

Fall 2011

Pharmacology News

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Accolades

Congratulations to the following graduate students who recently defended their Ph.D. dissertations: **Adeleke Badejo**, **David Casey**, **Bindiya Patel** and **Daniel Petroni**.

The Owl Club honored **Dr. Craig Clarkson** with the Professor of the Year Teaching Award and the Gloria P. Walsh Award for Teaching Excellence.

Pharmacology News is the departmental newsletter and will be published quarterly.

Dr. David Busija—Chair
Debbie Sanders—Dept. Admin

New Spaces...

Welcome to the inaugural newsletter for the Department of Pharmacology. The purpose of this newsletter is to provide timely information concerning the activities of our faculty, students, and staff. This year has been a time of rapid change for the department. **Dr. David Busija** assumed the position of Regents Professor and Chairman of the department on January 1, 2011. Dr. Busija came from Wake Forest University Health Sciences in Winston-Salem, NC where he was Professor of Physiology and Pharmacology from July 1, 1990 until December 31, 2010. Dr. Busija has extensive research interests in vascular control mechanisms in the brain, pathophysiology of cerebral ischemia, mechanisms of cerebral vascular dysfunction during insulin resistance, and

mitochondrial mechanisms in vascular control and cellular protection. Immediately upon arriving at Tulane, Dr. Busija initiated several renovation projects. These included a complete renovation of the departmental offices which was completed in May. The office is now an open work space conducive to modern academic business. There are several other ongoing renovations including

laboratories and faculty offices on the 3rd and 4th floors of the SOM building. The final stage of the renovation plan involves an update of the Pharmacology Conference Room which will include the installation of a new projection system and new seating.

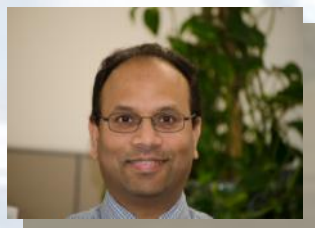


Renovated spaces of Pharmacology. (on the left) Space in the departmental administrative office was opened up by the removal of walls to combine two rooms into a more efficient layout. (on the right) Newly renovated lab once occupied by Dr. Louis Ignarro.

...And New Faces

The Pharmacology department is also increasing its faculty and staff. The most recent new faculty are **Dr. Prasad Katakam** and **Dr. Jean-Pyo Lee**.

Dr. Katakam, coming from Wake Forest University, investigates vascular control mechanisms in the brain and heart during normal conditions as well as in



Prasad VG Katakam, MD, PhD

disease states such as insulin resistance and ischemia/reperfusion. His laboratory is located on the 4th floor of the SOM building.

Dr. Jean-Pyo Lee, coming from the Sanford-Burnham Research Institute, investigates neural stem cells and their application for the treatment of diseases of the central nervous system, including both lysosomal storage disease and cancer. Dr. Lee's laboratory is in the JBJ building. Drs. Lee and Katakam join the current faculty which include: Dr. Barbara Beckman, Dr. Stephen Braun, Dr. Bruce Bunnell, Dr. Craig Clarkson, Dr. Phil Kadowitz, Dr. Allan



Jean-Pyo Lee, PhD

Kalueff, Dr. John McLachlan, and Dr. Debasis Mondal.

Recently, six new employees have been added to the Pharmacology family as well.

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...And New Faces cont.



(l to r): Edina Wappler, Paige Katz, Sohmruta Dutta & Dana Liu

Nancy Busija, MA, CCC-SLP has joined the department as Senior Editor. Previously she worked at Wake Forest University as an editor and as a Speech Language Pathologist in the North Carolina Schools. Nancy has 20 years' experience as a Speech Language Pathologist and

17 years' experience editing scientific manuscripts, grants, and books. She will be providing scientific editing for the Pharmacology Department.

Dana Liu, MS, medical research technician, was with Tulane's Cellular and Molecular Biology department for 11 years before joining Pharmacology. She graduated from Peking Union Medical College & Chinese Academy of Medical Sciences in Beijing, China.

Paige Katz, PhD, postdoctoral fellow, is originally from Las Vegas but has lived in New Orleans since 1995. She began and finished her PhD journey at LSU, with a sojourn at the Children's Hospital of the University of Ohio in Columbus after Hurricane Katrina.

