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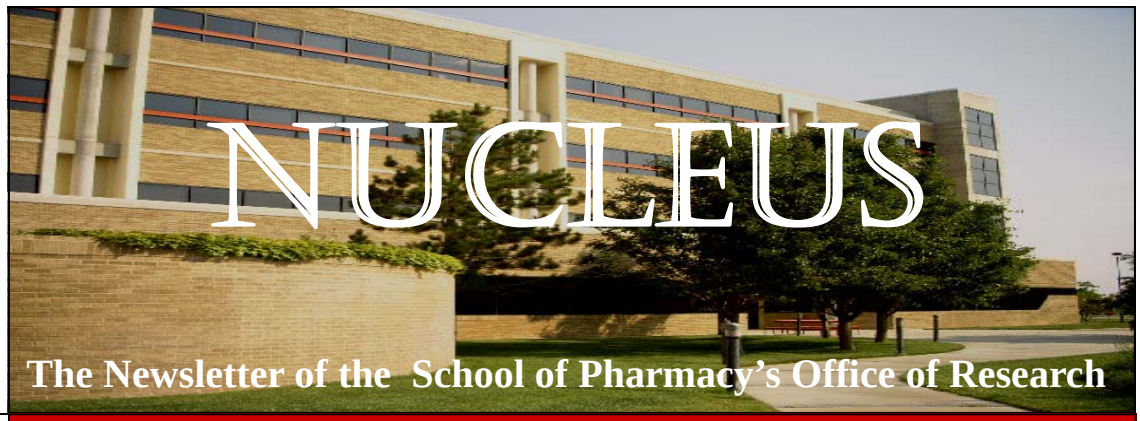


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## DATES TO REMEMBER

- January 17: CATALYST Seminar: Dr. Garrie Arumugam
- February 5-6: Dr. Paul Watkins Research Seminar & Grand Round
- February 21: CATALYST Seminar: Dr. Thomas Thekkumkara
- March 11-14: Student Research Week in Lubbock
- March 20: CATALYST: *(open)*
- April 9: ABRI application due to 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.

## *Arumugam Received New Funding*

**Garrie Arumugam, Ph.D**., the Department of Pharmaceutical Sciences newest faculty member, recently received funding through American Associations of Colleges of Pharmacy as well as the National American Heart Association. The AACP grant will fund one year of research for: The resident inflammatory brain cells, microglia, are activated in response to ischemic insults and produce inflammatory mediators, many of which are regulated by NFkappaB. The released cytokines and oxygen radicals not only damage neurons but also trigger reactive gliosis that can adversely impact neuronal survival. As Notch-1 signaling is required to sustain the transcriptional activity of NFkappaB, we will determine whether Notch-1 signaling influences NFkappaB regulated inflammation in microglia.

Dr. Arumugam's National AHA grant will support 4 years of research dealing with: Ischemic stroke is a devastating disease that represents the third leading cause of death in the United States. Ischemic stroke causes damage and death of neurons in the perfusion territory of the affected blood vessel. The neurodegenerative mechanism involves metabolic and oxidative stress, excitotoxicity, apoptosis and inflammatory processes including glial cell activation and infiltration of activated leukocytes. Notch -1 is a cell surface receptor that regulates cell fate decisions in the developing nervous system and may also play roles in synaptic plasticity in the adult brain. The PI recently identified the contribution of Notch-1 activation to brain ischemic injury. The PI and colleagues showed that Notch-1 antisense (NAS)

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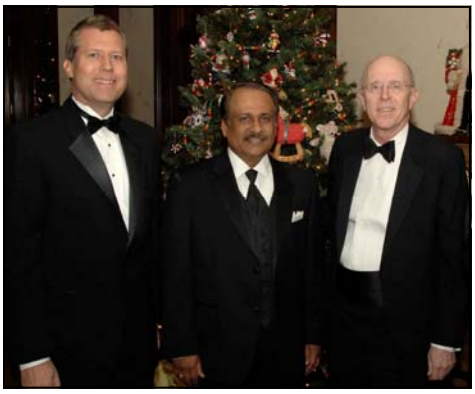
# SOP Faculty Honored for Teaching & Research

