KU PHARMACOLOGY & TOXICOLOGY EARNs INTERNATIONAL RECOGNITION

The University of Kansas Department of Pharmacology and Toxicology was recently recognized as one of the best in the world by U.S. News & World Report. The news magazine's list, 2017 Best Global Universities Rankings, ranks the Department of Pharmacology and Toxicology at KU No. 48 worldwide and No.19 in the United States. The Best Global University’s rankings measure a school’s global and regional research reputation and performance using indicators such as publications, citations and international collaboration.

Department of Pharmacology and Toxicology Chair Nancy Muma said the ranking is reflective of the department’s world-class research faculty. U.S. News & World Report first began ranking colleges and universities 30 years ago and has, over the years, expanded its rankings to include individual programs and areas of study.

NOTE FROM THE CHAIR
Nancy Muma
Professor, Chair
Department of Pharmacology and Toxicology

The department and graduate program have had another terrific year. We launched an online M.S. degree program and are excited about recruiting new applicants into the program. If you or someone you know is interested in the online program, please contact us. Two new faculty members, Adam Smith and Eduardo Rosa-Molinar, joined the department. This year, we matriculated two new Ph.D. students and four students into our onsite M.S degree program. Five students graduated this year, four earned M.S. degrees and one earned a Ph.D.

This is just a brief summary of some of the activities in the department. You can find more details in the rest of the newsletter.

I hope you enjoy hearing about the department and invite you to contribute an update about yourself for our next newsletter. Please contact us about visiting the department this year. We would love to have you give a scientific seminar or a “Beyond the Lab” talk about scientific careers outside of academia.

New online M.S. program expands our reach

The Department of Pharmacology and Toxicology now offers a Distance Master’s Program featuring the same high-quality lectures and courses offered in the Ph.D. Program. The distance program allows the industrial scientist or student at a collaborating institution to remain at their respective institutions and earn the M.S. degree within a collaborative academic environment. Successful applicants will receive a University of Kansas student I.D. number and immediate access to the entire library catalog online. Additionally, students will obtain online authorization for the use of the Access Pharmacy website.

The online Master of Science degree in Pharmacology and Toxicology is designed to train individuals in molecular, cellular and organ systems pharmacology and toxicity. The program provides advanced scientific knowledge in pharmacology and toxicology and is designed for those seeking additional academic qualifications that will facilitate advancement at their place of employment or increase their competitiveness for admission to other advanced degree programs. All courses are offered online to provide opportunity for students regardless of their geographic location, work schedules, or familial obligations. The online M.S. student will work with two primary research advisors. One will be an appropriate person at their remote site and the second a member of the graduate faculty of the Department of Pharmacology and Toxicology. Both advisors are involved in overseeing the formulation and progression of the thesis research project.

The quality and impact of the master’s thesis project is something we take very seriously. Once the student has prepared a research proposal that is approved by on-site and University of Kansas faculty advisors, the student will conduct thesis research during the regular semesters and/or during the summer period.

Students who complete the program receive a master’s degree from the University of Kansas and, more important, develop the skills to become a highly functioning research scientist possessing a solid scientific thought process and the confidence to handle any problems encountered throughout a research career.
WELCOMING OUR NEW FACULTY MEMBERS

EDUARDO ROSA-MOLINAR

Eduardo Rosa-Molinar joins the department as a professor of pharmacology and toxicology while also serving as a professor in the neuroscience graduate program, director of the KU Microscopy and Analytical Imaging Resource Core Laboratory, Whitman Scientist at the Whitman Center Marine Biological Laboratory, and course director of Immunohistochemistry and Microscopy, a special topic course taught at the Marine Biological Laboratory, Woods Hole, MA.

Until June 2015, he was a tenured professor of integrative anatomy and neurobiology at the University of Puerto Rico-Rio Piedras in San Juan, Puerto Rico.

Rosa-Molinar’s research focuses on the development and application of tools and workflows for multi-scale, multi-modal correlated volume microscopies and three-dimensional volume reconstruction to unravel synaptic geometry.

