



Volume 4  
Issue 3  
July 2008



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## DATES TO REMEMBER

- August 1: ABRI last day
- August 19: CATALYST Seminar
- September 16: CATALYST Seminar
- October 14: CATALYST Seminar

## 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.*

## Seventh Annual Research Days



The Seventh Annual Research Days was held June 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> in Amarillo. Faculty, students, and resi-

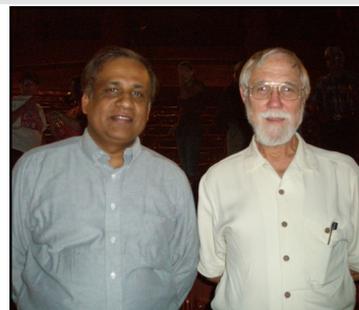
dents from each of our campuses came together to discuss research and collaborative opportunities. We were honored to welcome Dr. John Baldwin, President of the Texas Tech University Health Sciences Center to the first day's activities. President Baldwin addressed attendees at the opening ceremonies where he emphasized the importance of research at the TTUHSC. President Baldwin also had the oppor-

tunity to view several of the posters during the first group of poster presentations. The vendor show that Wednesday, sponsored by Fisher Scientific, gave everyone the chance to see the latest in laboratory technology and sign up for 4 different raffles. After the day's events, the Office of Research took attendees to see the play TEXAS; it [Continued on pg 4]

## Eleventh Annual Marsh Lecture Success

The SOP welcomed John Crabbe, Ph.D. as this year's Wendy & Stanley Marsh 3 Endowed Lectureship in Pharmacology & Neurochemistry of Substance Abuse/Addiction. Dr. Crabbe, Professor of Pharmacology & Behavioral Neurochemistry at the Portland Alcohol Research Cen-

ter in the Oregon Health & Sciences University, gave two wonderfully informative lectures on a new mouse model which contributes to the study of alcoholism. Research Days attendees as well as the general public had the privilege of attending his lecture "Finding Genes that Influence Risk



for Alcoholism" on June 4, 2008.

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## Amarillo Biomedical Research Interns

This year's Amarillo Biomedical Research Internships welcomed five bright students to the Texas Tech University School of Pharmacy. Interns will spend 10 weeks working on individual projects within the lab, and will have the opportunity to work closely with their mentor as well as other lab personnel to gain a better understanding of the processes and work that goes into each research project. The Office of Research would like to welcome the following interns to the SOP:



**Naomi Wangler**

**Mentor: Karin Borges, Ph.D.**

Naomi is a graduate of West Texas University, where she received her Bachelor's of Sciences. While here, Naomi will be helping to develop new improved dietary therapies for epilepsy. Currently, epilepsy patients who do not respond to anti-epileptic drugs have

few alternative treatment options. One option, although only used in children, is the ketogenic diet. The ketogenic diet is a very restricted diet consisting of high fat with little carbohydrates and proteins. Many patients and their families are not able to adhere to the diet's strictness and do not get seizure relief. Their goal is to develop alternative treatments to the ketogenic diet, that are effective in blocking seizures and are easier to adhere to.

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## Office of Research Poster Winners



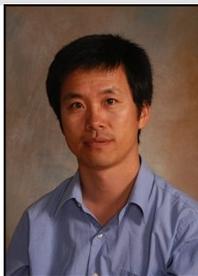
The Office of Research hosted a whopping 61 posters during Research Days. Faculty, Graduate Stu-

dents, and Residents all participated in the poster presentations. This year's judges consisted of Jayarama Gunaje, Ph.D., Charles Seifert, Pharm.D., Garrie Arumugam, Ph.D., Glenn Anderson, Pharm.D., Shawna King, Pharm.D., and US Rao, Ph.D. Judges scored presenters according to their introduction, methods, results, conclusions, and impact. Scores were tallied, and for the first time in Research Days history, there was a three-way tie! Lloyd Alfonso, Graduate Student of Dr. Gunaje's lab, Arun Satelli Graduate Student of Dr. Rao's lab, and Dr. Rekha Yesudas, Post Doctoral Fellow of Dr. Thekkumkara's lab all received first place certificates. The Office of Research would like to thank all those who participated as well as the judges for their time and efforts. Congratulations to the three first place winners. ♦



## Names in the News

Ph.D. Candidate, Jiukuan Hao, defended his dissertation "Therapy of Stroke with Novel Neuroprotective and Anti-inflammatory Agents" Tuesday, March 25, 2008. Dr. Hao is now a faculty member at Harding University in Searcy, Arkansas.