The seventh annual Chancellor's Council Distinguished Teaching and Research Awards were given on Thursday, December 6, 2007 at the Texas Tech University Campus in Lubbock. Two Amarillo School of Pharmacy Pharmaceutical Sciences faculty were proud recipients: **Dr. Jon Weidanz** and **Dr. Thomas Thekkumkara**. Recipients of each award were invited to attend the annual black tie dinner on Friday, December 14, 2007.

Dr. Weidanz received the Chancellor's Council Distinguished Teaching Award. Also this year, he was the recipient of the President's Excellence in Teaching Award and has won numerous School of Pharmacy Teacher of the Year Awards in the past. He has been with the Tech Family for seven years. Dr. Weidanz recently relocated his cancer therapy research to the new Abilene campus.

Dr. Thekkumkara was the recipient of the Chancellor's Council Distinguished Research Award. Also, he recently received the President's Research Achievement Award. Dr. Thekkumkara has been the TTUHSC SOP since 2000. His research is based on blood pressure regulation and electrolyte balance. ■



# Director of Lipid Enzymology Laboratory Guest Speaker at SOP

Paul Watkins, M.D. Ph.D., Director of the Lipid Enzymology Laboratory at the Kennedy Krieger Institute and Professor of Neurology at the Johns Hopkins University School of Medicine will be at the Texas Tech Health Sciences Center School of Pharmacy on February 5-6, 2008. Dr.


Watkins performs research in the area of childhood X-linked adrenoleukodystrophy (XALD) and related genetic diseases. XALD is a myelin destroying disease in which patients are unable to break down long-chain fatty acids. Due to their toxicity, patients have significant health problems, including mental retardation and paralysis. Dr. Watkins laboratory works to understand the biochemical basis of these diseases.

Dr. Watkins will be delivering a basic research seminar on February 5th at 4p.m. in the Harrington

Lecture Hall. On February 6th, he will be conducting the weekly Medical Grand Round. Please join us for this exciting and informative event! *You can also find additional information on myelin degenerating disease at http://www.myelin.org/.* ■

## Names in the News

Graduate Student, *Erika Wisdom*, received a travel award from the American Society of Biochemistry and Molecular Biology to attend Experimental Biology 2008 in San Diego, California. The meeting will be held April 2008. ■

**Dr. Eugene Shek** has been elected to serve as Secretary in the AACP, Biological Sciences Section for 2008. His appointment will take place at the 2008 AACP General meeting in Chicago, IL. ■

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## A Meeting of the Minds

December 7, 2007 was an exciting day for faculty, postdocs, graduate students and undergraduate students from TTUHSC, as well as UT El Paso, the Garrison Institute on Aging, and the South Plains Alcohol and Addiction Research Consortium. The West Texas Regional Society for Neuroscience meeting was a day-long event in which attendees had the opportunity to attend talks, discuss research and observe poster presentations. Three internationally know scientists also presented research. Guests included David S Miller, Ph.D.: head of the Intracellular Regulation Group, Ingolf Balsig, Ph.D.: Head of Molecular Cell Physiology at Leibniz- Institut für Molekulare Pharmakologie (FMP), and Paula Grammas, Ph.D.: Executive Director or the Garrison Institute on Aging. Presentations included subjects such as Blood-Brain Barrier, Alzheimer's disease, and controlling p-Glycoprotein. ■