He and his lab group look at “neural microcircuits,” a specific pattern of interconnections between neurons and synapses within a specific region of the central nervous system (i.e., spinal cord); they image and study the three-dimensional (3-D) nano-scale geometry of synapses.

They are particularly interested in “mixed synapses,” a poorly studied synapse that combines the features of both chemical and electrical synapses (i.e., gap junction).

ADAM SMITH

Adam Smith joins the department after completing a postdoctoral fellowship in the Section of Neural Gene Expression at the NIMH. He received the Richard J. Wyatt Memorial Fellowship Training Award from the NIMH for excellence in translational research, the Postdoctoral Intramural Research Training Award from the NIH, the Glenn I. Hatton Memorial Award from the World Congress of Neurohypophyysial Hormones, and the Ziskind-Somerfeld Research Award from the Society of Biological Psychiatry.

Smith earned his Ph.D. in neuroscience at Florida State University, and his M.A. in psychology at the University of Nebraska at Omaha. His research focuses on the neurobiological substrates of social behavior and social detriments of mental health. He studies the neuroscience of social attachment by exploring the natural ecology of the socially monogamous prairie vole to identify the mechanisms underlying pair bond formation, social buffering, consoling behavior, and social loss. In particular, he looks at the role of neuropeptide and neurotransmitter circuits in regulating close relationships, social bonds, and the bi-directional relationship between stress and sociality.

The long-term goal of his research is to deconstruct the neurobiology of sociality and develop novel therapeutic agents for the treatment of social and emotional disorders such as generalized anxiety disorder, social anxiety disorder, and depression.

Alumnus earns prestigious award

KU graduate Daniel Acosta Jr. has earned numerous awards and accolades, the latest of which is the 2016 William J. Sheffield Outstanding Alumnus Award from the University of Texas at Austin College of Pharmacy, where he earned his undergraduate pharmacy degree.

Acosta earned a Ph.D. in pharmacology and toxicology at KU in 1974, under the tutelage of Duane G. Wenzel. The Outstanding Alumnus Award Acosta received honors former Associate Dean Bill Sheffield, and is the most esteemed honor given annually by the University of Texas Pharmacy Alumni Association.

Acosta’s distinguished career began at the University of Texas College of Pharmacy, where he was a faculty member from 1974 to 1996. He became the fourth dean of the James L. Winkle College of Pharmacy at the University of Cincinnati from 1996 to 2011 and a member of the faculty from 2012 to 2013. He was the first and only Hispanic dean at the University of Cincinnati and the only Hispanic dean of pharmacy at a research-intensive college of pharmacy in the United States.

Acosta established a council on diversity at the College of Pharmacy and was instrumental in promoting minority students into the profession. He was selected as the Deputy Director for Research at the FDA’s National Center for Toxicological Research in 2014 and has served on many government, university and non-profit boards and advisory panels. He has authored more than 125 scientific articles and is the editor or associate editor of several high-impact journals in toxicology. The award was presented at the annual alumni reception and awards ceremony on Friday, October 28. Congratulations to Dr. Daniel Acosta.
Dr. Liu visited the department on November 11th, 2015 and gave a seminar entitled “Interruption of zinc finger proteins and arsenic carcinogenesis.” In this course of his research, he has disclosed four inventions, received one issued U.S. patent, has two pending patent applications, and has one exclusive option to license agreement with Accelera Diagnostics, LLC, for three of his technologies. The STC start-up, a spin-off of investment firm Sunbelt Technologies Management, will develop his occult blood detection technology, his biomarker technology for the detection of microvasculature damage in ischemic stroke, and his arsenic trioxide-inhibitor technology. Dr. Liu and his co-inventor received funding in 2013 from the Health Sciences Center’s CTSA program to develop the biomarker invention.

