



Nucleus

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

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Dr. Thekkumkara Receives Grants

Dr. Thekkumkara, Associate Dean for Research & Professor, Department of Pharmaceutical Sciences, applied for and received an NIH R01 grant, entitled "Role of Glucose in hAT1 Gene Expression." In this proposal, he hypothesized that in normal physiology, expression of the human angiotensin type 1 (hAT1) receptor is achieved by normalized interactions between glucose and insulin on hAT1 gene expression. Alternatively, in diabetes, when extracellular glucose levels are high and insulin levels are low, the equilibrium interaction between glucose and insulin will shift, and the end result will be decreased expression of hAT1 gene.

Hypertension and diabetes are two major risk factors in the pathogenesis of diabetic nephropathy. Angiotensin converting enzyme inhibitor therapy is broadly effective in patients with diabetic nephropathy, suggesting an important role for renin angiotensin system in the progression of this disorder. Angiotensin II, the active component of the renin angiotensin system, acts primarily through AT1 receptors. In diabetes, from the onset to end-stage nephropathy, hAT1 receptor expression varies in different regions of the kidney with one exception, the proximal tubule, in which this receptor is down regulated at all times, suggesting tubule specific regulation of the receptor. Reduction in hAT1 re-

ceptors could not be reversed by ACE inhibitors, demonstrating that the receptor down regulation was not mediated by the up regulation of angiotensin II. The molecular mechanisms leading to hAT1 receptor down regulation in diabetes are not known. Any alterations (increase/decrease) in AT1 gene expression in proximal tubule have significant pathophysiological consequences.

Recently, Dr. Thekkumkara's lab has identified a specific sequence in the hAT1 gene promoter required for its basal expression and functions as an insulin response (enhancer) element. Additional studies revealed a repressor element upstream of the enhancer that can respond to normal/high levels of extra-cellular glucose. Dr. Thekkumkara's observa-

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Thomas Thekkumkara, PhD



David Margolis, MD, FACP

5th Annual Research Days

Including a Full Day Grant Writing Workshop

The 5th Annual Research Days has been scheduled for Wednesday, August 2 and Friday, August 4.

The event kicks off on Wednesday with lunch, provided by the Office of Research. After lunch, the first session of poster presentations will showcase the research accomplishments of our School's investigators.

The keynote speech will be presented by Dr. David Margolis, MD, FACP, from 3:30-4:30 p.m. Dr. Margolis is a Professor of Internal Medicine, Epidemiology, Microbiology, and Immunology at the

University of North Carolina at Chapel Hill. He will be presenting a talk entitled "Opportunities in Translational Research: The HIV Pandemic as Paradigm."

After Dr. Margolis' keynote presentation, the day's activities will conclude with some social time and a dinner provided by the Office of Research.

On the skipped day (Thursday, August 3), David C. Morrison, PhD, Co-Founder and Member of the Grant Writers' Seminars & Workshops, LLC will be presenting an all-day grant-writing seminar to faculty members who signed up for the workshop.

Research Days will continue and conclude on Friday, August 4, with podium presentations from featured faculty members, the second poster session, and the closing ceremony. Breakfast and lunch will be provided by the Office of Research. ■





Jayarama Gunaje, PhD



Eugene Shek, PhD

Enhancement Grants Awarded

For Fiscal Year 2006, three enhancement grants were awarded to School of Pharmacy faculty investigators. These Enhancement Grants were made possible by President Wilson and Dr. Nairn. They are intended to provide special funding support for investigators seeking to pursue extramurally-fundable, novel ideas. These grants are only for FY06 but will hopefully provide the necessary funds for the awardees to secure extramural funding that will sustain their work. The recipients of these grants include:

Jayarama Gunaje, PhD—"Regulation of IL-6-induced stat3 signaling by α -thrombin: A role for GRP-75 protein", \$35,000.

Eugene Shek, PhD—"Role of leptin and leptin receptor in regulating renal excretory function in aged rats", \$30,170.

