



THE UNIVERSITY OF KANSAS SCHOOL OF PHARMACY Pharmacology & Toxicology

ALUMNI NEWSLETTER • FALL, 2013

FACULTY MEMBERS EARN LEADING LIGHT AWARDS



Several Department of Pharmacology and Toxicology faculty members have earned Leading Light Awards.

The University of Kansas Provost's Office and the Office of Research and Graduate Studies are teaming up to recognize the accomplishments of university researchers.

The Leading Light Award recognizes investigators for their efforts in obtaining a research grant totaling at least \$1 million.

The symbol of the Leading Light Award is the sunflower, the state flower of

Kansas. Each award recipient receives an engraved brass sunflower and is recognized during a luncheon and awards presentation ceremony.

The Leading Light Award has been presented to several faculty members in the Department of Pharmacology and Toxicology, including Rick Dobrowsky, Stephen Fowler, Elias Michaelis, Mary Lou Michaelis, Jeff Staudinger, Shirley Yan, Honglian Shi and Nancy Muma.

TEACHING EXCELLENCE



Professor Rick Dobrowsky was honored by KU's Center for Teaching Excellence at the annual Celebration of Teaching Recognition Ceremony. Dobrowsky was nominated by students Sarah Woody, left, and Pan Pan.

Rick Dobrowsky was honored with the departmental award for teaching excellence through the Center for Teaching Excellence. The Departmental graduate students were asked to choose a faculty member whose teaching has had a major and beneficial impact on students.

A "Celebration of Teaching" reception was held on May 7 hosted by the Center for Teaching Excellence to honor Rick and the other outstanding teachers who received this award.

NOTE FROM THE CHAIR

Nancy Muma



I hope you enjoy the inaugural edition of the Pharmacology and Toxicology Departmental Newsletter.

We tried to include something of interest for all of the alumni, students, faculty and friends of the department. We welcome your contribution to future editions for our "Letters from the Alumni" section and will entertain any suggestions for future contents.

If you are in the Lawrence area, you are always welcome to visit us, and attend a seminar if your timing is right. Please contact me if you are interested in giving a departmental seminar or meeting with the current graduate students. Our hope is that the Newsletter will facilitate connections and reconnections with the department and with other KU alumni and friends.

PHARMACOLOGY & TOXICOLOGY WELCOMES GUEST SPEAKERS

Dongsheng Cai, M.D., Ph.D., the Irma T. Hirschl Scholar and Professor of Molecular Pharmacology at the Albert Einstein College of Medicine gave a lecture entitled "Neuroinflammation and Obesity-Related Diseases" on January 23, 2013.



Dongsheng Cai, M.D., Ph.D.

Cara Wellman, Ph.D. Professor, Indiana University Department of Psychological And Brain Sciences spoke on "Sweating the Small Stuff: Stress Effects on Corticolimbic Structure and Function" on April 3, 2013.



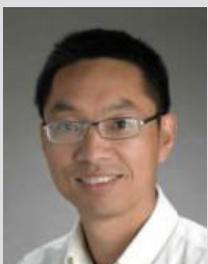
Cara Wellman, Ph.D.

Tony Passaniti, Ph.D. Associate Professor, Departments of Pathology, and Biochemistry & Molecular Biology, the Greenebaum Cancer Center gave a seminar entitled "Angiogenesis and RUNX2-Specific Drug Discovery: Implications for Diabetes and Cancer" on April 17, 2013.



Tony Passaniti, Ph.D.

Wen-Xing Ding, Ph.D. Assistant Professor, Department of Pharmacology, Toxicology & Therapeutics at the University of Kansas School of Medicine spoke on "Mitophagy and Mitochondrial Spheroids in Drug-Induced Liver Injury" on April 24, 2013.



Wen-Xing Ding, Ph.D.

Our recent graduate Cibele Pinto, Ph.D. (graduated spring 2007 with Richard Seifert and Stephen Fowler), currently a Senior Postdoctoral Fellow at the Kidney Institute at the University of Kansas Medical Center, presented her work in a seminar entitled "Isoform-Specific Role of Adenylyl Cyclases and Phosphodiesterases on Cyst Formation in Polycystic Kidney Disease" on May 8, 2013.



Cibele Pinto, Ph.D.

FACULTY TRANSITIONS

Mary Lou Michaelis has retired as of May 2013. She will be continuing her research work in Alzheimer's disease as an emeritus professor at KU. We are planning a celebration for August to accommodate her prior commitments.