Dr. Pittenger gave a seminar entitled “Of mice, men, and tics: translational studies of Tourette syndrome” on January 27th, 2016. He earned his M.D. and Ph.D. from Columbia University. In 2003, he returned to Yale University, where he had completed his undergraduate studies, for residency and research training in psychiatry. He joined the faculty as an assistant professor in 2007 and was promoted to associate professor in 2013. During his Ph.D. studies, he became fascinated by the brain’s ability to go on autopilot, to perform complex series of actions or thoughts, after sufficient rehearsal, with almost no conscious effort. He became increasingly aware of how this process, when disrupted by disease, can lead to the maladaptive and disruptive automaticity seen in many neuropsychiatric disorders. His research aims to elucidate the mechanisms of learned automatic behaviors and to better understand the consequences when they go awry, with the ultimate goal of developing new understandings and better treatments for a variety of neuropsychiatric conditions. Pittenger has earned a number of prestigious awards, including grant funding from the National Institutes of Health, NARSAD, the Tourette Syndrome of America, and the Doris Duke Charitable Trust, and awards from the National Institute of Mental Health, the Society for Neuroscience, the American College of Neuropsychopharmacology, the American Psychiatric Association, and the American College of Psychiatrists. He is a member of the Scientific Advisory Board of the International OCD Foundation and an active member of the Society for Neuroscience, the American College of Neuropsychopharmacology, the Society of Biological Psychiatry, the American Neurological Association, the American Psychiatric Association, and other groups.

Dr. Chen graduated from the KU Department of Pharmacology and Toxicology in a Ph.D. in 2003 under the supervision of Dr. Stephen Fowler. She returned to Lawrence on April 29th, 2016 to present her seminar entitled “RGS2: A New Modulator of Midbrain Dopamine D2 Receptor Signaling and Addiction Behavior.” Dr. Chen’s laboratory investigates the molecular and cellular mechanisms underlying the addiction of psychostimulants with a focus on dopaminergic systems. She uses a combination of behavioral, genetic, biochemical and confocal microscopic approaches to study functional and expresional changes of targets using animal and cultured cell models. Current research topics include 1) RGS2 modulation of dopamine D2 receptors, dopamine transmission and drug addiction; 2) Modulation of methamphetamine reward and neurotoxicity by brain angiotensin receptor 1; and 3) Posttranscriptional and posttranslational modifications of the dopaminergic system by psychostimulants.
Patent attorneys typically complete their science training first and attend law school after that. My route was the opposite. After finishing my undergraduate degree, which involved no science, I entered law school. After graduating from law school in 1993, I worked for a general practice law firm in Topeka. In most of the cases I worked on, a person was injured. In order to fully prepare for those kinds of cases, the attorney must understand the medical science associated with the particular injury. To my surprise, I found myself enjoying that process of digging into medical textbooks as I tried to understand the science of each case.

My first experience with the KU’s Pharm & Tox Department came in 1994, when we were defending a Topeka branch location of a national pharmacy chain in a lawsuit brought by someone who claimed he was injured by the anti-seizure agent Depakote that was dispensed by the pharmacy. There were some complicated pharmacokinetic issues involved, so I was in way over my head and I knew I needed expert help. KU was close by, so I called the KU Pharm & Tox department and ended up being directed to Professor Morris Faiman. I interviewed Dr. Faiman and he was able to provide useful insights into Depakote and the plausibility of the injuries alleged in the lawsuit. That was in 1994, and little did I know that by 1997 I would be a grad student in that very department.

After about a year and a half of handling injury-related lawsuits that exposed me to all sorts of fascinating medical issues, I realized that my career would not be complete unless I went back to school for some formal education in the sciences. In 1995, ignoring the advice of many colleagues and friends, I quit my attorney job in Topeka, entered Washburn University full time as an undergrad, obtained a chemistry degree, and entered the KU Pharm & Tox program in 1997. For the past 14 years, I’ve worked as a patent attorney for a Tokyo law firm. I help our Japanese clients obtain patents in the U.S. for inventions of Japanese origin. Japan is second only to the U.S. in terms of global patent activity. This is understandable, given Japan’s level of industrialization and high standard of living.

