of Drug Delivery to Brain Tumors: Separate Roles of Drug Transporters, Parenchymal Distribution and Vascular Permeability."

Arun Satelli, Graduate Student/Research Assistant, Monday, March 16, 2009. SOP rooms AMA-107/AB-1130. "Clinical Relevance of Galectin-4 In Colorectal Cancer."

Ridhi Parasrampur, Graduate Student/Research Assistant, Monday, March 23, 2009. SOP rooms AMA-107/AB-2601. "Characterization and Application of Rhodamine-123 as a Dual Marker of Glycoprotein and Mrp-2 in the Rat Liver." ♦



Publications

Essential components of a faculty development program for pharmacy practice faculty. American College of Clinical Pharmacy, Boyce EG, Burkiewicz JS, **Haase MR**, **Maclaughlin EJ**, Segal AR, Chung EP, Chan LN, Rospond RM, Barone JA, Durst SW, Wells BG. *Pharmacotherapy*. 2009 Jan;29(1):127

Clinical faculty development. American College of Clinical Pharmacy, Boyce EG, Burkiewicz JS, **Haase MR**, **Maclaughlin EJ**, Segal AR, Chung EP, Chan LN, Rospond RM, Barone JA, Durst SW, Wells BG. *Pharmacotherapy*. 2009 Jan;29(1):124-6.

Quality experiential education. American College of Clinical Pharmacy, **Haase KK**, Smythe MA, Orlando PL, Resman-Targoff BH, Smith LS, Herner SJ, Dee Melnyk S, Paolini NM, Porter KB, Rodgers PT, Spunt AL. *Pharmacotherapy*. 2008 Dec;28(12):1547.

Ensuring quality experiential education. American College of Clinical Pharmacy, **Haase KK**, Smythe MA, Orlando PL, Resman-Targoff BH, Smith LS. *Pharmacotherapy*. 2008 Dec;28(12):1548-51.

Intricacies of Bevacizumab-Induced Toxicities and Their Management (March). Gressett SM, **Shah SR**. *Ann Pharmacother*. 2009 Mar 3.

Aspirin inhibits camptothecin-induced p21CIP1 levels and potentiates apoptosis in human breast cancer cells. Alfonso LF, Arumugam TV, **Bhat GJ**. *Int J Oncol*. 2009 Mar;34(3):597-608.

A functional role for sodium-dependent glucose transport across the blood-brain barrier during oxygen glucose deprivation. Vemula S, Roder KE, Yang T, **Bhat GJ**, **Thekkumkara TJ**, **Abbruscato TJ**. *J Pharmacol Exp Ther*. 2009 Feb;328(2):487-95. Epub 2008 Nov 3.

Synthesis and evaluation of pegylated dendrimeric nanocarrier for pulmonary delivery of low molecular weight heparin. Bai S, **Ahsan F**. *Pharm Res*. 2009 Mar;26(3):539-48. Epub 2008 Nov 25.

Liposome encapsulated polyethyleneimine/ODN polyplexes for brain targeting. Ko YT, Bhattacharya R, **Bickel U**. *J Control Release*. 2009 Feb 10;133(3):230-7. Epub 2008 Oct 26.

Liquid chromatography-tandem mass spectrometry for the determination of methylprednisolone in rat plasma and liver after intravenous administration of its liver-targeted dextran prodrug. Zhang SQ, Thorshiem HR, Penugonda S, Pillai VC, **Smith QR**, **Mehvar R**. *J Chromatogr B Analyt Technol Biomed Life Sci*. 2009 Feb 21. ♦

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To include information in the next edition of this newsletter, please submit materials to the Office of Research
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