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transgenic mice expressing an antisense Notch-1 construct exhibited reduced ischemic lesion and improved functional outcome in a focal ischemic stroke model. Using gamma-secretase inhibitors to block proteolytic cleavage of Notch-1, PI and colleagues demonstrated reduced ischemic brain damage by 60-70 % and improved recovery associated with the downregulation of Notch-1 signaling. Notch-1 signaling is shown to be involved in regulating NFkappaB activity in immune cells. NFkappaB is an inducible transcription factor that is crucially involved in the regulation of genes relevant in inflammatory response and innate immunity. The proposed work tests the hypothesis that Notch-1 signaling in the adult brain contributes to neuronal cell death and glial inflammatory response by modulating NFkappaB activity. This hypothesis will be examined in both in vitro and in vivo models of ischemic stroke. The hypothesis will be tested by 1: Determining how Notch-1 activation following ischemic condition influences the NFkappaB activity that may affect neuronal vulnerability. 2: Investigating whether Notch-1 signaling influences glial inflammatory response following ischemic stroke through the NFkappaB activity. Identifying the contribution of Notch-1 mediated neuronal cell death and glial cell activation through NFkappaB during cerebral ischemia is an important and novel endeavor that will provide significant insight into the process of ischemic stroke induced brain injury. Importantly, these results will support blocking Notch-1 induced neuronal cell death and gliosis by a gamma-secretase inhibitor following ischemic stroke as a means to prevent progression of brain tissue damage. ■

## First CATALYST Seminar

On Thursday, December 20th, the first open discussion of the seminar series "CATALYST" was held. **Dr. US Rao** opened his discussion titled "Why not RNF2 now? It's interesting too." This Research Catalyst was set up to cater to an open forum in which the presentations and discussions were informal. Faculty members participated in an eye opening discussion of Dr. Rao's ongoing research. This series possesses the possibility of inter-laboratory collaboration as well as the opportunity for the PI to receive outside the laboratory views/ideas.

CATALYST seminars will be held every 3rd Thursday of the month beginning at 5:30p.m.; the Office of Research will host dinner. If you have questions or you would like to participate in the next CATALYST, please contact Logan LaRue for more information. ■

## Names in the News

Graduate Student, *Sharanya Vemula*, received a travel award to attend an AAPS Workshop on Enzyme and Transporter Based Drug Interaction in November 2007. The Program was held in San Diego, California. ■

Graduate Student, *Nikhil Vad* received a travel award from AstraZeneca to attend the 2007 AAPS Annual Meeting and Exposition. The meeting was held November 11-15 in San Diego, California. ■

## Center for Immunotherapeutic Research

The Texas Tech University Board of Regents approved the School of Pharmacy's new center for excellence in Abilene. The Center for Immunotherapeutic Research will be a partnership between the Abilene community and the TTUHSC in which PIs will conduct translational and clinical research. The mission of the center includes improving the healthcare of people through the development and implementation of novel immune-based approaches/methods to detect/treat human diseases. It will feature technologies such as gene expression and protein engineering, hybridoma generation for monoclonal antibodies, microscopy and flow-cytometry, along with others. A Human Immunology Core (HIC) will provide support for immune monitoring of participating patients in clinical trials focused on cancer treatment and immune interventions. The Center hopes to collaborate with UT Southwestern in their research endeavors.


This will be the first Center for Excellence on the new Abilene campus. The Center is currently establishing its research infrastructure, and has just named **Dr. Jon Weidanz** as the Director. A five year plan to build a strong, self-sustainable center with the goal to obtain new extramural funding and recruit new center faculty has been submitted. ■

## Seminars

*Yan Xu,* Graduate Student/ Research Assistant. Monday, October 15, 2007. SOP Room 107. "Blood-Brain Barrier Anti-Mouse Transferrin Receptor 8D3 Antibody Production."

*Bhavna Verma*, Graduate Student/ Research Assistant. Monday, October 15, 2007. SOP Room 107. "Binding specificity of TCRm 9A conjugated nanoparticles."

*Nikhil Vad*, Graduate Student/ Research Assistant. Monday, October 22, 2007. SOP Room 107. "Acetaminophen as an anti-melanoma agent."

*Katie Bennett,* Graduate Student/ Research Assistant. Monday, November 5, 2007. SOP Room 107. "Expression and characterization of the novel transporter orthologs, BOCT1 and BOCT2."