Broadly speaking, there are two types of patent law. The first is patent prosecution, which is what I do mostly. This involves applying for and hopefully obtaining a patent from the United States Patent and Trademark Office (USPTO). Inventors explain the details of their inventions to their attorney, who then drafts and submits the patent application. Then, USPTO patent examiners, who have specialized academic training in particular fields of science, judge whether the invention is in fact novel and worthy of receiving a patent. The second type of patent law is often referred to as patent enforcement. This occurs after a patent is granted and the patent owner believes that the patent is being infringed by another. Through a patent attorney, the patent owner typically will first send cease and desist letters to the party that may be infringing. In the past, I’ve done some of this kind of patent enforcement work, but I don’t care for it much because it can become quite contentious, which is not a good match for my personality.

My undergrad chemistry studies and my pharm and tox training prepared me well for many of the patent projects I have worked on over the years. For example, Professor Marylou Michaelis taught a fantastic graduate-level course that featured a unit focusing on intracellular calcium regulation. Her clear, thorough, interesting and easy to understand presentation of the material inspired me to keep my class notes just in case I might need them in the future. Sure enough, about five or six years ago I dusted off those old notes and used them to make sense of a patent project I was working on involving screening assays for identifying novel agents that modulate mitochondrial regulation of intracellular calcium.

On the personal side of things, my wife Mina and I have a five-year-old-son, Louie. We will move permanently from Japan to Lawrence in 2017. I will continue to work for the same Japanese patent law firm, but I will do all my work from a makeshift office within our home in Lawrence. Kudos to the internet and email for making that possible!
Our Beyond the Lab program provides our students, postdocs and other research professionals an opportunity to expand their knowledge of career opportunities and advancement. If you would like to be a part of the Beyond the Lab program, please contact either Nancy Muma, department chair, or Liqin Zhao, director of the Beyond the Lab program.

Livia Sexton
Assistant Director
Corporate + Foundation Development
KU Endowment
“Building Your Brand Through Networking”
October 21, 2016

W. Brandon Moore, M.S.
Manager
Site & Resource CRA Development Program, Site Management, North America Regions
Quintiles
“University Early Talent Information Session”
September 30, 2016

Richard Barohn, M.D.
Chairman, Department of Neurology
University Distinguished Professor, Gertrude & Dewey Ziegler Professor
University of Kansas Medical Center
“How Can a Ph.D. Get Involved in Clinical & Translational Research”
May 20, 2016

Claire Croutch, Ph.D.
Senior Program Manager
Medical Countermeasures Division
Midwest Research Institute
“Oh the Places You’ll Go: How My Training as a Toxicologist Has Led to a Successful Career”
April 15, 2016

Maureen Purcell, MSHA, MAOD
PCC
SoLwork LLC
“Making the Shift: Moving from IQ to EQ When Entering the Workplace”
November 13, 2015

Pippa Loupe, Ph.D
Director
Research & Scientific Affairs, Global Research and Development
Teva Pharmaceuticals
“Communicating Scientific Discoveries”
October 30, 2015

Congratulations, Class of 2016 graduates

Spring 2016
Emily Carlson, Ph.D. – Shirley ShiDu Yan – working as a Clinical Research Associate (CRA) at Quintiles in the Kansas City area
Mengya Wang, M.S. – Nancy Muma – pursuing her Ph.D. in pharmacology at the University of Iowa
Anindit Chhibber, M.S. – Liqin Zhao – working as a research assistant in Dr. Zhao’s laboratory

Summer 2016
Chen Gong, M.S. – Honglian Shi – pursuing an M.S. in mathematics at the Illinois Institute of Technology
Ken McFarlin, M.S. – Liqin Zhao
Kansas Pharmacists Association honors Morris Faiman