Shuhua Bai, Ph.D. Candidate presented his dissertation defense "Inhalable Longa Acting Formulations of Low Molecular Weight Heparins" on Thursday, May 8, 2008.



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Afterward, a small reception was held to allow attendees to talk with Dr. Crabbe.

On June 5, 2008, Dr. Crabbe spoke as the Research Days Keynote Speaker where he presented "Mice that Drink too Much: A New Ge-

netic Animal Model." While in Amarillo, he had the opportunity to meet with several of the SOP faculty and attended podium presentation, poster presentations, and joined the Research Days group the play TEXAS.

Our thanks go out to Dr. Crabbe for

taking the time out of his busy schedule to come to Amarillo and discuss his research. We would also like to extend our gratitude to Mr. & Mrs. Stanley Marsh 3 for their support which allows the School of Pharmacy to continue this endowed lectureship. ♦

## Faculty Receives Award

Drs. Sherida Nelson and Renee Lenz presented their poster titled "Impact of Diabetic Education in a Correctional Healthcare Population during the Texas Society of Health Care Pharmacists Convention. Dr. Nelson and

Dr. Lenz were reward a \$250 prize for placing first in the patient education category. This poster was also presented during the Seventh Annual Research Days Event.

♦

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**Saul Jamie**  
**Mentor: Majid Moridani, Ph.D.**

Saul is a graduate of the University of Texas in Austin. He



recently received his Bachelor's in Science – Neurobiology. Dr. Moridani's lab's research involves Ischemia-reperfusion related injuries which focuses on exploiting phenolic agents and iron chelators as free radicals scavengers in order to prevent the injury caused by free radicals in coronary heart disease and stroke related disease. He studies the toxicology, drug metabolism, pharmacokinetics, efficacy and drug delivery of these drugs in rats and mice. Cell cultures, microsomal preparations, isolated rat hepatocytes and liver are used for drug metabolism and kinetics studies.

**Jessica Green**  
**Mentor: Eugene Shek, Ph.D.**

Jessica will begin her 2<sup>nd</sup> year of Pharmacy School here in Amarillo this fall. Her interest in both Pharmacy Practice as well as Pharmaceutical Sciences lead her to apply for this internship. She will be examining the effect of leptin on adrenal function with age by determining the leptin receptor as well as tyrosine hydroxylase expression in adrenal glands from young and aged rats. She will also determine which specific cell types in kidney express leptin receptor using immunohistochemistry. [Continues on pg 5]



## *SOP Welcomes Dr. Xinli Liu*



The Office of Research is pleased to welcome the Pharmaceutical Sciences newest faculty member, Xinli Liu, Ph.D. Dr. Liu joined the Tech family

after being an Assistant Professor of

Pharmaceutical Sciences at Midwestern University in Arizona; she completed her postdoctoral fellowship at the Institute of Pediatric Clinical Research, Division of Hematology and Oncology at Children's Hospital Los Angeles, University of Southern California. Dr. Liu research is based in Chemotherapy as an important approach in the treatment of human cancer. Many

conventional anticancer drugs do not discriminate between cancerous and normal cell types and were consequently accompanied by dose limiting toxic side effect. Our main research interest is to develop molecularly targeted nanocarrier systems such as nanoparticles and liposomes to improve tumor drug delivery while avoiding healthy cells. ♦