Edina Wappler, MD, PhD, postdoctoral fellow, received her MD and PhD from Semmelweis University in Budapest. Edina came to Tulane to complete her fellowship which she began in Dr. Busija's laboratory at Wake Forest University Health Sciences.

Dana, Paige, and Edina work with Dr. Busija and conduct research in room 4720 SOM.

Dr. Bindiya Patel, postdoctoral fellow, and **Edith Walker**, research technician, have joined Dr. Braun's laboratory.

Faculty recruitment is currently ongoing and it is expected that an additional three faculty members will be hired over the next 1-2 years with the primary focus on faculty in the area of vascular and mitochondrial biology.

Student Spotlight—Class of 2012

Departmental Mission

Statement:

We will educate and train medical and graduate students in the principles of pharmacology using modern techniques and will conduct state-of-the-art research in pharmacology-related fields in order to expand the frontiers of science and medicine.

This year the Masters of Science in Pharmacology Program admitted 23 students. Here are brief bios on 5 of our new students.

Tommy Bagwell, Austin, TX, graduated from Univ. of Texas, Austin. He is interested in pursuing research in the treatment of cancer. He enjoys studying, going to live shows, and eating Cajun cuisine. Tommy plans to volunteer at Tulane Medical Center.

Anand Kanwar, Dallas, TX, graduated from the Univ. of Texas at Dallas. He is interested in neurodegenerative disorders and worked in the Neuroimaging Core of the Alzheimer's Disease Center at UT Southwestern Medical Center for 2 years before coming to Tulane. Anand enjoys working out, playing basketball and video games, and following sports and current events. He is adjusting to life in New Orleans and is searching for the right place to do volunteer work.

Saamia Faruqui, Baton Rouge, LA, earned her BS at Emory Univ. She is interested in cancer biology. Some of her favorite pastimes include reading, hanging out with friends, and ballet. She has previ-

ously participated in mentoring and clinical volunteer work.

Qasim Alkhafaf, was born in London and grew up in Dubai and New Orleans. He received a BS in Biology from the Univ. of New Orleans. Qasim is interested in the use of neuropharmacological methods to study synaptic

ER but is currently focusing all his energy towards succeeding in the program.

Greg Minutillo, Long Island, NY, graduated from James Madison Univ. in VA. He is interested in research in the areas of arteriosclerosis and heart health and hopes to work with Dr.



(l to r): Tommy Bagwell, Saamia Faruqui and Greg Minutillo

organization, modulation and plasticity of neuronal networks in the brain and anticipates doing research with the Physiology Dept. Qasim enjoys spending time with family and friends and playing soccer, table tennis, and billiards. He has done volunteer work in an

Delafontaine. Greg enjoys producing contemporary music and hopes to volunteer with the underprivileged youth of greater New Orleans.

Noteworthy News

Dr. David Busija has been selected to present the main invited lecture at the 23rd Annual Congress of the Japanese Society of Cerebral Blood Flow and Metabolism in Tokyo, Japan on November 4, 2011. The title of his presentation is "Mitochondrial Mechanisms in the Brain and Cerebral Vasculature: Neuroprotection and Vasodilation." He will also give a less formal presentation at a Congress luncheon on November 5th entitled "Novel Approaches to Protect the Brain and Cerebral Vasculature During and After Stroke."

Dr. Prasad Katakam's abstract "Insulin Induced Generation of Reactive Oxygen Species Underlie Cerebrovascular Insulin Resistance to Obese Rats" has been selected for the platform presentation during the session entitled "Cerebrovascular Disease/Stroke (Basic): The Quest for Neuroprotection" at the American Heart Association Annual Scientific Session 2011. Co-authors include James A. Snipes, Mesia M. Steed and David W. Busija. The presentation will take place November 16, 2011 in Orlando, FL.

Drs. Barbara Beckman and Matthew Burow are secondary mentors on a Department of Defense Breast Cancer Research Program awarded for 4 years beginning in September. The grant title is "A Drug Discovery Partnership for Personalized Breast Cancer Therapy." Dr. Cheryl Stevens, Chair of Chemistry, at Xavier University is the P.I. Total Direct costs are \$1 million dollars. The goal of the project is to develop a collaboration and training program between the Xavier University Drug Design Team and the Tulane University Cancer Biology team. Drs. Tom Wiese, Maryam Foroozesh and Frank Jones are co-investigators.