Professor Morris Faiman has earned the Cardinal Health Generation Rx Champions Award from the Kansas Pharmacists Association for his efforts to curb community-based prescription drug abuse. Faiman, professor of pharmacology and toxicology at the University of Kansas School of Pharmacy and research professor at KU’s Life Span Institute, has focused his research for the past 35 years on the molecular mechanisms of drug addiction and developing drugs to treat addiction. He also holds many patents related to his research. For more than 20 years, Faiman has served on the Committee on Impaired Pharmacy Practice. Mike Larkin, executive director of the Kansas Pharmacists Association, said that Faiman’s years of work and research have made a measurable difference in the lives of many. “Dr. Faiman has devoted many years of his life carrying out basic research to better understand drug addiction, primarily alcohol, in order to reduce the scourge of addiction,” Larkin said. “His clinical expertise and the advice he provides to our committee has been invaluable in helping people break those bonds.”

Faiman has been at the University of Kansas School of Pharmacy since 1965. He has been a member of many committees at the university including chair of the committee that developed the substance abuse policies for faculty and staff at KU. He is a member of the Board of Directors of DCCCA, an agency that provides a variety of services including the prevention and treatment of alcoholism and drug dependency. Faiman has served on many national committees including various NIH review committees, Veterans Administration Research Review committees, Centers for Disease Control, the U.S. Army Medical Research Command Breast Cancer Review and the Women’s Health Initiative Review Committee. He also has served in an administrative capacity at both the National Heart, Lung, and Blood Institute in Bethesda, Maryland, and the National Institute of Environmental Health Sciences of the NIH in Research Triangle Park, North Carolina.

Among his many professional honors, Faiman is an American Association for the Advancement of Science Fellow. Fewer than 0.5% of their 100,000+ members earn this honor each year. He is also the Academy of Toxicological Sciences Fellow. Faiman has been a visiting professor at several universities including Duke and the University of North Carolina.

FULLBRIGHT SCHOLAR

Alexander Moise, Associate Professor of Pharmacology and Toxicology, spent the summer of 2015 in Brazil as a KU Fulbright Scholar working on his project titled “Structure and Evolutionary Adaptation of Enzymes Involved in Vitamin A Metabolism.” His host institution was the Brazilian Biosciences National Laboratory in Campinas. Moise joined the KU faculty in 2009, and his research focuses on the metabolism and physiological functions of carotenoids and their cleavage products. As he notes on his faculty page, Moise’s research would not be possible without the discovery of vitamin A, made by KU alumnus Elmer V. McCollum. Moise was promoted to the rank of associate professor in March.

Thank you for your 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, Sophie Lamb at slamb@kuendowment.org or at 785-832-7476 to make a donation.
MEET OUR NEW STUDENTS

MARIA TICKERHOOF
Maria is a new Ph.D. student. She earned her B.S. in biochemistry with a minor in psychology at Case Western Reserve University in 2016.
Research Statement:
I have been working on the development of a new correlative light and electron microscopy (CLEM) variant of expansion microscopy (ExM) in a collaborative effort between the Rosa-Molinar Laboratory and Expansion Technologies, Inc. CLEM ExM will allow the static or dynamic imaging of live neural cells imaging to complement static electron microscopy imaging. My rotation experience has focused on techniques that may improve the signal-to-noise ratio in fluorescence microscopy and provide cleaner images. Maria was awarded a University Graduate Fellowship.

AIDYN M. MEDINA-LOPEZ
Aidyn is a new Ph.D. student. She earned her B.S. in medical microbiology at the University of Puerto Rico at Arecibo, and is currently focused on elucidating alternative lipid trafficking pathways in chlamydia infection.
She received the A.D. Sobel/American Society for Investigative Pathology Education Fund Scholar Award to attend the 2016 Immunohistochemistry and Microscopy (IHCM) course at the Marine Biology Lab in Woods Hole, MA. The course comprised four full days and evenings (11 hours daily) of lecture and laboratory sessions with experts in the field of immunohistochemistry (IHC) and microscopy.
Aidyn entered the program with the Diversity Graduate Fellowship.

