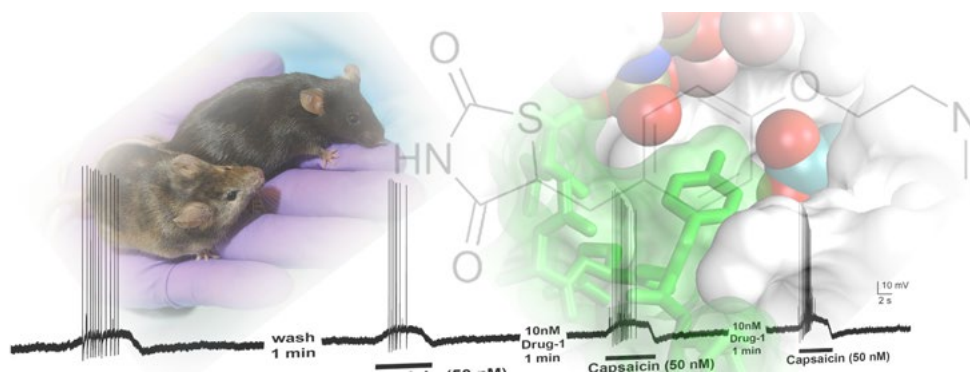


Iowa Pharmacology NEWS

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

VOLUME 5 ISSUE 2

FALL 2017



Pharmacology Training Grant Funded



Dr. Stefan Strack, John Paul Long Professor and Associate Chair for Research of the Department of Pharmacology, and **Dr. David Roman**, Associate Professor of the Department of Pharmaceutical Sciences and Experimental Therapy, have received a 5-year, \$1.26M training grant from the National Institute of General Medicine of the National Institutes of Health. The T32 grant funds the *Pharmacological Sciences Training Program* at the University of Iowa and will support seven predoctoral trainees per year. The grant will support

students already at the University or support the recruitment of outstanding new students.

The *Pharmacological Sciences Training Program* also receives generous support from the Carver College of Medicine, the College of Pharmacy, and the Graduate College, each of which funds one additional doctoral student, bringing the number of supported trainees to ten. “The training program expands on a long-standing, department-based program to now include more than 50 faculty from eleven Ph.D. programs in three colleges at the UI,” Dr. Strack said. In addition to offering advanced interdisciplinary training opportunities in the pharmacological sciences, the program includes workshops and research retreats designed to catalyze new collaborations and collaborative research grants between participating trainers and their trainees. Our thanks to Drs. Strack and Roman and all those who worked on the training grant application!

IN THIS ISSUE

Pharmacology Training Grant Funded	Page 1
Our Congratulations	Pages 2-3
A Window to the World of Pharma and Biotech	Page 4-5
The Funding Stream	Page 6
Welcome New Students	Page 7
Giving Opportunities	Page 7
Upcoming Events	Page 8

Contact Information:

Phone: (319) 335-7965
FAX: (319) 335-8930
E-mail: pharmacology@uiowa.edu

<http://www.medicine.uiowa.edu/pharmacology/>

Department of Pharmacology
University of Iowa
Roy J. and Lucille A.
Carver College of Medicine
51 Newton Road, 2-471 BSB
Iowa City, IA 52242-1109

Don Morgan receives Regents Staff Excellence Award



Donald Morgan, Research Specialist in Pharmacology, was honored in October at the annual UI Faculty and Staff Awards Banquet with the *Iowa Board of Regents Staff Excellence Award*. This revered award is in recognition of his many contributions toward Iowa's research and teaching

missions made throughout his 38-year career, which began at the VA Medical Center and continued at the UI. His outstanding technical skills have been applied in neurophysiological studies of rodents. Morgan's supervisor for the past ten years, **Dr. Kamal Rahmouni**, elaborated upon his many talents, saying "He is among the very few in the world who can isolate and record the electrical activity from a wide variety of nerves in the rat and mouse, making the UI a world leader in this area. Morgan's unique surgical skills and creativity have allowed the Department to push further the technical boundaries of its science, making it possible to extend the repertoire of the approaches that can be applied in UI studies." Morgan's work ethic is key to the productivity of the Rahmouni lab, with the lab publishing an average six to seven papers per year in highly esteemed journals. He has published over one hundred papers during his career. Morgan has trained innumerable graduate students, postdoctoral fellows, and faculty over the years, not only at the UI but also from other national and international institutions. Our congratulations to Don on his prestigious and well deserved award!