Dr. Stephen Braun has been awarded a \$50,000 grant through the TNPRC Pilot Program. The title is "Generation and Evaluation of Replication-defective SIV Vectors co-expressing SIV antigens and the immune modulating cytokine Flt3L in DC-based vaccine strategy."

Graduate Spotlight: Dr. Edward Mannina

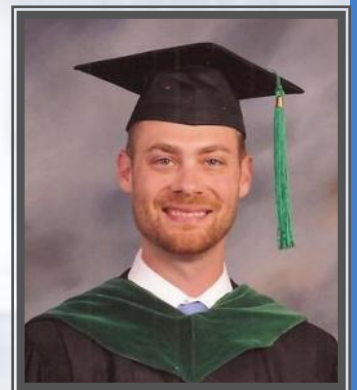
"...and for that I can thank only the launching pad that set this into motion—Tulane University School of Medicine's Pharmacology Masters Program."

As is par for pre-medical students I was an anxious, poorly informed applicant who "just wanted to be a doctor", but I was trapped in an undergraduate curriculum with little understanding of what that meant. I thought I could do it and always dreamed of a top tier medical education. It was fortuitous then, when I caught a flier for Tulane University School of Medicine's Masters in Pharmacology program. I thought to myself, "This could be the next step—a chance to show myself and the elite medical institutions what I was capable of." The program welcomed me with open arms. There was no intimidation, competition, or awkwardness. My classmates, who later would become some of my closest friends and colleagues, were an amazingly diverse group. Some had studied outside the States, others spoke multiple languages, many had held real world jobs and all were qualified, brilliant young minds; they were the future. Immediately, I indulged in this diversity and my whole world changed. We shared time, experiences, knowledge and happiness, always leaning on each other when we needed it most. The outstanding mentorship provided by faculty such as Drs.

Clarkson, Agrawal, Beckman and Kadowitz led me to comfortably accept this new world, to embrace the incredible diversity and opportunities around me, to understand and seize my calling. With a personal renaissance underway, I continued on my quest and the Pharmacology department rewarded me with more than enough study material. The faculty took note of my desire and work ethic and figured me right for a physician. Supported by the department, I was particularly comfortable when interviewing for medical school and soon was completing a research project and thesis to polish off the Masters program. As quickly as I had stumbled on the program, I was through it with memories of joy, satisfaction and accomplishment ruminating; medical school was just down the road. It is difficult to say goodbye...so I refused. To this day, I keep in contact with the Pharmacology department and with each member of the class of 2007. Many feared medical school, but I did not. I was familiar with the system and as it turned out, already remarkably prepared for the basic science courses. I owe my preparation to the Masters program where I was taught medicine

by top shelf educators, in a classroom of the most diversely wonderful grad students in the country at an elite, truly unique medical institution—one of many gems in a city notorious for enrichment. The experience carried me to the top of my medical school class, right through to graduation and into a competitive residency. I practice now with the support of incredible experiences and among outstanding colleagues, many of whom I met in that special year before medical school. Sometimes it is all too surreal...and for that I can thank only the launching pad that set this into motion—Tulane University School of Medicine's Pharmacology Masters Program.

Dr. Edward Mannina



Publications

Wicks, S., Londot, H.E., Zhang, B., Dowden, J., Klopff-Eiermann, J., Fisher-Perkins, J.M., Trygg, C.B., Scruggs, B.A., Zhang, X., Gimble, J.M., **Bunnell, B.A.** and Pistell, P.J. (2011) Effect of intrastriatal mesenchymal stromal cell injection on progression of a murine model of Krabbe disease. *Behavioural Brain Research*, 225:415-25.

Gimble, J.M., Guilak, F., Nutall, M.E., Sathishkumar, S., Vidal, M. and **Bunnell, B.A.** (2011) In vitro differentiation potential of mesenchymal stem cells. *Transfusion Medicine and Hemotherapy*, in press.

Espandar, L., **Bunnell, B.A.**, Wang, G.Y., Gregory, P., McBride, C., Moshirfar, M. (2011) Adipose-derived stem cells on hyaluronic acid-derived scaffold: a new horizon in bioengineered cornea. *Arch of Ophthal*, in press.

