

Iowa Pharmacology NEWS

FOR ALUMNI AND FRIENDS OF THE UNIVERSITY OF IOWA DEPARTMENT OF PHARMACOLOGY

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First John Paul Long Professors Invested

At a Carver College of Medicine ceremony this past March, Pharmacology celebrated the investiture of Drs. Stefan Strack and Yuriy Usachev as the inaugural John Paul Long Professors of Pharmacology. This much anticipated event culminated the efforts on behalf of the family and friends of the esteemed Dr. John Paul Long to create a lasting and fitting tribute to his illustrious career as a researcher, administrator, teacher and mentor. Find this and other stories inside this new installment of *Iowa Pharmacology News*.

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Iowa Pharmacology OUR CONGRATULATIONS

Sigmund receives Leadership in Research Award



Curt D. Sigmund, Ph.D., the Roy J. Carver Chair in Hypertension Research, and Professor and DEO of the Department of Pharmacology, was the recipient of the 2017 *Leadership in Research Award* of the UI Vice-President for Research and Economic Development. This lifetime achievement award recognizes distinguished leadership in research and scholarly accomplishments over a career. Sigmund received the award in April at the annual *Discovery and Innovation Awards Ceremony*.

Sigmund joined the UI faculty in 1991. He has served in numerous leadership positions during his career at the UI, including as director of the UI Transgenic Animal Facility from 1991 to 2010; founding director of the UI Center for Hypertension Research established in 2014, and chair of the Department of Pharmacology since 2010. Sigmund has developed several large and successful, multidisciplinary research programs, including teams of researchers funded by a Program Project Grant in Hypertension from the NIH/NHLBI, and a Strategically Focused Research Network Grant from the American Heart Association (AHA). The AHA research team comprises faculty from five departments in three UI colleges.

Not only a role model through his own research and leadership, Sigmund is also an active advocate for his colleagues and trainees, providing encouragement and opportunities for success and growth, and helping young scientists become research leaders in their own right. Our congratulations to Dr. Sigmund on this prestigious award!

Matthew Potthoff named Director of MCB PhD Program



We are pleased to announce that as of April 17, 2017, **Dr. Matthew Potthoff, Assistant Professor**, became the Director of the *Molecular and Cellular Biology PhD subprogram*. Dr. Potthoff has an outstanding record of student training and longstanding dedication to mentorship at the graduate, postdoctoral, and undergraduate levels. A highly regarded basic scientist with a well-funded laboratory,

Dr. Potthoff brings a new vision to the MCB subprogram and has our enthusiastic support. Please join us in welcoming Matt to this new role!

Grobe receives Arthur C. Guyton Award



Justin L. Grobe, Ph.D., Assistant Professor in the Department of Pharmacology, was named as the 2017 recipient of the *Arthur C. Guyton Award* from the American Physiological Society. Dr. Guyton was a physiologist at the University of Mississippi Medical School. He made numerous contributions to the fields of integrative cardiovascular control and mathematical modeling of cardiovascular systems, and he was best known for his “Textbook of Medical Physiology,” which has remained the world’s best-selling physiology textbook for decades. The award named in Dr. Guyton’s honor is intended to support an independent investigator who holds an academic rank no higher than Assistant Professor and is pursuing research that utilizes quantitative and integrative approaches and feedback control system theory for the study of physiological functions. Dr. Grobe received the award, including an associated research grant for his laboratory, at the April 2017 *Experimental Biology* conference in Chicago.

Strack and Usachev receive Program of Excellence grant

Drs. Stefan Strack and Yuriy Usachev, John Paul Long Professors of Pharmacology, were awarded a 5-year Iowa Neuroscience Institute Research *Program of Excellence* grant supported by the Roy J. Carver Charitable Trust entitled “Mitochondrial dynamics and calcium cycling in neuronal injury, excitability, and plasticity.” The goal is to promote high profile programs with a team of investigators, on the trajectory to move toward program project, center, and other collaborative grants. Together with Gordon Buchanan, Assistant Professor of Neurology, Jason Radley, Assistant Professor of Psychological and Brain Sciences, and investigators at Dartmouth and UC San Diego, the team will use sophisticated mouse models and cutting-edge techniques to explore the role of mitochondria in brain development, cognition, epilepsy, and neurodegenerative disorders.