Benson Named Clinical Chief of Cardiology



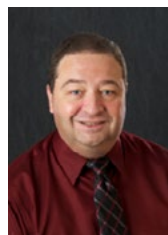
Dr. Christopher Benson has been named the Clinical Chief of Cardiology for the Division of Cardiovascular Medicine. Dr. Benson is a Professor of Internal Medicine and of Pharmacology and Chief of Cardiology at the VA Medical Center.

He received his MD from the University of Minnesota School of Medicine where he also did his residency. He then completed a four-year cardiovascular fellowship at Oregon Health Sciences University. Dr. Benson joined the UI in 1999, and has distinguished

himself with multiple research publications in areas related to the function and modulation of acid-sensing ion channels. He has held multiple NIH grants and currently holds a VA Merit grant. As the Associate Director of the *Cardiovascular Disease Fellowship Training Program*, Dr. Benson has a demonstrated commitment to education.

As Clinical Chief, Dr. Benson will oversee the broad scope of all Divisional clinical operations, working toward strengthening clinical teams and improving the quality of clinical care and faculty satisfaction. He will coordinate with other Division Section Heads and with the Heart & Vascular Center to manage and find efficiencies in outpatient, inpatient, and outreach services. Please join us in congratulating Dr. Benson on his new role!

Sigmund selected to receive the Carl J. Wiggers Award



Curt D. Sigmund, Ph.D., the Roy J. Carver Chair in Hypertension Research and Professor and DEO of the Department of Pharmacology, was selected to receive the *Carl J. Wiggers Award* given by the Cardiovascular Section of the American Physiological Society. The award is

presented in honor of the section's founder, Carl J. Wiggers. Dr. Wiggers' research defined fundamental pressure-flow relationships in the cardiovascular system. In addition to publishing definitive texts in circulatory physiology, Dr. Wiggers founded the journal *Circulation Research* and trained numerous future department heads as well as several presidents of the APS. The award is presented each year to a scientist who is a Fellow of the Cardiovascular Section of APS, who has made outstanding contributions to cardiovascular research throughout their career, who has been an active and committed member of the section, and who is expected to attract outstanding new members to the Cardiovascular Section. Dr. Sigmund is a Fellow of the Cardiovascular Section, former Chair of the Joint Program Committee of the APS, former Elected Councilor, and currently serves as Chair of the APS Publications Committee. Dr. Sigmund will receive the award next April at the *Experimental Biology 2018* meeting to be held in San Diego, CA, where he will present a seminar and chair the *Wigger's Award Featured Topic Session* at the meeting. Congratulations to Curt on receiving the Wigger's Award!

Iowa Pharmacology OUR CONGRATULATIONS

Jing Wu receives AHA Postdoctoral Fellowship



Dr. Jing Wu, a postdoctoral fellow in the laboratory of **Dr. Curt Sigmund**, has been awarded a two-year Association-Wide Postdoctoral Fellowship from the American Heart Association for his project entitled "The Role of Endothelial Cullin3 in Vascular Function and Blood Pressure Regulation."

The goal of this project is to investigate the vascular mechanism of the pathogenesis of hypertension observed in human subjects with Cullin3 mutations. To do this, mice with inducible and endothelial-specific expression of a dominant-negative Cul3 Δ 9 mutant were created. The resultant mice exhibit vascular dysfunction, arterial stiffening, and nocturnal hypertension. Dr. Wu's recent data demonstrate these phenotypes are caused by impaired Cullin3-mediated degradation of protein phosphatase 2A (PP2A), decreased phosphorylation of endothelial nitric oxide synthase (eNOS), and consequently decreased production of the vasodilatory nitric oxide molecule. These exciting results were presented at the *AHA Council on*

Hypertension 2017 Scientific Sessions in San Francisco in September, where Dr. Wu also received a New Investigator Travel Award. Our congratulations to Jing on both of these awards!