Gimble, J.M., **Bunnell, B.A.**, Floyd, Z.E., Sutton, G. and Pritsyn, A. (2011) Circadian Rhythms in Adipose Tissue: An Update. *Curr Opinion in Clin Nutrition and Metab Care*, in press.

Stewart A, Gaikwad S, Kyzar E, Green J, Roth A, **Kalueff AV**. Modeling anxiety using adult zebrafish: A conceptual review. *Neuropharmacology*, 2011, in press.

Kyzar E, Gaikwad S, Roth A, Green J, Pham M, Stewart A, Liang Y, Kobla V, **Kalueff AV**. Towards high-throughput phenotyping of complex patterned behaviors in rodents: Focus on mouse self-grooming and its sequencing. *Behav Brain Res*. 2011, 225(2):426-31.

Riehl R, Kyzar E, Allain A, Green J, Hook M, Monnig L, Rhymes K, Roth A, Pham M, Razavi R, Dileo J, Gaikwad S, Hart P, **Kalueff AV**. Behavioral and physiological effects of acute ketamine exposure in adult zebrafish. *Neurotoxicol Teratol*. 2011, in press.

*This list of publications was the most accurate list available at time of our newsletter publication. Any omissions will be included in the following issue.

Pharmacology Seminar Series October 2011–December 2011

OCTOBER

Oct. 7 **Lane Bekar, PhD**—Research Asst. Professor—Univ. of Rochester SOM—Faculty Candidate
12 pm “Astrocytes as Effectors of Neuromodulatory Networks: Implication for Synaptic Activity & Blood Flow”

Oct 14 **Kenneth Mitchell, PhD, FAHA**—Assoc. Professor of Physiology—Tulane Univ. SOM
12 pm “Blood Pressure & Renal Functional Responses to Renin Inhibition in ANG-II Dependent Hypertension”

Oct 21 **Dewan S.A. Majid, MBBS, PhD, FAHA, FASN**—Professor of Physiology—Tulane Univ. SOM
12 pm “Oxidative balance, Kidney function and Salt-sensitive Hypertension”

Oct 28 **Nabil Alkayed, MD, PhD**—Professor & Vice Chair—Anesthesiology & Preoperative Medicine—Oregon Health & Science Univ.
12 pm “Protein Trafficking & Organelle Biogenesis in Ischemic Brain”

NOVEMBER

Nov 4 **Andre Zsombok, PhD**—Assistant Professor of Physiology—Tulane Univ. SOM
12 pm “TRPV1-dependent Regulation of Liver-related Neuron in Type 1 Diabetes”

Nov 8 **Amrita Datta M.S.**—Graduate Student in Pharmacology, Major Advisor: Dr. Asim Abdel-Mageed, D.V.M., Ph.D.—Tulane Univ. SOM
12 pm “Modulatory effect of Alpha-naphthoflavone on Doxorubicin resistance in MCF-7 human breast cancer cells”

Nov 11 **Charles D. Nichols, PhD**—Associate Professor of Pharmacology—LSU Health Sciences Center New Orleans
12 pm “Serotonin receptor function: From schizophrenia and fruit flies to inflammation”

Nov 18 **Hemal H. Patel, PhD**—Associate Professor, Department of Anesthesiology—University of California San Diego
12 pm “Caveolins in Molecular Compartmentation: Implications For Stress Adaptation and Disease”

DECEMBER

Dec 2 **14th Annual William J. Fisher Lectureship**
12:30 **William C. Sessa, Ph.D.**—Professor of Pharmacology—Yale University School of Medicine
pm Title TBA

Dec. 9 **Norman R. Kreisman, Ph.D.**—Professor and Vice Chairman of Physiology—Tulane University School of Medicine
12 pm “Preconditioning Hippocampal Slices with Hypothermia Reduces Acute Hypoxic Injury: Potential Mediation by Erythropoietin

Dec 16 **Christine T. Bulot, M.S.**—Graduate Student in Pharmacology, Major Advisor: Dr. Debasis Mondal, Ph.D.—Tulane University SOM
12 pm “Utilizing Upregulated Membrane Markers on HIV-1-infected Lymphocytes as a Targeted Antiviral Drug Delivery Approach”