Iowa Pharmacology OUR CONGRATULATIONS

2016 Amanda Hope Skolnick Undergraduate Award



The *Amanda Hope Skolnick Undergraduate Award* is given annually to honor the memory of **Amanda Skolnick** (pictured at lower right), who worked as a Laboratory Assistant in the Department of Pharmacology while an undergraduate at Iowa. In her junior year of study, Amanda's life tragically ended after being struck by a motor vehicle in Iowa City. The Skolnick family made a generous donation to the Department of Pharmacology to establish a tuition scholarship award in memory of Amanda.

Our 2016 award recipient was **Ms. Rikki Kephart** (pictured at left). Rikki has worked in Dr. Stefan Strack's laboratory since the fall of 2014. She graduated in May with a B.A. in Biochemistry and a B.S. in Neurobiology. Rikki provided us a short biography of her time at Iowa and her future goals:

Extracurricular and off-campus activities: Rikki was a member of the co-ed, professional chemistry fraternity, AXΣ. The fraternity offers free tutoring for all science classes at the University and presents science demonstrations to elementary school students.

Career goals/graduate study: She plans to continue working in the Strack lab for at least a year before applying to graduate or pharmacy school. Ideally, she would like to combine her love for research with her passion for the medical field.

What I love about the University of Iowa: "The University of Iowa has so many resources and activities for students! Despite its large size, it has been very easy for me to feel attended to. I have managed to become fairly close to many professors and TA's, and the faculty in general is so welcoming and encouraging. Also, our university is extremely diverse, and there is always something new and interesting going on."

On education: "Education has always been an extremely important aspect of my life. So, I cannot thank you enough for personally supporting my education!"



The Skolnick Award is presented annually to a Department of Pharmacology undergraduate employee who best exemplifies the dedication and spirit that Amanda demonstrated daily in her work as a Laboratory Assistant.

Third round of Hypertension Research grants awarded

The *UIHC Center for Hypertension* is pleased to announce the recipients of its third round of Pilot Grants. With these awards, UIHC and CCOM has committed over \$700,000 to advance Hypertension Research at Iowa.

The four pilot projects involve eight faculty from five departments within the UI Carver College of Medicine, College of Pharmacy, and College of Liberal Arts and Sciences. The newly funded projects are:

- *Nanoscale Therapeutics to Reduce Microglial-mediated CNS Inflammation Associated with Hypertension Sensitization:* Michael Dailey, Biological Sciences, CLAS, Kim Johnson, Psychological and Brain Sciences, CLAS, Aliasger Salem, Pharmaceutical Sciences, COP
- *Gut-microbiota Sensitive Vascular microRNA-204 (miR-204) Promotes Diabetes-associated Non-dipping Hypertension:* Ajit Vikram, Internal Medicine, CCOM, Robert Roghair, Pediatrics, CCOM
- *Contribution of Junctophilin2 to Blood Pressure Regulation by Facilitating Ca²⁺-Dependent Relaxation of Vascular Smooth Muscle Cells:* Ang Guo, Internal Medicine, CCOM
- *Cholinergic-mediated Alterations in Renal Sodium Handling:* Sailesh C. Harwani, Internal Medicine, CCOM, Peter Snyder, Internal Medicine, CCOM

Please join us in congratulating our colleagues on their new Hypertension Research Pilot Grant awards!

Strack and Usachev Invested as Inaugural John Paul Long Professors

Pharmacology faculty, staff and trainees were among the large congregation attending a Carver College of Medicine ceremony in March, during which Drs. Stefan Strack and Yuriy Usachev were invested as the first John Paul Long Professors of Pharmacology. Also celebrated at the investiture was the appointment of Dr. Colin P. Derdeyn as the first Kenneth L. and Gloria D. Krabbenhoft Chair in Radiology. The ceremony was highlighted by an academic procession, and included remarks from leaders and faculty within UI Health Care, the UI Foundation, Radiology and Pharmacology, as well as the recipients of the honorary positions and representatives from the Krabbenhoft and Long families.



Pictured from left to right: Drs. Stefan Strack, Yuriy Usachev, Jeffrey Long, and Curt Sigmund.