JIANI CHEN
Jiani earned her B.S. in clinical laboratory science from the School of Clinical Medicine at Guilin Medical University in China in 2016.
Research Statement:
I joined Dr. Shi’s lab in the summer of 2016. I have a great interest in the effect of arsenic. Human beings are widely exposed to arsenic through drinking contaminated water. Our project is to understand the mechanism about how arsenic has effects on vascular-related diseases and cancers. Since many people who are exposed to arsenic also have a habit of drinking. We also want to learn more about the combined effect of arsenic and alcohol.

SU KM ANJIT KAUR
Sukmanjit earned her Bachelor of Pharmacy from Punjabi University in Patiala, Punjab, India in 2016.
Research Statement:
I have recently joined Dr. Muma’s lab, and will be working on the discovery of ligands having functional selectivity at the serotonin 2A receptors and the importance of selective signaling in the treatment of schizophrenia.

SWARNAGOWRI VAIDYANATHAN
Swarna earned her Bachelor of Technology in pharmaceutical technology from Anna University in Chennai, India in 2016.
Research Statement:
I am interested in working on the effects of arsenic-alcohol combined toxicity in drinking water. Arsenic is one of the main carcinogens in drinking water that is known to affect the cardio-vascular system. My research will address both the immediate and prolonged adverse effects of arsenic and arsenic-alcohol combined in vascular diseases and cancer.

XIN ZHANG
Xin earned her B.S. in clinical medicine in 2012 and her M.S. in obstetrics and gynecology in 2014 from China Medical University in Shenyang, China.
Research Statement:
In addition to age, sex and apolipoprotein E (ApoE) genotype are the two other greatest and most interrelated risk factors for the development of late-onset Alzheimer’s disease. My research investigates how estrogen signaling and ApoE polymorphisms interact to modulate energy metabolism in neuronal cell models.
Endoplasmic Reticulum Resident Heat Shock Protein 90 (Hsp90) Isoform Glucose-Regulated Protein 94 (Grp94) Regulates Cell Polarity and Cancer Cell Migration by Affecting Intracellular Transport.  

Methionine sulfoxide reductase A (MsrA) affects beta-amyloid solubility and mitochondrial function in a mouse model of Alzheimer’s disease.  
PMID:26786779

Use of a force-sensing automated open field apparatus in a longitudinal study of multiple behavioral deficits in CAG140 Huntingdon’s disease model mice.  
PMID:26210937

Factors controlling permeability of the blood-brain barrier.  
PMID:26403789

Targeted activation of the hippocampal CA2 area strongly enhances social memory.  
PMID: 26728562

A SUMO-acetyl switch in PXR biology.  
PMID: 26883953 [PubMed – in process]

Human ApoE ɛ2 Promotes Regulatory Mechanizms of Bioenergetic and Synaptic Funtion in Female Brain: A Focus on V-type H+-ATPase.  

Mfn2 is required for mitochondrial development and synapse formation in human induced pluripotent stem cells/hiPSC derived cortical neurons.  
PMID: 27535796

Yan’s Alzheimer’s research featured at world conference

Dr. Shirley ShiDu Yan’s work on compounds for the treatment of Alzheimer’s disease was featured June 14-17, 2015 at the TechConnect World Conference and Expo in Washington, DC. The event is the world’s largest showcase and accelerator for industry-vetted emerging technologies ready for commercialization. Selection for TechConnect World is a competitive, peer-reviewed process. Other participants included several national laboratories, federal agencies, U.S. and international universities, and early-stage start-up companies. The goal of the event was to match promising emerging technologies with corporate, government and investment partners. Dr. Yan received a new grant award from the NIH for 2016-2017 in support of her work on TOMM40-mediated mitochondrial dysfunction in Alzheimer’s disease. ($515,560). She is also a standing member for the NIH Grant Review Committee for Neural Oxidative Metabolism and Death Study Section, National Institutes of Health (2016-2022).
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Staudinger earns research award