Margaret Weis, PhD—"Inhibitors of endothelial LCFACoAS as anti-hypertensive agents: Defining the eLCFACoAS reaction mechanism", \$34,830.

Please congratulate Drs. Gunaje, Shek and Weis for receiving these special enhancement grants! ■



Margaret Weis, PhD

ABRI IN ACTION

The mission of the ABRI program is to foster interest in the graduate program at our school. With one of last year's interns joining the graduate program this May, ABRI can be viewed as a success.

Erika Wisdom worked in Dr. Wang's laboratory last summer as an ABRI intern. She has now joined Dr. Thekkumkara's lab as a new graduate student. Erika will be evaluating the effects of acute exposures of glucose on human proximal tubule epithelial cells (hPTEC). She will be studying early proliferation and late apoptosis. She will be looking at certain cytokines secreted after acute glucose exposures in hPTEC, which have pro-apoptotic properties. ■

ABRI Program 2006

Our second year for the Amarillo Biomedical Research Internships began on Tuesday, May 30 when eight interns began their work in Amarillo and one intern started in Lubbock. Brief summaries of each intern's project are below:



Micah Boyer, Dr. Stoll's lab: Micah will be working to find the type of transport protein that carries choline into brain cells. Currently, he is working with NIH 3T3 cells to determine how well they uptake choline. Choline has been found to help stimulate brain activity, helping with stroke victims and Alzheimer's patients. Micah has been performing western blots, uptake assays, and Lowry assays to help with his research.

Brandi Cota, Dr. Thekkumkara's lab: Angiotensin II receptors have been shown to be mediators of hypertension. Brandi will be evaluating the effects of agents involved in down regulating receptor expression and function. She will examine these effects at the cellular level. She will be performing scintillation



counts, competition binding, cell cultures, and western blot analysis.

Cody Evans, Dr. Weidanz' lab: Cody continues the work he began last summer in Dr. Weidanz' lab. His project is to clone the human



leucocyte antigen HLA A*0101 into a plasmid and have it successfully create a protein of interest in *e. coli*. Human leucocyte antigens are present on the surface of all nucleated human cells and function as an important part of our immune systems. They present peptide fragments from inside cells to the surface of those cells in order to be looked at by CD8 positive T cells. If Cody can successfully express and purify this particular allele, it will be used to create antibodies specific to the HLA A*0201 peptide complex that may then be used to specifically target certain tumor subtypes in animal models.



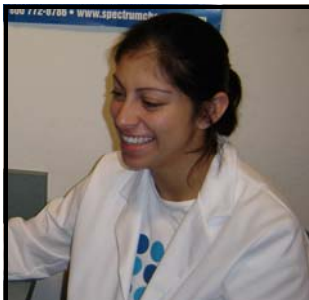
Angie Fitzgerald, Dr. Lockman's lab: Angie's objective is to produce a high-throughput screening library that accurately predicts permeability across the blood-brain barrier using QSAR techniques. This process screens candidate molecules, weeding out compounds with poor physicochemical properties early in the drug discovery phase, saving both time and expense.

Vivek Gupta, Dr. Lyte's lab (Lubbock): Vivek is working on the emerging field of Microbial Endocrinology. In Dr. Lyte's lab, he has been exploring the effects of neurochemicals on microbial growth and the possible use of certain adrenergic antagonists and other novel antimicrobial agents in overcoming these effects of neurochemicals on microbial growth. He has used various microbiological techniques, including Spiral Plating and Q-count.



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Dr. Thekkumkara's Grants [continued from page 1]



**Erika Wisdom,
Graduate Student**

tion is that in the presence of glucose (normal/high), insulin has no enhancer effect on hAT1 expression, whereas in the absence of glucose or presence of low glucose, insulin enhances the hAT1 gene expression. In addition, Dr. Thekkumkara's lab has evidence that these regulatory elements recognize specific nuclear factors induced by glucose and insulin. This observation is the first evidence that physiological levels of hAT1 gene expression is controlled by a repressor element, perhaps through an interplay between glucose and insulin. Although Dr. Thekkumkara's research team recognizes that both glucose and insulin are important regulators of hAT1 expression, for this grant, they focus primarily on glucose mediated hAT1 gene expression. Their overall goal is to determine the functional significance of glucose in the control of hAT1 gene expression and identify the role of specific factors associated with glucose signaling, in order to understand the molecular and biochemical mechanisms involved in the regulation of hAT1 gene in pathophysiology such as diabetes and hypertension.