Opening the investiture, Dr. Curt D. Sigmund, Roy J. Carver Chair in Hypertension Research and Chair of Pharmacology, reflected upon John Paul Long's many contributions to the Department of Pharmacology and the significance of the new endowed professorships bearing his name. As Drs. Strack and Usachev were invested, Sigmund described the distinguishing achievements of the two in turn, and each of the new John Paul Long Professors expressed their gratitude for and the importance of the professorship bestowed upon them. Dr. Harold J. Williamson, Professor Emeritus of Pharmacology, then gave a lively recounting of the storied career of J.P. Long. He described Dr. Long, the recipient of the 1962 John J. Abel Award in Pharmacology, as one who made meritorious contributions to the University as a renowned researcher, distinguished lecturer, exceptional mentor, and dedicated administrator. Dr. Jeffrey Long, M.D., son of John Paul Long, concluded the ceremony by expressing his appreciation of his father's career being memorialized in this way.

Pharmacology thanks the Long family and all those whose contributions made the John Paul Long Professorships a reality. We sketch below the achievements of Drs. Strack and Usachev that make them each a worthy holder of a John Paul Long Professorship in Pharmacology. All of Pharmacology congratulates Stefan and Yuriy for their prestigious new appointments!

Dr. Yuriy Usachev, Ph.D.

Dr. Yuriy Usachev obtained his doctoral degree in biology and biophysics in 1993 from the Bogomoletz Institute of Physiology in Kiev, Ukraine. He continued to work at the Bogomoletz Institute as a Research Scientist, and then received an Eastern European Award for additional training at Cambridge University (UK). He moved to the University of Minnesota in 1995.

Dr. Usachev joined the Department of Pharmacology at the University of Iowa as a tenure-track Assistant Professor in 2003, was promoted to Associate Professor with Tenure in 2009, and then to Professor with Tenure in 2015.

Today, Dr. Usachev is an internationally recognized expert in the neurobiology of pain, and is a leading expert in calcium signaling and its role in nociceptive plasticity. He has served on multiple study sections for the National Institutes of Health, National Science Foundation and American Heart Association, and he is a member of the editorial board of the Journal of Biological Chemistry.



Kenneth L. Krabbenhoft, M.D., was the chairman at Wayne State University's Department of Radiology and was the executive director of the American Board of Radiology.

A native of Iowa, Dr. Krabbenhoft received his undergraduate degree from the University of Iowa. After starting medical school at Iowa in 1942, he served in World War II for two years. After being discharged in 1946, he received his M.D. from Iowa in 1949.

Dr. Krabbenhoft started his career with an internship at Harper Hospital in Detroit, which included a rotation in radiology with the Paysonide Group. After his internship, he served in the U.S. Navy.



John P. Long, Ph.D., spent the state of Iowa. He received his degrees at the University of Iowa, where he received a bachelor's degree in chemistry, a master's degree and doctoral degree.

Upon graduation, Dr. Long was a research assistant at the University of Iowa. He returned to Iowa as an assistant professor in the Department of Pharmacology in 1969.

Dr. Long served in the Department of Pharmacology from 1970 to 1983 and then in the Department of Physiology from 1984 to 1996. In 1984, he was promoted to professor.

Dr. Stefan Strack, Ph.D.

Dr. Stefan Strack obtained his Ph.D. in biology from the State University of New York, Albany, in 1991. After undertaking postdoctoral training at Vanderbilt University from 1991 to 2000, Dr. Strack joined the Department of Pharmacology at the University of Iowa as an Assistant Professor. He was promoted to Associate Professor with Tenure in 2006 and to Professor with Tenure in 2012. Today, he also serves the Department as Associate Chair for Research and is the director of a predoctoral training grant in pharmacological sciences.

Dr. Strack is an internationally recognized expert on signal transduction mechanisms in neuronal development and neurodegeneration. He has served on multiple study sections of the National Institutes of Health, in addition to those of other national and international funding agencies, and he is a member of the editorial board of the Journal of Biological Chemistry.

The Strack laboratory was featured in the Spring 2016 issue of [*Iowa Pharmacology News*](#).

THE FUNDING STREAM

Pharmacology faculty procure new NIH grant awards

With the competition for NIH funding continuing to be intense, our faculty have been aggressive in procuring funding from a diversity of sources, including private research foundations and corporate entities (see [Iowa Pharmacology News, Spring 2016](#)). Pharmacology faculty have nonetheless continued their pursuit of new NIH funding, the success of which often requires repeated submissions of revised applications or multiple independent applications. Hence, the awarding since our last newsletter of new NIH grants to three of our faculty is worthy of special note.