*[Continued from pg 1]*

was quite a treat! Thursday started off with poster presentations followed by our keynote speaker, John Crabbe, Ph.D. from the Portland Alcohol Research Center. The first round of podium presentations took place after lunch. Drs. Ron Hall, Sanjay Srivastava, David Fike and Kenneth McCall presented a current research studies to a large audience. That evening, everyone had the

chance to relax, enjoy some great food, and listen to Dr. David Fike and the Martini's at the Amarillo Botanical Gardens. *Schokolad* chocolate factory owners, DeRima & Gary Johnson, made an appearance that evening and supplied free samples of their delicious chocolate to everyone attending. Friday's podium presenters included Drs. Claudia Meek, Garrrie Arumugam, and Mark Lyte. After the final group of poster presentations and lunch, the closing ceremo-

nies began and winners were announced. The GSBS poster winners included, Lloyd Alfonso (1<sup>st</sup> Place), Arun Satelli (2<sup>nd</sup> Place), Vinay Rudraraju (3<sup>rd</sup> Place). The highest scoring residents posters included Amy Bain (1<sup>st</sup>), Paula Simoni (2<sup>nd</sup>), and Janine Kosmoski (3<sup>rd</sup>). The Office of Research would like to thank everyone who helped make this year's event such an amazing success! ♦

## *Faculty Traveling to National Conferences*

**Mark Lyte**, Ph.D., was invited as the keynote speaker at the international Colston Research Symposium on Farm Animal Welfare and the Interface with Disease. On April 16, 2008, Dr. Lyte presented "Microbial Endocrinology: Why the

Intersection of Microbiology, Neurobiology and Food Science Matters to Human and Animal Health." He has also been invited to be the keynote speaker for the Bacterial Pathogenesis section of the annual Conference of Research Workers in Animal Diseases (CRWAD). The meeting will be held December 2008 in Chicago, Ill.

**Thomas Abbruscato**, Ph.D., is scheduled to attend the Gordon Research Conference June 22-27, 2008 where he will chair the session "Early blood Brain Barrier Changes in Stroke" and present "BBB changes in sodium and glucose transport during models of stroke."



**Ming-Hai Wang**, M.D., Ph.D., was an invited speaker at the SGX Pharmaceutical Conference in San Diego May 21-23, 2008; his presentation was related to RON as the drug target.

**Quentin Smith**, Ph.D. was invited to speak at the 2008 Era of Hope Meeting, a Department of Defense Breast Cancer Research Program. The meeting was held in Baltimore, MA June 25-29, 2008; Dr. Smith presented "The Blood-Brain Barrier and its Role in Metastasis." ♦

## Dr. Borges Receives New Funding

**Karin Borges, Ph.D.** received the “CURE 365 and Maggie Loeffel Award” for her grant proposal “Anaplerosis as a new treatment for epilepsy.” Many patients with epilepsy do not respond to drugs or to the high-fat ketogenic diet. Triheptanoin, a tasteless and well-tolerated oil, is a component of the anaplerotic diet. This oil is believed to provide more energy to the brain, which may help to stabilize nerve cell activity and prevent seizures. In this one-year study, Dr.



Borges will test, in mice, whether an anaplerotic diet can inhibit seizures. If so, this study could lay the groundwork for future investigation of this novel approach to treating epilepsy.

The \$50,000 CURE (Citizens United for Research in Epilepsy) grant will begin July 1, 2008 and continue to June 30, 2009. ♦

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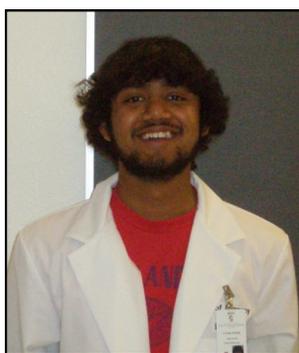


**Kelly Fine**  
**Mentor:**  
**Quentin**  
**Smith,**  
**Ph.D.**

Kelly will be a sophomore at Southwestern Oklahoma State

University in fall. She is currently majoring in pre-pharmacy. While in Dr. Smith’s lab, Kelly will have the opportunity to work on the HPLC analysis and stability of the anticancer drug, temozolomide. Temozolomide is an anticancer prodrug that spontaneously breaks down *in vivo* to its active ingredient. The drug has been approved for and is being marketed for the treatment of brain tumors. One hypothesis for its limited brain accumulation of temo-

zolomide is that the breakdown rate may be significant relative to brain influx, so that it does not get the chance to accumulate in brain to levels expected for a stable compound. If the shorter half life is valid, then *in vivo* breakdown may be the culprit. Kelly Fine is helping to nail down this issue so that the lab can more accurately assess limiting parameters in brain temozolomide distribution.