Dr. Thekkumkara also applied for and received additional support for his NIH grant to provide the stipend for a graduate student, Ms. Erika Wisdom. She has chosen to study cis-regulatory elements and nuclear factors involved in the regulation of the human angiotensin receptor gene expression in renal proximal tubule. Dr. Thekkumkara and Ms. Wisdom hypothesize that the control of hAT1 receptor expression occurs through the recognition of specific sequences in the promoter by glucose-induced nuclear factor(s). In Dr. Thekkumkara's initial studies, he and his research team observed that the glucose response element (GluRE) contains recognition sequences for nuclear factors. Furthermore, their data suggests that these proteins are activated in the presence of glucose in a time- and dose-dependent manner. However, no specific role for these factors in the expression of the hAT1 gene has been identified. Their observation is the first evidence that the upstream promoter sequence of the hAT1 gene contains cis-acting glucose response elements, which bind to specific nuclear factors. The overall goal of her study is the isolation and functional characterization of the protein(s)/cDNA(s) encoding for the nuclear factors to gain understanding of the biochemical and molecular significance of the hAT1 glucose response element. ■

ABRI Program 2006 [continued from page 2]



Lacy Nelson, Dr. Lockman's lab: Lacy is utilizing an *in vitro* blood-brain barrier model to determine if the neurovasculature has greater permeability in brain metastases of breast cancer, compared to normal brain. Methods employed include cell culture, trans-endothelial electrical resistance (TEER), ¹⁴C-sucrose permeability studies, and western blot analysis.

Aruna Rao, Dr. Srivenugopal's lab: Pgp is a drug pump found in the cell membrane of cancer cells. Aruna is working on the Pgp modification with Glutathione, a tripeptide re-



ductant abundantly present in cells. She is using different laboratory techniques to see if Glutathione actively, but reversibly, interacts with the cysteines present in the Pgp to undergo glutathionylation. This study will reveal the mechanisms by which Pgp is silenced in the absence of cancer chemotherapy.



Sarah Seth, Dr. Ahsan's lab: Sarah is trying to prepare nanoparticles made up of low molecular weight heparin (LMWH) and chitosan. The chitosan is a mucal adhesive that is positively charged. The chitosan will cover the negatively charged LMWH. This will enable the positively charged particle to adhere to the mucus lining of the lung.

This increases the resident time in the lung.

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Names in the News

Cynthia Raehl, PharmD, FASHP, FCCP has been appointed as a voting member of the Amarillo VA Health Care system, Research and Development Committee. As part of that Committee, Dr. Raehl will be reviewing human subject research projects at the Amarillo VA.



Katie Bennett, Graduate Student, received the Lubbock Achievement Rewards for College Scientists 2007-2007 Scholarship. Katie works under the mentorship of Dr. Jim Stoll, and this is the second year that she received this \$5,000 award.



Dallas Faculty Member Named NIH Clinical Scholar



Ronald G. Hall II, Pharm.D., BCPS was recently named as one of the 14 NIH Clinical Scholars at UT Southwestern Medical Center. The program is designed to help cultivate independent clinical researchers who are capable of becoming the next generation of leaders in patient-oriented research. The three-year program, administered by the Department of Clinical Sciences, requires a 75 percent time commitment by the scholar. The program involves rigorous

coursework, an apprenticeship in ongoing research projects, and requires the scholar to conduct his/her own independent research project. Clinical Scholars who successfully complete the program will be conferred a master's degree in clinical sciences.

Dr. Hall currently serves as an Assistant Professor within the School of Pharmacy at Texas Tech University Health Sciences Center. His current clinical

practice is with the Infectious Diseases consult service at the Dallas VA Medical Center. He also serves as the Infectious Diseases Specialty Residency program director. His major research theme entering the Clinical Scholars program is the interaction between obesity and infectious diseases. His other interests include antimicrobial resistance and antifungal therapy.