A project by Professor Jeffrey Staudinger was one of three selected to receive a 2015 J.R. and Inez Jay Fund research award. His project, titled “SUMOylation of Bag3 in Hepatocytes and Hepatoma Cell Lines,” will be conducted in collaboration with Todd Williams, director of KU’s Mass Spectrometry & Analytical Proteomics Laboratory, and Yoshiaki Azuma, associate professor in the Department of Molecular Biosciences. Numerous diseases are associated with chronic and uncontrolled inflammation, which is thought to play a causal role in the eventual development of certain diseases. The goal of this project is to provide new molecular insights regarding the underlying biology of chronic inflammation which, in turn, may provide new opportunities to develop novel pharmacological strategies for addressing multiple diseases that are related to chronic inflammation.

The J.R. and Inez W. Jay Research Fund was established in 1977 through an estate gift to KU Endowment from Inez W. Jay; her late husband, John R. Jay, had been a pharmacist in Wichita. The purpose of the Jay Fund is to stimulate interdisciplinary, biomedical research activities in pursuit of large external grants such as multi-investigator R01 awards, program projects, and center grants awarded under the tutelage of the HBC. All biomedical scientists holding principal investigator status at KU are eligible to apply for one of these awards. The emphasis of the awards is strongly on interdisciplinary, collaborative research efforts. Recipients are selected by members of the HBC internal advisory committee.

SUMO SYMPOSIUM

Jeffrey Staudinger, Nancy Muma and Yoshiaki Azuma organized the second annual SUMO Symposium, featuring keynote speaker Christopher Lima, Ph.D. whose presentation was entitled “Ubiquitin-Like Proteins: From Conjugation to Recognition.” Drs. Azuma, Muma and Staudinger all gave talks, as did Jeroen Roelofs from Kansas State University. The event was supported by the Department of Pharmacology & Toxicology, the Department of Molecular Biosciences, a KU Strategic Initiative grant, and the COBRE-PSF (P30 GM110761).

Chancellor showcases Zhao’s research in annual report

Dr. Liqin Zhao’s research was featured in the Chancellor’s Report in spring of 2016. From the report: “…Liqin Zhao, Assistant Professor of Pharmacology and Toxicology, and her fellow researchers recently published a paper on human ApoE2 — a rare ApoE genetic isoform whose carriers are resistant to Alzheimer’s disease. Because brains that produce the ApoE4 form have the greatest risk factor for late-onset sporadic Alzheimer’s disease, it has been the focus of most ApoE research. The KU team, however, decided to take a different approach — they looked at ApoE2, which is uncommon, but actually protects the brain from Alzheimer’s. Their goals: first learn how the ApoE2 protection works, then come up with a way to make aging ApoE4 brains act like ApoE2 brains — and protect them from getting the disease. The state-of-the-art techniques used in Zhao’s lab studies include primary neuronal cultures, transgenic rodent models, qRT-PCR gene arrays, 2D proteomics, bioinformatics, mitochondrial biochemistry, behavioral modeling, and computational simulations.”

Graduate student news

The value and benefits of research at the University of Kansas and KU Medical Center were highlighted at the Capitol Graduate Research Summit – where Emily Carlson, doctoral student in pharmacology, presented her research, “Overexpression of HSD10 Increases Adrenal Gland Cancer Cell Growth and Resistance to Cell Death.” She was one of only eight KU-Lawrence graduate students chosen to present. The annual summit, on Tuesday, Feb. 2nd, raised awareness of research conducted by graduate students at state universities and highlighted the importance of that work. At the event, state lawmakers and the public were invited to learn about a wide range of research conducted by graduate students.

Mohammed Almutairi and Suya Wang, doctoral students in pharmacology & toxicology, were part of a group of eleven KU graduate students invited to the 2015 annual Kansas City Area Life Sciences Institute (KCALSI) dinner September 30.