A 5-year NIH/NCI R01 grant awarded to **Dr. Songhai Chen, Associate Professor**, will support his research into the role of G protein-coupled receptors in HER2-positive breast cancer, work to be done collaboratively with Dr. Ronald Weigel, E.A. Crowell Jr. Professor and Chair of Surgery, who serves as a co-PI on the award. **Dr. Justin L. Grobe, Assistant Professor**, in collaboration with the laboratory of **Dr. Kamal Rahmouni, Professor**, was awarded a 5-year R01 grant from the NIH/NHLBI to study the cross-talk between the hormones leptin and angiotensin within the hypothalamus of the brain in the pathogenesis of obesity-associated hypertension. Also, **Dr. Stefan Strack, John Paul Long Professor of Pharmacology**, was awarded an NIH/NIMH R21 grant to identify mechanisms by which recurring mutations in the protein phosphatase 2A regulatory subunit PPP2R5D cause intellectual disability. Kudos to our Pharmacology faculty for winning these new NIH awards!

Trainee fellowship awards

Undergraduate Student Award

Shao Zhang (Undergraduate Laboratory Assistant, Grobe lab)
American Physiological Society UGSRF Undergraduate Summer Research Fellowship

Extramural Predoctoral Fellowship Award

Yujia Liu (Graduate Student, Strack lab)
American Heart Association Predoctoral Fellowship – Interplay Between AKAP1-scaffolded Calcineurin and PKA in Mitochondrial Fragmentation and Post-ischemic Neuronal Survival

Faculty grant awards

New Extramural Grant Awards to Pharmacology Faculty

(Dec 2016 - May 2017)

Songhai Chen (Associate Professor)

NIH R01 – Role of Gi/o-GPCR Signaling in Breast Cancer Progression, \$2,333,465

Huxing Cui (Assistant Professor)

NIH R01 Minority Supplement

Justin Grobe (Assistant Professor)

NIH R01 – Interaction between leptin and angiotensin in the pathogenesis of obesity-hypertension, \$1,906,250

Stefan Strack (John Paul Long Professor)

NIH R21 – PP2A in Neurodevelopmental Disorders, \$419,375 and

NIH T32 Competing renewal – Predoctoral Training in the Pharmacological Sciences, \$1,263,105

Stefan Strack and Yuriy Usachev (John Paul Long Professors), Gordon Buchanan (Neurology), and Jason Radley (Psychological & Brain Sciences)

Iowa Neuroscience Institute Research Programs of Excellence supported by the Roy J. Carver Charitable Trust – Mitochondrial Dynamics and Calcium Cycling in Neuronal Injury, Excitability and Plasticity Research Program of Excellence, \$750,000

Liu receives AHA Predoctoral Fellowship

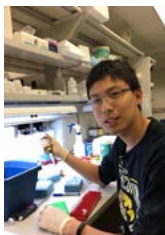


Yujia (Jenny) Liu, graduate student in Pharmacology working in the laboratory of **Dr. Stefan Strack**, was awarded an *American Heart Association Predoctoral Fellowship*. The two-year award that began on January 1, 2017 is entitled "Interplay Between AKAP1-scaffolded Calcineurin and

PKA in Mitochondrial Fragmentation and Post-ischemic Neuronal Survival." Ms. Liu is also a recent recipient of a UI Graduate College *Post-Comprehensive Research Award*. Please join us in congratulating Jenny on these impressive accomplishments!

Zhang receives summer 2017 APS Fellowship

Shao Yang Zhang, an undergraduate researcher in the laboratory of **Dr. Justin L. Grobe**, was selected to receive a *2017 Undergraduate Summer Research Fellowship* (UGSRF) from the American Physiological Society. His project focuses on understanding the role of the neurohormone



arginine vasopressin in the pathogenesis of the pregnancy-associated cardiovascular disorder, preeclampsia. This award will support Shao's research during the summer, plus his attendance at the April 21-25, 2018 *Experimental Biology* conference to be held in San Diego. Have a great trip Shao!