"This is an excellent opportunity for the School of Pharmacy and myself, as I will have the opportunity to network and learn from some of the great clinical research minds in the nation. . . . I am very excited about not only what I can gain from the Clinical Scholars program for my own research, but also how I will gain the skills to be able to help mentor my colleagues as they strive to become more active as clinical researchers and foster training of professional students, and postgraduate residents and fellows," said Dr. Hall. ■

Graduate Students — What Will They Do Next?

Diego, Washington DC, Salt Lake City. He received a graduate student travel award to go to the Experimental Biology Annual Meeting in 2005.

Joachim Hartmann defended his dissertation on Thursday, June 22, 2006: "Adaptive responses of central cholinergic systems in transgenic mice." He will be graduating soon, successfully completing what he began in the fall of 2002, when he arrived at TTUHSC. After rotating through the laboratories of Drs. Allen, Klein, and Van der Schyf, Jo chose Dr. Klein's lab for his work. He quickly began working to re-establish Dr. Klein's laboratory setup from the move from Germany to Amarillo. His research focus from the beginning was on the central cholinergic nervous system. He finished two projects in transgenic mice, which both became part of his final dissertation.

Amarillo was Jo's first exposure to the US. Here, he found the people to be friendly, and he enjoyed the atmosphere at the School. He described the department as close-knit and described how much he enjoyed watching the department grow. When he first arrived, he was one of only about 15 graduate students. Today, the program accepts 30-35 graduate students.

In Dr. Klein's lab, Jo obtained significant insight into the inner workings of the scientific community. Jo said, "I acknowledge Dr. Klein for getting me in touch with science, for teaching me the day-to-day business of the investigator." He particularly enjoyed visiting other places for meetings: San

Until the end of the year (December 2006), Jo will be staying in Dr. Klein's lab, but he is actively pursuing a position in either academia or industry. He remains interested and devoted to research and is seeking a position that would include laboratory work. He's particularly interested in relocating to the east coast, which would get him closer to his family and friends in Europe (a 6 hour flight from New York).

Celee Spidel defended her dissertation on Tuesday, June 20. Her presentation, entitled "Pathological role of the RON receptor tyrosine kinase in colorectal cancer: Characterization of a short-form RON variant" completed her work in Dr. Wang's laboratory.

An Amarillo native, Celee graduated from Pepperdine University in 1996 with a BS in Sports Medicine. She began the PhD program in Pharmaceutical Sciences here at the SOP in 2002. About her mentor, Celee said, "Working with Dr. Wang has been an invaluable experience. He was always available to discuss my experimental results and constantly challenged me to improve my research skills."

From here, Celee will be accepting an Assistant Professor (tenure track) position in the Department

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Joachim Hartmann



Celee Spidel

Graduate Students — What Will They Do Next? [continued from page 4]

of Sports and Exercise Sciences at WTAMU. She begins in August and will be teaching classes like motor development, sports nutrition, health and wellness programming for children, and advanced exercise physiology. Between her undergraduate work and her basic science and research experience here at the SOP, Celee will be a good match for the program at WTAMU.

Sharanya Vemula defended her thesis on Wednesday, June 21. She presented “Role of GLUT1 and SGLT1 on blood to brain glucose transport during stroke.” Sharanya came to TTUHSC in the spring of 2004. In Dr. Abbruscato’s lab, she studied the blood-brain barrier and the regulation of glucose transport into brain in stroke conditions. She loved working not only with Dr. Abbruscato but also with the other members of his lab, who all helped her as she pursued her degree. Sharanya also greatly appreciated the help given to her by her other Committee members, Drs. Gunaje and Thekkumkara.

As her work progressed, some discoveries they made in the lab led to adjustments to her project.

She was particularly excited about the novel approaches that resulted from these discoveries, which made her project even more interesting to her.