Marco Bortolato, M.D. Ph.D. joined the department in August, 2012. Dr. Bortolato comes to us from University of Southern California where he was a research assistant professor working with Dr. Jean Shih. His research focuses on the characterization of the biological bases of neurodevelopmental disorders through the employment of behavioral tests in animal models. The long-term goal of this research is the development of novel therapeutic agents for the treatment of pathological aggression, autism-spectrum disorder, Tourette syndrome, schizophrenia and impulse-control disorders such as pathological gambling.

Liqin Zhao will join us in August of 2013. Dr. Zhao comes to us from the University of Southern California, and her research focus is neuroactive steroids especially estrogens, in Alzheimer's disease.

UPCOMING SPEAKERS

September 18, 2013

Paul L. Prather, Ph.D.

Associate Professor

Department of Pharmacology and Toxicology

College of Medicine

University of Arkansas for Medical Sciences

October 16, 2013

Dr. Irina Gazaryan

Assistant Professor

Department of Neurology and Neuroscience

Weill Medical College

Cornell University

DONOR SUPPORT

Thank you for your interest in supporting the Department of Pharmacology & Toxicology. Private support allows the Department to provide resources for students, establish research seminars, and continue the excellence you have come to expect from our department. Your support, regardless of size, can make a profound impact. Even small amounts given over time can accumulate to create substantial

resources for the department. For a lasting impact on the department, major gifts can establish endowed funds that can be named for you or for someone else and provide financial support in perpetuity. Visit our website <http://www.pharmtox.ku.edu/> or contact our development director, David Ochoa, at dochoa@kuendowment.org or at 785-832-7476 to make a donation.

THE KU SCHOOL OF PHARMACY RANKS NO. 2 NATIONALLY IN PHARMACY RESEARCH FUNDING

For the second consecutive year and the third time in four years, the KU School of Pharmacy is ranked No. 2 in the nation in National Institutes of Health funding. The School of Pharmacy earned more than \$25 million in NIH research funding in fiscal year 2012 — an increase of \$3 million from the previous year's total. This marks the 12th consecutive year the school has been ranked in the top five. It has been in the top

10 every year since 1995. KU is the only Big 12 institution in the top 10. Additionally, the KU School of Pharmacy ranks No. 1 nationally in the value of awards per funded faculty member. The school's 24 NIH-funded faculty members bring in an average of more than \$1 million each. Additional funding is awarded to researchers who collaborate with colleagues from other schools.

"Faculty researchers at the KU School of Pharmacy are second to none," said Ken Audus, dean of the pharmacy school. "Year after year, they compete for and earn significant outside funding. They bring millions of dollars to the university and the state, and more important, they make discoveries that improve the lives of people throughout the world."

GRADUATIONS

In 2012, we had a windfall of students in the department earn their Ph.D. in Pharmacology and Toxicology:

- **Chenshu (Susan) Xu with Jeff Staudinger**
- **Laura Anguiano with Eli Michaelis**
- **Chengyuan (Chanel) Li with Rick Dobrowsky**
- **Heather Menchen with Mary Lou Michaelis**
- **Liang Zhang with Rick Dobrowsky**

And in Neuroscience:

- **Shaheen Latif with Steve Fowler**

Jade Franklin defended her dissertation, entitled "Cannabinoid Regulation of Serotonin 2A (5-HT_{2A}) Receptors" June 18th. Gonzalo Carrasco was Jade's dissertation supervisor. She passed with honors.

JEFF STAUDINGER PROMOTED TO FULL PROFESSOR



Jeff Staudinger was promoted to full professor this year.

Staudinger began his KU career in 2001 as an assistant professor and was promoted to associate professor with tenure in 2006. He has an active research program, including four graduate students, focused on nuclear receptor PXR in regulation of inflammation and drug disposition.

FROM OUR ALUMNI

VICKI (THIEL) DEMBY

Hello to all of my fellow Pharm/Tox Rock Chalkers! I hope everyone is doing well and enjoying life. I can't believe it has already been 12 years since I have left Kansas. I'm thrilled that our department has decided to start a newsletter. This will be a great way to keep in touch.

I was married in 2003, and have two sons, Brian Jr., 9 and Miles, 7. I live in New Hope, PA and I am still an avid Philadelphia Eagles fan (yes, I can't believe I even admit this).