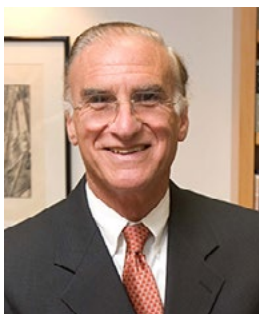
Katie Perschbacher receives AHA Predoctoral Fellowship



Graduate student **Katherine Perschbacher** recently received a two-year Predoctoral Fellowship from the American Heart Association. Katie is a graduate student in the Molecular Medicine Graduate Program, performing her thesis work in the laboratory of **Dr. Justin Grobe**. Her project is focused

on the role and dysregulation of Regulator of G-Protein Signaling 2 (RGS2) in the pathogenesis of the pregnancy-associated cardiovascular disorder preeclampsia. Her highly translational studies utilize an array of cellular and animal model systems, and human placental tissues made available through the University of Iowa Maternal-Fetal Tissue Bank. Congratulations to Katie on winning this AHA fellowship award!

Student Invitee C. Ronald Kahn Presents 2017 Michael J. Brody Lecture



The 2017 *Michael J. Brody Lecture* was presented in October by Dr. C. Ronald Kahn of Harvard Medical School. Dr. Kahn joined the impressive list of world-renowned scientists invited by Pharmacology graduate students to present the annual *Brody Lecture*, which has been a signature event in Pharmacology since its establishment in 1993. Now part of the *Distinguished Biomedical Scholar Lecture Series* of the Carver College of Medicine, the lecture was established in honor of its namesake, **Dr. Michael J. Brody**, a long-time Professor of Pharmacology who was an esteemed cardiovascular researcher, an outstanding educator and mentor, and a leading voice in University governance. Dr. Kahn, Section Head of Integrative Physiology and Metabolism at Joslin Diabetes Center and Mary K. Iococca Professor of Medicine at Harvard Medical School, is a preeminent investigator of insulin signal transduction and mechanisms of altered signaling in

disease. His laboratory's many seminal discoveries include those of the insulin receptor kinase, its two primary substrates, and the molecular components of the insulin signaling network. He was the first to define alterations in this signaling network in insulin-resistant states, such as type 2 diabetes. Dr. Kahn has received numerous awards and honors over the course of his career, including the *Wolf Prize in Medicine* and the *Rolf Luft Award*, the *Allyn Taylor*, *Manpei Suzuki* and *Hamm International Prizes*, and the highest honors of the American Diabetes Association, Juvenile Diabetes Research Foundation, and Endocrine Society. His lecture was entitled "Plasticity of Adipose Tissue and Its Communication in Metabolic Disease." We thank Dr. Kahn for helping us honor the legacy of Michael J. Brody.

Read more about the *Michael J. Brody Lecture* at <https://www.medicine.uiowa.edu/pharmacology/news-events/michael-j-brody-memorial-lecture>.

A WINDOW TO THE WORLD OF PHARMA AND BIOTECH

University biosciences graduate programs are generally good at preparing students for careers in academia, but often do little to guide students seeking alternative careers. A recent initiative informs Pharmacology trainees about non-academic career paths in their field.

Contributed by Bryan F. Cox, PhD, Adjunct Professor of Pharmacology



Dr. Bryan F. Cox, Ph.D., Adjunct Professor of Pharmacology (right) introduces Dr. Richard Marshak, VMD MBA, CEO Mount Tam Biotechnologies.

One of the most important career decisions a Ph.D. pharmacologist can make is whether to go “academic” or “corporate.” In July of 2015, the Department created an adjunct faculty position with the objective of providing graduate students and postdoctoral scholars with the perspective that helps guide that decision. A multifaceted program was designed and implemented to give students access to individuals who have been in the Large Pharma and Biotech environments. The format (crafted after the

first graduate student/postdoctoral scholar meeting) is a combination of roundtables, one-on-one meetings, and external speaker visits. A primary goal is to highlight the similarities as well as the differences between the two career paths. Many issues faced in these non-academic career paths are quite similar – when do you take risks on innovative ideas/new technologies as compared to advancing down a proven path? Some issues are rather different – what defines success in each environment? The common thread is that insightful science that rapidly answers meaningful questions leads to career advancement.