While Amarillo was very different from the metro city in India that she came from, the city has grown on her. She likes the people here and says that everyone has been very helpful to her, particularly people at the School. Notably, her lab mates and the Department’s office staff have guided her from the beginning.

Sharanya’s future plans are to pursue her PhD. Attending meetings like AAPS and Neuroscience were not only enjoyable for her, but also inspired her. These conferences further motivated her to make plans to pursue a PhD.

Right now, Sharanya’s just trying to finish up her masters degree and looking into a PhD program, but eventually, she thinks she might like to move closer to her family. She has a sister in St. Louis and other family in Dallas. And someday, she might want to go back to India.

Our congratulations and best wishes go out to Jo, Celee, and Sharanya! ■



Sharanya Vemula

ABRI Program 2006 [continued from page 3]

Jeff Smith, Dr. Youan’s lab: Jeff is working on the development and characterization of nanoparticles, made of a combination of hydrophobic and hydrophilic polymers, capable of delivering

vaccines to specific sites. These particles are constructed through mini-spray drying and characterized by HPLC, DLS, SEM, and coulometry as well as other established methods and apparatuses. ■



Invited Talks

Brouse, SD. “Acute Care Cardiology.” ACPE-Accredited Presentation for ACCP BCPS Preparatory Review Course & Spring Practice & Research Forum, Monterrey, CA. April 9, 2006.

Brouse, SD. “Challenges in Clinical Practice and Experiential Education: Observations From Preceptors.” Discussion Panelist. International Conference on Clinical Pharmacy Education, Tokyo, Japan. June 3, 2006.

Brouse, SD. “Case Studies in Cardiology Pharmacotherapy: Focus on Treatment of Hypertension, Angina, Acute Coronary Syndromes, Heart Failure, & Arrhythmias.” Lecture Series for M1 Master’s of Clinical Pharmacy Students, Kyoritsu University of Pharmacy, Tokyo, Japan. June 5-9, 2006.

Busti, AJ. “HIV related dyslipidemia & approaches to treatment.” Invited co-moderator and presenter. 2006 Annual Scientific Sessions for the National Lipid Association. Boston, MA. April 6-9, 2006. National presentation.

Busti, AJ. “Acute & Chronic CV Risk Stratification and Early Use of Statins in ACS.” Texas Society of Health-System Pharmacists, 58th Annual Meeting. Galveston, Texas. April 2, 2006. State-level presentation.

Busti, AJ. “Updates to the Adult ACLS Guidelines.” Texas Society of Health-System Pharmacists, 58th Annual Meeting. Galveston, Texas. April 2, 2006. State-level presentation.

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Major Research Equipment Maintenance & Service Contracts

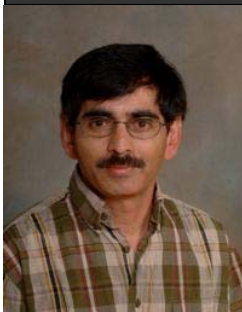
The School has expensive, valuable equipment that must be properly maintained. The maintenance contracts for equipment such as the LC-MS/MS are high-dollar. Ensuring that the costs of these contracts are covered from year to year is a priority for the School.

To address this, a new policy for major equipment usage fees (and maintenance of service contracts) is now in place (effective July 1).

Individuals using major equipment must notify the Office of Research to facilitate the accounting process.

Please review the policy from the administration page (SOP OP 73.P.03). The major equipment use fee table may be found at: <http://www.ttuhsc.edu/sop/research/equipmenttable.aspx>

Currently, we have no technician; however, it is under consideration to hire someone after September. ■



WHRI Grants Funded

U.S. Rao, PhD and his collaborators have been awarded funding from the Women's Health Research Institute (WHRI) for the grant entitled "Drug Resistance Markers in Human Breast Cancers." The award in the amount of \$25,000 is for one year, beginning June 2006. Dr. Rao and his co-investigators Dr. Srivenugopal and Dr. Brian Pruitt will identify unique proteins that are present in drug-sensitive human breast cancer cells. The proposed research aims to decipher the molecular mechanisms by which cancers become recalcitrant to chemotherapy.