**Urvish**  
**Trivedi**  
**Mentor:**  
**Sanjay**  
**Srivastava,**  
**Ph.D.**

Urvish attends Texas Tech University in Lubbock as a Biochemistry major. This fall, he will return as a sophomore. His project in Dr. Srivastava’s lab will be based on Antiproliferative Effects of Naturally Occurring Benzyl Isothiocyanate against Lung Cancer. Non small cell lung cancer accounts for

almost 80% of lung cancers in the world. Non small cell lung cancer patients are traditionally treated by surgery, radiotherapy, and chemotherapy. However, these treatments are mostly not very effective and have many side effects. Epidemiological studies have indicated that increased consumption of cruciferous vegetables is associated with lowered risks of cancers, including lung cancer. Cruciferous vegetables such as broccoli, cabbage, watercress and cauliflower are rich sources of glucosinolates and their hydrolysis products yield indoles and isothiocyanates. However, protective effects of these phytochemicals (isothiocyanates) against lung cancer remain unexplored. Dr. Srivastava’s lab currently has results demonstrate that benzyl isothiocyanate (BITC) significantly suppresses the growth of human lung cancer cells at low micro molar concentrations.

The internship began on May 27<sup>th</sup>, just in time for students to be a part of the annual Research Days event. This year’s internship will end on August 1<sup>st</sup>. Be sure to welcome our students! ♦



## Funding Alert for Cancer Researchers

The Charlotte Geyer Foundation provides interim funding up to \$100,000 to assist researchers who have submitted an original R01 or R21 proposal to the National Cancer Institute and have not received a fundable score.

This Foundation is dedicated to assisting researchers prepare a revised proposal. For more information on deadline dates, requirements, and applications, please visit [www.charlottegeyer.org](http://www.charlottegeyer.org). ♦

## Seminars

**Venkateswaran C Pillai**, Graduate Student/ Research Assistant. Monday, March 31st, 2008. SOP Room 107. "Triacsin C, a time dependent and irreversible inhibitor of ACSL in endothelial cells."

**Sunny Guin**, Graduate Student/ Research Assistant. Monday, March 31st, 2008. SOP Room 107. "Designing RON Specific mAb-Doxorubicin Immunoliposomes for Potential Cancer Therapeutics."

**Dr. Arthur Cederbaum**, Mount Sinai School of Medicine, Monday, April 7, 2008. SOP Room 107. "Biochemical and Toxicological

Effects of CYP2E1."

**Ramakrishna Samala**, Graduate Student/ Research Assistant. Monday, April 21st, 2008. SOP Room 107. "Characterization of the ketogenic diet in acute epilepsy mouse models."

**Arun Satelli**, Graduate Student/ Research Assistant. Monday, April 21st, 2008. SOP Room 107. "Galectin-1, a new player in the NF- $\kappa$ B signaling pathway?"

**Rachita Sumbria**, Graduate Student/ Research Assistant. Monday, April 28th, 2008. SOP Room 107.

"Does microdialysis probe implantation damage the blood brain barrier?"

**Kunal Taskar**, Graduate Student/ Research Assistant. Monday, April 28th, 2008. SOP Room 107. "Distribution of the New Tyrosine Kinase Inhibitor Lapatinib in Metastatic Breast Cancer."

**Kaci Bohn**, Graduate Student/ Research Assistant. Monday, May 5th, 2008. SOP Room 107. "Fluorescent Microscopy to Calculate Microvascular Density." ♦

## Publications

**Busti AJ, Bain AM, Hall RG, Bedimo RG, Leff RD, Meek C, Mehvar R.** Effects of atazanavir/ritonavir or fosamprenavir/ritonavir on the pharmacokinetics of rosuvastatin. *J Cardiovasc Pharmacol* 2008; 51(6).

**Edwards KL, Alvarez C, Irons BK, Fields J.** Third line agent selection for patients with type 2 diabetes uncontrolled on sulfonylurea and metformin therapy: a review of the literature. *Pharmacotherapy*. 2008;28:506-521.