Par for the changing pharmaceutical environment over the past decade, I have worked in numerous jobs and different functional areas. Each job has given me a different experience, and has allowed me to be well-rounded and able to easily adapt in any environment. I worked in preclinical development as a section head for the transporter group for many years, and then transitioned in the global regulatory affairs group. Within the past year, I joined Merck as a global regulatory lead. Among other things, I am one of the key regulatory leads responsible for successful global submissions, approvals, and maintenance of an \$8 + billion a year franchise! I look back on my time at KU with pride. I have to admit that all of the Friday afternoon seminars did end up paying off. I know Dr. Traiger is smiling down on me for saying that. Who can forget being on the "Dobrowsky hotseat" during said seminars? Now that it's over, I can appreciate it a bit more, and thank Dr. D, as this training has paid off. I tend now to ensure I anticipate questions and truly understand the data or subject that I plan to present. I am currently preparing a lecture on New Drug Applications for an online regulatory affairs course for the University of Maryland. I really enjoy it. Did you get as much out of the seminar training as I did? I got the opportunity to come back to Kansas in April, 2012 and I was so excited to be back! I got to spend time with one of my favorite professors (Dr. Faiman!) and his wife for dinner, and my advisor-turned-dean, Ken Audus and his wife. I was able to catch up with both Drs Eli and Mary Lou Michaelis, Dr. Dobrowsky, and was able to meet some of the newer faculty that was not there when I was a student. What a wonderful experience! I even got a chance to catch a KU football game. I love Kansas and would love to hear from my former classmates and other alumni, so please make sure you provide an update! All the best and ROCK CHALK JAYHAWK, GO KU!

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CIBELE S. PINTO

I am originally from Brazil, and after completing my bachelor's in pharmacy from the Federal University of Ceara in 2001, I moved to the U.S. first to learn English and then pursued higher education. In 2002, I was accepted to the Pharmacology and Toxicology Ph.D. program under the mentorship of Dr. Roland Seifert and Dr. Stephen Fowler.

My research initially focused on elucidating the role of abnormal regulation of G-protein signaling in Lesch-Nyhan disease (LND). As my studies progressed, the regulation of adenylyl cyclase (AC) signaling became a major focus on my research. My doctoral research led to eight research papers in the field of AC and G-protein signaling. In addition to my traditional research training, being a graduate student at the Pharm & Tox program at KU equipped me with many skills such as public speaking, leadership and writing that prepared me to be a successful scientist post graduation.

After completing my Ph.D. in 2007, my interest was to pursue a more translational-oriented training experience in which I could utilize my expertise in G-protein biology and cAMP regulation in a relevant animal model studying human disease. Fortunately, Dr. Jared Grantham recruited me to the Kidney Institute under the tutelage of Dr. D. Wallace at the University of Kansas Medical Center.

My work in Dr. Wallace's lab was quite diverse. A primary project focused on analyzing the expression, Ca²⁺ regulation, and V2R- receptor coupling of specific ACs and how they differentially provide temporal and spatial regulation of the cAMP signal in cystic and non-cystic cells. This was funded as a postdoctoral fellowship through the Polycystic Kidney Disease (PKD) foundation, and resulted in a first author publication. A second project involved the understanding of the role of phosphodiesterases (PDEs) on regulating the compartmentalization on cAMP signaling to the B-RAF/MEK/ERK pathway in PKD. Another major focus of my postdoctoral training was to analyze the role of tolvaptan, a vasopressin V2 receptor antagonist, on the regulation of cAMP, ERK and other MAPK signaling, cell proliferation, and chloride secretion in PKD. In an exciting turn of events, I was recently recruited by Otsuka Pharmaceutical to work as a medical science liaison (MSL) in the cardio/renal division and be part of the team that will launch tolvaptan as the first ever target therapy for PKD. I am extremely grateful for the outstanding training I've received at KU and KUMED in the past years. I will forever carry the KU flag and will always be a proud Jayhawk!!!!

CHENSHU (SUSAN) XU

It is my pleasure to share my life back in China with you. I am now working as a clinical researcher in the Pharmacy Department at The First Affiliated Hospital of Sun Yat-Sen University.

Our lab focuses on liver fibrosis and I am excited to collaborate with Staudinger Lab to look at the role nuclear receptors play in it. My daily work involves writing grants, revising graduate students' manuscripts and supervising their projects.

Meanwhile, the hospital also provides classes and training for me to become a clinical pharmacist.