Dr. Srivenugopal is also serving as a co-investigator on Dr. Thomas Hale's (SOM) WHRI-funded project "Role of prolactin binding proteins and cyclophilin B in insufficient milk syndrome."

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Publications (April-June 2006)

Akins RL, Haase MR, Levy EN. Pharmacokinetics of Daptomycin in a Critically Ill Adolescent with Vancomycin-Resistant Enterococcal Endocarditis. *Pharmacother* 2006;26(5):694-698.

Bond CA, Raehl CL. Clinical pharmacy services, pharmacy staffing, and adverse drug reactions in United States hospitals. *Pharmacotherapy*, 2006;25(6):735-747. Designated as a "Special Article" by the Editor.

Borges K, McDermott D, Irier H, Smith Y, Dingleline R. Degeneration and proliferation of astrocytes in the mouse dentate gyrus after pilocarpine-induced status epilepticus. *Exp Neurol*. 2006 Jun 20; [Epub ahead of print]

Busti AJ, Tsikouris JP, Peeters MJ, Das SR, Canham RM, Abdullah SM, Margolis DM. A prospective evaluation of the effect of atazanavir on the QTc-interval and QTc-dispersion in HIV-positive patients. *HIV Med* 2006 [accepted for publication].

Frédéric, R., Dumont, W., Ooms, F., Aschenbach, L., Van der Schyf, C.J., Castagnoli, N., Jr., Wouters, J., and Krief, A. Synthesis, structural reassignment and biological activity of type B MAO inhibitors based on the 5H-indeno-[1,2-c]pyridazin-5-one core. *Journal of Medicinal Chemistry*, 2006, June 15, 49(12), 3743 - 3747.

Kiewert C, Hartmann J, Stoll J, Thekkumkara TJ, Van der Schyf CJ, Klein J (2006) NGP1-01 is a brain-permeable dual blocker of neuronal voltage- and ligand-operated calcium channels. *Neurochem Res*. 31, 395-399.

Lockman PR, Gaasch J, McAfee G, Abbruscato TJ, Van der Schyf CJ, Allen DD. Nicotine Exposure Does Not Alter Plasma to Brain Choline Transfer. *Neurochem Res*. 2006 Apr;31(4):503-8.

Mandula H, Parepally JM, Feng R, Smith QR. Role of site-specific binding to plasma albumin in drug availability to brain. *J Pharmacol Exp Ther*. 2006 May;317(2):667-75. Epub 2006 Jan 12.

Moridani MY. Biochemical basis of 4-hydroxyanisole induced cell toxicity towards B16 melanoma cells. *Cancer Lett*. 2006.

Moridani MY, Ben-Poorat S. Laboratory investigation of vitamin B12 deficiency. *Lab Medicine* 2006;37(3): 166-174.

Moridani M, Fu L, Selby R, Yun F, Sukovic T, Wong B, Cole DE. Frequency of CYP2C9 polymorphisms affecting warfarin metabolism in a large anticoagulant clinic cohort. *Clin Biochem*. 2006.

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Invited Talks [continued from page 5]

Canales, Ann. "Medical Literature Evaluation: Part I - Suggested Guidelines and Common Pitfalls." Baptist St. Anthony Hospital Pharmacy Conference, Amarillo, TX. May 2, 2006.

Moridani, Majid. "The application of pharmacogenetics in clinical medicine." School of Medicine, University of Toronto, Toronto, Canada. January 2006. AND at TTUHSC, Amarillo. February 2006.

Thekkumkara, TJ. "Molecular mediators of cell injury: Adaptation and death. An overview." Visiting Professor, Department of Biochemistry, University of Kerala, Kerala, India. May 25, 2006.

Thekkumkara, TJ. "What regulates regulators? Interplay between growth factors and glucose in angiotensin receptor gene expression." Visiting Professor, Society of Biological Chemists (India), University of Kerala, Kerala, India. May 26, 2006.

Thekkumkara, TJ. "Diabetes and cell survival: A

new paradigm, or just more information." Public forum. British Library, Trivandrum, Kerala, India. May 27, 2006.