**Irons BK, Seifert CF, Horton NA.** Quality of Care of a Pharmacist-Managed Diabetes Service Compared to

Usual Care in an Indigent Clinic. *Diabetes Technology and Therapeutics* 2008;10:220-26.

**Hall RG 2nd, Payne KD, Bain AM, Rahman AP, Nguyen ST, Eaton SA, Busti AJ, Vu SL, Bedimo R.** Multicenter evaluation of vancomycin dosing: emphasis on obesity. *Am J Med.* 2008 Jun;121(6):515-8.

[Continues on pg 7]



## Publications

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**Irons BK, Seifert CF, Horton NA.**

Quality of care of a pharmacist-managed diabetes service compared to usual care in an indigent clinic. *Diabetes Technol Ther.* 2008 Jun;10(3):220-6.

**Isanhart CM, McCall KL, Kretschmer D, Grimes BA.**

Parenterals laboratory course to reduce microbial contamination rates in media fill tests performed by pharmacy students. *Am J Pharm Educ.* 2008 Apr 15;72(2):27.

**Jean GW, Shah SR.** Epidermal growth factor receptor monoclonal antibodies for the treatment of metastatic colorectal cancer. *Pharmacotherapy.* 2008 Jun;28(6):742-54.

**Shah SR.** A newer immunoglobulin intravenous (IGIV) - Gamma-gard liquid 10%: evaluation of efficacy, safety, tolerability and impact on patient care. *Expert Opin Biol*

*Ther.* 2008 Jun;8(6):799-804.

**Bai S, Yang T, Abbruscato TJ, Ahsan F.** Evaluation of human nasal RPMI 2650 cells grown at an air-liquid interface as a model for nasal drug transport studies. *J Pharm Sci.* 2008 Mar;97(3):1165-78.

**Rawat A, Majumder QH, Ahsan F.** Inhalable large porous microspheres of low molecular weight heparin: in vitro and in vivo evaluation. *J Control Release.* 2008 Jun 24;128(3):224-32.

**Rawat A, Yang T, Hussain A, Ahsan F.** Complexation of a poly-L-arginine with low molecular weight heparin enhances pulmonary absorption of the drug. *Pharm Res.* 2008 Apr;25(4):936-48.

**Borges K, Gearing M, Rittling S, Sorensen ES, Kotloski R, Denhardt DT, Dingleline R.** Characterization of osteopontin expression and func-

tion after status epilepticus. *Epilepsia.* 2008 Jun 3.

**Lockman PR, Gaasch JA, Borges K, Ehlo A, Smith QR.** Using WebCt to implement a basic science competency education course. *Am J Pharm Educ.* 2008 Apr 15;72(2):39.

**Freeston PP, Haigh RD, Lyte, M.** Catecholamine inotrope resuscitation of antibiotic-damaged staphylococci and its blockade by specific receptor antagonist. *J Infect Dis.* 2008 April.

July 2008

### Nucleus

A quarterly newsletter is published by the School of Pharmacy's Office of Research

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

OR fax 806.356.4643

by 5p.m. on September 26, 2008.

Nucleus The newsletter of the School of Pharmacy's Office of Research

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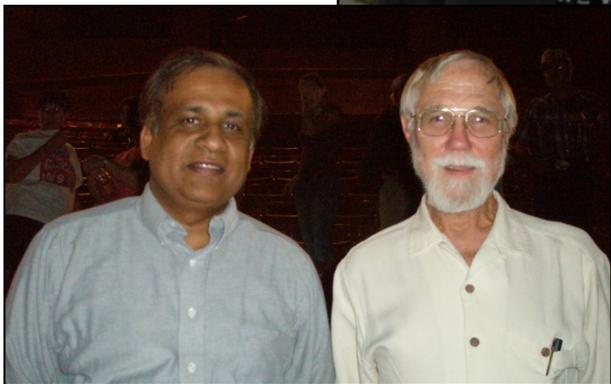
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# THE SEVENTH ANNUAL RESEARCH DAYS 2008



# TEXAS



# *Dinner at the Amarillo Botanical Gardens*



# Posters, Vendor's Show, and Snapshots