I am enjoying my work so far and making some progress. I am grateful for the knowledge and skills I learned from KU. I look forward to visiting you all soon in the future.

DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

FEATURED PUBLICATIONS

Marco Bortolato: Tambaro, S., Tomasi, M.L., and Bortolato, M. "Long-term CB₁ receptor blockade enhances vulnerability to angiogenic-like effects of cannabinoids." *Neuropharmacology*, 2013; 70: 268-77.

Gonzalo Carrasco: Franklin, J.M. and Carrasco, G.A. "Cannabinoid-induced enhanced interaction and protein levels of serotonin 2A and dopamine D2 receptors in rat prefrontal cortex." *Journal of Psychopharmacology*, 2012; 26: 1333-1347.

Rick Dobrowsky: Li, C., Ma, J., Zhao, H., Blagg, B.S.J., and Dobrowsky, R.T. "Induction of Heat Shock Protein 70 (Hsp70) Prevents Neuregulin-induced Demyelination by Enhancing the Proteasomal Clearance of c-jun." *ASN Neuro*, 2012; 4: 425-437.

Morris D. Faiman: Faiman, M.D., Kaul, S., Latif, S., Williams, T., and Lunte, C. "S-(N,N – Diethylcarbamoyl)-glutathione (Carbamathione) a Disulfiram Metabolite and its Effect on Nucleus Accumbens and Prefrontal Cortex Dopamine, GABA, and Glutamate: A Microdialysis Study." *Neuropharmacology* (in press).

Stephen Fowler: Ortiz, A.N., Osterhaus, G.L., Lauderdale, K., Mahoney, L., Fowler, S.C., von Hörsten, S., Riess, O., and Johnson, M.A. "Motor function and dopamine release measurements in transgenic Huntington's disease model rats." *Brain Research*, 2012; 1450: 148-156.

Eli Michaelis: Michaelis, E.K. "Selective Neuronal Vulnerability in the Hippocampus: Relationship to Neurological Diseases and Mechanisms for Differential Sensitivity of Neurons to Stress." In *Clinical Neurobiology of the Hippocampus*, 2012, Ed. Thorston Bartsch, Oxford University Press.

Mary Lou Michaelis: Jiang, L., Bechtel, M.D., Galeva, N.A., Williams, T.D., Michaelis, E.K., and Michaelis, M.L. "Decreases in plasma membrane Ca²⁺-ATPase in brain synaptic membrane rafts from aged rats." *Journal of Neurochemistry*, 2012; 123: 689-699.

Alex Moise: Pang, X.Y., Cao, J., Addington, L., Lovell, S., Battaile, K.P., Zhang, N., Rao, J.L., Dennis, E.A., and Moise, A.R. "Structure/Function relationships of adipose phospholipase A2 containing a cys-his-his catalytic triad." *Journal of Biological Chemistry*, 2012; 287: 35260-35274.

Jackob Moskovitz: Oien, D.B., Ortiz, A.N., Rittel, A.G., Dobrowsky, R.T., Johnson, M.A., Levant, B., Fowler, S.C., and Moskovitz, J. "Dopamine D(2) receptor function is compromised in the brain of the methionine sulfide reductase A knockout mouse." *Journal of Neurochemistry*, 2010; 114: 51-61.

Nancy Muma: Li, Q., Sullivan, N.R., McAllister, C.E., Van de Kar, L.D., and Muma, N.A. "Estradiol accelerates the effects of fluoxetine on serotonin 1A receptor signaling." *Psychoneuroendocrinology*, 2013; 38:1145-1157.

Honglian Shi: Yan, J., Zhou, B., Taheri, S., and Shi, H. "Differential effects of HIF-1 inhibition by YC-1 on the overall outcome and blood-brain barrier damage in a rat model of ischemic stroke." *PLoS One*, 2011; 6(11): e27798.

Jeff Staudinger: Hu, G., Xu, C. and Staudinger, J.L. "Pregnane X Receptor Is SUMOylated to Repress the Inflammatory Response." *Journal of Pharmacology and Experimental Therapeutics*, 2010; 335(2): 342-350.

Shirley ShiDu Yan: Du, H., Guo, L., Wu, X., Sosunov, A.A., McKhann, G.M., Chen, J.X., and Yan, S.D. "Cyclophilin D deficiency rescues A β -impaired PKA/CREB signaling and alleviates synaptic degeneration." *Biochimica et Biophysica Acta*, 2013; ISSN 0925-4439.