Thekkumkara, TJ. "Molecular recognition: RNA-based angiotensin receptor gene regulation and function." Visiting Professor, Society of Biological Chemists (India), University of Kerala, Kerala, India. May 29, 2006.

Thekkumkara, TJ. "Integrating cellular functions: Role of angiotensin receptor in cell growth and sodium homeostasis." Visiting Professor, Department of Zoology, University of Kerala, Kerala, India. May 31, 2006

Van der Schyf, C.J. "Dual-Mechanism MAO-B inhibitors and A2a antagonists in Parkinson's Disease Therapy." Invited Keynote Lecture, MEDI 175: Current and Future Potential Drug Therapies for Parkinson's Disease; Proceedings: 231st American Chemical Society National Meeting, Atlanta, GA. March 26-30, 2006. ■

Publications (April-June 2006) [continued from page 6]

- Motsko, SP, Rascati KL, Barner JC, **Busti AJ**, Lawson KA, Wilson JP. The relationship between COX-2 inhibitors and cardiovascular risk using the veteran's affairs (VA) database. *Drug Safety* 2006 [accepted for publication].
- Niture SK, Rao US, and Srivenugopal KS.** Chemopreventative strategies targeting the MGMT repair protein: augmented expression in human lymphocytes and tumor cells by ethanolic and aqueous extracts of several indian medicinal plants. 2006, *International Journal of Oncology* (In Press).
- Parepally JM, Mandula H, Smith QR.** Brain uptake of nonsteroidal anti-inflammatory drugs: Ibuprofen, flurbiprofen, and indomethacin. *Pharm Res.* 2006 May;23(5):873-81. Epub 2006 May 2.
- Parepally JM, Mandula H, Smith QR.** Brain Uptake of Nonsteroidal Anti-Inflammatory Drugs: Ibuprofen, Flurbiprofen, and Indomethacin. *Pharm Res.* 2006 May 2; [Epub ahead of print]
- Raehl CL, Bond CA, Woods TJ, Patry RA, Sleeper RB.** Screening tests for medication adherence among the elderly. *Ann Pharmacotherapy* 2006;40:888-893.
- Seifert CF, Resman-Targoff BH.** Clinical Laboratory Tests and Interpretation. In Helms RA, Quan DJ, Herfindal ET, Gourley DR, eds. Textbook of Therapeutics: *Drug and Disease Management 8th Ed.* Philadelphia, PA: Lippincott Williams & Wilkins; 2006, 91-115.
- Shaik IH, Mehvar R.** Rapid determination of reduced and oxidized glutathione levels using a new thiol-masking reagent and the enzymatic recycling method: application to the rat liver and bile samples. *Anal Bioanal Chem.* 2006 May;385(1):105-13. Epub 2006 Mar 18.
- Snella KA, Canales AE, Irons BK, Sleeper-Irons RB, Villarreal MC, Levi-Derrick VE, Greene RS, Jolly JL, Nelson AA.** Pharmacy- and community-based screenings for diabetes and cardiovascular conditions in high-risk individuals. *J Am Pharm Assoc* 2006; 46:370-7.
- Van der Schyf, C.J., Geldenhuys, W.J., and Youdim, M.B.H.** Multifunctional neuroprotective drugs for the treatment of cognitive and movement impairment disorders, including Alzheimer's and Parkinson's diseases. *Drugs of the Future*, 2006, May, 31(5), 447-460.
- Villela LR, Stanford BL, Shah SR.** Pemetrexed, a novel antifolate therapeutic alternative for cancer chemotherapy. *Pharmacotherapy.* 2006 May;26(5):641-54.
- Vuppugalla R, Mehvar R.** Selective effects of nitric oxide on the disposition of chlorzoxazone and dextromethorphan in isolated perfused rat livers. *Drug Metab Dispos.* 2006 Jul;34(7):1160-6. Epub 2006 Apr 18.
- Wang MH, Yao HP, Zhou YQ.** Oncogenesis of RON receptor tyrosine kinase: a molecular target for malignant epithelial cancers. *Acta Pharmacol Sin.* 2006 Jun;27(6):641-50. ■

Research Seminars (April-June 2006)

During the school year, faculty and graduate students present research seminars highlighting their work. Below is a summary of the seminars that took place in the last few months.