*Chandan Thomas*, Graduate Student/Research Assistant. Monday, November 12, 2007. "Spore-like Inhalable Microspheres for Hepatitis B Vaccine Delivery."

*Yan Xu,* Graduate Student/ Research Assistant. Monday, November 19, 2007. SOP Room 107. "Anti-Mouse Transferrin Receptor 8D3 Antibody Production."

*Vinay Rudraraiu,* Graduate Student/Research Assistant. Monday, November 19, 2007. SOP Room 107. "Tumor Permeability Measurements in a Metastatic Brain Tumor Model Using Quantitative Autoradiography."

*Vivek Gupta*, Graduate Student/ Research Assistant. Monday, November 26, 2007. SOP Room 107. "Inhaled Prostacyclin Analogues for Pulmonary Arterial Hypertension."

*Li Yang,* Graduate Student/ Research Assistant. Monday, November 26, 2007. SOP Room 107. "Potential Application of Opioid Agonists for Stroke Treatment."

*Erika Wisdom,* Graduate Student/ Research Assistant. Monday, December 10th, 2007. SOP Room 107. "A Compensatory Mechanism for Acute Hyperglycemia Induced Apoptosis(?)"

Dr. Justin Lathia, National Institute on Aging, Monday, December 17th, 2007, SOP Room 107. "Extrinsic neural stem cell regulation: maintaining cells in the niche by ECM interactions." ■

## Student Research Week in Lubbock

The 20th annual Student Research Week will be held on the TTUHSC Lubbock campus March 11-14, 2008. This is a wonderful occasion for students to practice presentational skills and meet with other TTU/ TTUHSC students. This opportunity also allows students to showcase their original clinical and/or basic science research. This year's event will feature Fertilization, but is open to all fields of research. There will be nationally renowned scientists in the area of reproductive technology as featured guest speakers. Students who attend will have the opportunity to compete for scholarship prizes up to $1000. If additional information is need, please contact Kim Chau in the GSBS office at 806-743-2556. ■

# Publications

McNatty D, **Cox CD**, **Seifert CF**. Assessment of teaching experiences completed during accredited pharmacy residency programs. Am J Pharm Educ. 2007 Oct 15;71 (5):88.

**Shah SR**, Tran TM. Lenalidomide in myelodysplastic syndrome and multiple myeloma. Drugs. 2007;67(13):1869-81.

Yang T, Roder KE, **Abbruscato TJ**. Evaluation of bEnd5 cell line as an in vitro model for the blood-brain barrier under normal and hypoxic/aglycemic conditions. J Pharm Sci. 2007 Dec;96(12):3196-213.

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. 2007 Oct 23.

Bhattacharya R, Osburg B, Fischer D, **Bickel U**. Targeted Delivery of Complexes of Biotin-PEG-Polyethylenimine and NF-kappaB Decoys to Brain-derived Endothelial Cells in Vitro. Pharm Res. 2007 Oct 20.

**Lockman PR**, Manda VK, Geldenhuys WJ, Mittapalli RK, Thomas F, Albayati ZF, Crooks PA, Dwoskin LP, Allen DD. Carrier-mediated transport of the quaternary ammonium neuronal nicotinic receptor antagonist, N, N'-dodecyl-bis-picolinium dibromide (bPiDDB) at the blood-brain barrier. J Pharmacol Exp Ther. 2007 Oct 5.

Chimalakonda KC, Agarwal HK, Kumar A, Parang K, **Mehvar R**. Synthesis, analysis, in vitro characterization, and in vivo disposition of a lamivudine-dextran conjugate for selective antiviral delivery to the liver. Bioconjug Chem. 2007 Nov-Dec;18(6):2097-108.

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Vad NM, Shaik IH, Mehvar R, **Moridani MY**. Metabolic bioactivation and toxicity of ethyl 4-hydroxybenzoate in human SK-MEL-28 melanoma cells. J Pharm Sci. 2007 Sep 10.

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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 Thursday, March20, 2008.**

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