Stephanie Alberico honored for Graduate Research Excellence



Stephanie Alberico, a predoctoral student in the *Neuroscience Graduate Program* and *Pharmacological Sciences Training Program* trainee, received the *Graduate Research Excellence in biology, life, mathematical and physical sciences* award at the annual *University of Iowa Celebrating Excellence: Discovery and Innovation Awards Ceremony* held on April 24. The award honors students in terminal degree programs conducting research and scholarly activity that is recognized as highly original work and makes a significant contribution to the field. Stephanie is performing her thesis research in the laboratory of **Dr. Nandakumar Narayanan, M.D., Ph.D., Assistant Professor** in the Department of Neurology. Congratulations to Stephanie on this prestigious award!

Gift from Alumnus Establishes James L. Spratt Scholar Awards

A generous gift from **Dr. Gary G. Buterbaugh** (Pharmacology, M.S. '67, Ph.D. '69), now of Lakewood, Colorado, enabled the establishment in May of a new travel award for Pharmacology trainees to be given in the honor of **Dr. James L. Spratt, M.D., Ph.D.** (1932-2011). Spratt mentored Buterbaugh throughout his thesis studies of hemicholinium inhibition of cholinergic transmission and the mechanism of digitoxigenin toxicity, and served on the faculty of Pharmacology from 1961 to 2011, making highly valued contributions through his research, service and teaching. A \$52,000 endowment will now support one or more annual awards for travel to national or international meetings for graduate students and/or postdoctoral fellows in Pharmacology. The awardees will be known as **James L. Spratt Scholars**. On behalf of all the faculty and trainees of Pharmacology, we express our sincerest thanks to Dr. Gary Buterbaugh for this generous contribution to our educational mission and enabling this well deserved recognition of Dr. James Spratt.



UPCOMING EVENTS

Visiting Speaker Seminar Aug 29

Amy H. Tang, PhD
Professor of Cancer Biology
Department of Microbiology and
Molecular Cell Biology
Eastern Virginia Medical School

Center for Hypertension Sept 1 Research Seminar

Frédérique Yiannikouris, PhD
Assistant Professor, Department
of Pharmacology and Nutritional
Sciences, University of Kentucky

Faculty Seminar Sept 19

Huxing Cui, PhD
Department of Pharmacology
University of Iowa

Visiting Speaker Seminar Sept 26

Shingo Kajimura, PhD
Associate Professor
Cell and Tissue Biology
School of Dentistry
University of California, San
Francisco

Visiting Speaker Seminar Oct 3

Leah Catherine Solberg Woods,
PhD, Associate Professor
Molecular Medicine
Wake Forest School of Medicine

Center for Hypertension Oct 6 Research Seminar

David W. Stepp, PhD
Professor, Department of
Physiology, Basic Science
Director, Diabetes and Obesity
Discovery Institute, Augusta
University

Visiting Speaker Seminar Oct 17

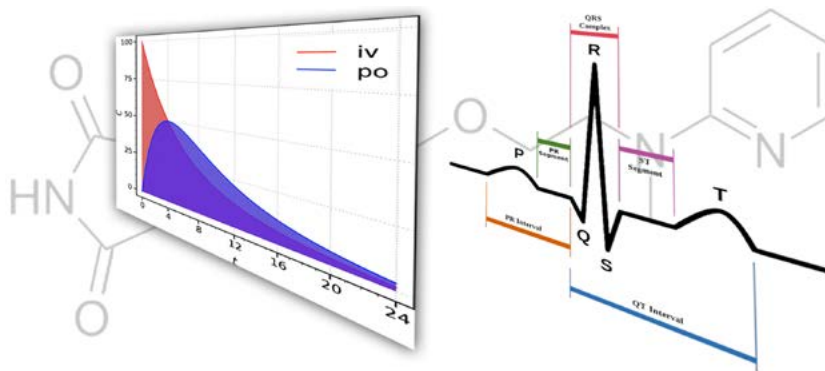
Houhui (Hugh) Xia, PhD
Paul Stark Professor
Pharmacology and Physiology
School of Medicine and Dentistry,
University of Rochester Medical
Center

Michael J. Brody Lecture Oct 31

C. Ronald Kahn, MD
Mary K. Iacocca Professor of
Medicine
Joslin Diabetes Center
Harvard Medical Center



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