- 4/3/06-**Jon Weidanz, MPH, PhD**, Assistant Professor, Department of Pharmaceutical Sciences. "Direct Validation of Specific Peptide-MHC Class I Molecules Using TCR Mimics."
- 4/10/06-**Katie Bennett**, Graduate Student, Department of Pharmaceutical Sciences. "Characterization of two novel transporters, BOCT1 and BOCT2."
- 4/10/06-**Jennifer Paulson**, Graduate Student, Department of Pharmaceutical Sciences. "Altered Ion Movement at the Neurovascular Unit During Models of Ischemia."
- 4/17/06-**Imam Shaik**, Graduate Student, Department of Pharmaceutical Sciences. "Reduction of Warm Ischemia-Reperfusion Injury in Rat Livers by Cimetidine."
- 4/17/06-**Joachim Hartmann**, Graduate Student, Department of Pharmaceutical Sciences. "Choline dynamics in acetylcholinesterase-deficient mice."
- 4/24/06-Arthur Lai, PhD, Post Doc, Department of Drug Discovery, Johnson & Johnson, San Diego, CA. "Convergence of Tyrosine Kinase

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WHRI Grants Funded

[continued from page 6]

Kenneth McCall, PharmD, BCPS, CACP also received a WHRI grant, for \$7050, entitled "Gender Differences in Healthcare Decision Making: Medicare Part D." His co-investigator is **Dr. Jill Polk**.



Congratulations Drs. Rao and McCall! ■



Research Seminars (April-June 2006) [continued from page 7]

Signaling and Toll-Like Receptor Signaling.”

4/25/06-Marcelo Kuroda, PhD, Associate Professor and Director of Immunology, Tulane National Primate Research Center, Covington, LA. “Understanding antigen-specific CD8+ T cells (CTL) from the SIV/rhesus macaque model.”

5/1/06-Ridhi Parasrampur, Graduate Student, Department of Pharmaceutical Sciences. “Stereoselective Pharmacokinetics of Tramadol in Rats.”

5/1/06-Fancy Thomas, Graduate Student, Department of Pharmaceutical Sciences. “Chemotherapy in Brain Metastasis of Breast Cancer.”

5/8/06-Chaitanya Chimalakonda, Graduate Student, Department of Pharmaceutical Sciences. “HPLC assay of Lamivudine and its succinate in rat plasma.”

5/8/06-Lloyd Alfonso, Graduate Student, Department of Pharmaceutical Sciences. “Resistance to Leptin-induced diuresis in aging F-344XBN rats.”

5/15/06-James Egbert, Graduate Student, Department of Pharmaceutical Sciences. “Nicotine antagonists utilize the cationic

choline transporter to gain access to brain.”

5/31/06-Hideyoshi Harashima, PhD, Professor of Pharmaceutics, Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan. “Multifunctional envelope type nano device for non-viral gene delivery: Concept and application of programmed packaging.”

6/20/06-Celee Spidel, Graduate Student, Department of Pharmaceutical Sciences. Dissertation Defense. “Pathological role of the RON receptor tyrosine kinase in colorectal cancer: Characterization of a short-form RON variant”

6/21/06-Sharanya Vemula, Graduate Student, Department of Pharmaceutical Sciences. Thesis Defense. “Role of GLUT1 and SGLT1 on blood to brain glucose transport during stroke.”

6/22/06-Joachim Hartmann, Graduate Student, Department of Pharmaceutical Sciences. Dissertation Defense. “Adaptive responses of central cholinergic systems in transgenic mice.”

6/23/06-Konrad Löffelholz, MD, Department of Pharmacology, Johannes Gutenberg University of Mainz, Mainz, Germany. “Belladonna, Digitalis and other poisonous plants: Herbal medicine of the heart.” ■

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