The subjects of roundtable discussions are diverse and intended to foster discussion (see *Selected Roundtable Topics* box below). A recent topic was a case study of Keytruda® - Merck’s new oncology blockbuster. A Forbes article highlighted the importance of individual scientific advocates from Discovery, Preclinical Development, Regulatory Affairs, Clinical Development, and Senior Management in advancing a therapeutic to the point of positively impacting many thousands of lives. This case study dovetailed nicely with our previous and scheduled list

Selected Roundtable Topics

The Drug Discovery - Development Process: *Diverse Roles for the Pharmacologist in Advancing Novel Therapeutics into Medical Practice*

When Quality Beats Quantity: *Decision Theory, Drug Discovery, and the Reproducibility Crisis*

Publish or Perish: *Are the Rules the Same Outside Academia?*

Balancing Innovation with Risk Reduction: *Pharma versus Biotech versus Academia*

Escaping the Gravitational Pull of Druggability

The Startling History Behind Merck’s New Cancer Blockbuster

External Speakers

Ronald Dundore, PhD

Executive Director, Regulatory Affairs, Discovery Therapeutics

Evolution of U.S. Drug Regulations

James Stolzenback, PhD

Vice President (Retired), Renal and Immunology Development, Abbvie

Clinical Research: Opportunities and Challenges in the Drive for Precision Medicine

Richard Marshak, VMD MBA

CEO, Mount Tam Biotechnologies

Next Generation Rapalogs - The Perspective from Mount Tam Biotech's CEO

of external speakers, who presented on just these roles in Pharma and Biotech. Ultimately, this program is designed to equip the participants with the knowledge and insight to make informed career path decisions. Through optimal

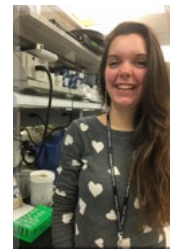
decisions, these students will continue to accelerate the track record of success of Iowa-trained pharmacologists!

Impressions of two trainees participating in Pharmacology's new career development initiative follow.



*The meetings with Dr. Cox and his colleagues give me a chance to meet with professionals who have succeeded in pharmaceutical and biotech careers, and opportunities to learn about the differences between academia and industry. Dr. Cox leads eye-opening discussions about what working in pharmaceuticals/biotech is like, and is extremely helpful and honest when answering questions – **Sarah Sapouckey**, second-year graduate student*

*Meeting with Dr. Bryan Cox and his visiting colleague, Dr. Richard Marshak, was a unique opportunity to learn about working in the biotech industry. We gained insight into industry from a CEO's perspective, and what it was like to move out of research-oriented positions but still remain involved in developing pharmaceutical therapies. Dr. Marshak excitedly outlined the various tracks we could take within industry and where the various tracks could lead us in our careers – **Katie Perschbacher**, fourth-year graduate student*



Biography - Bryan F. Cox, Ph.D.

Dr. Cox received his Ph.D. in Pharmacology from the University of Iowa in 1987 under the direction of **Professor Michael J. Brody, Ph.D.** (1934-1990). After a postdoctoral fellowship at the University of Texas Health Science Center in San Antonio, he joined Rhone Poulenc Rorer in 1990 as part of their Cardiovascular Discovery unit. In 1996, he joined Abbott Labs as Group Leader of CardioRenal Pharmacology. Shortly thereafter, he became Director of Integrative Pharmacology – a core pharmacology team with the principle mission of establishing the preclinical profile of compounds advancing from Discovery to Preclinical Development. He served as a Named Investigator/Steering Committee member for an R25 training grant (and renewal) in collaboration with the University of Nebraska. In addition, he has been elected both a Councilor and Secretary/Treasurer of the American Society of Pharmacology and Experimental Therapeutics. He has authored/coauthored over 100 peer reviewed publications. After retiring from Abbott/Abbvie in 2013, he formed CoPharm Global LLC, a consulting firm providing an integrative pharmacologic assessment of individual compounds or projects from both a safety and efficacy perspective. Since 2015, he has served as an Adjunct Professor in the Department of Pharmacology at the University of Iowa.

THE FUNDING STREAM

Seed grant funding supports new faculty research initiatives

The successful pursuit of new extramural grant funding generally requires a healthy amount of quality “preliminary data.” But obtaining this critical preliminary data can challenge the staffing and monetary resources of an individual laboratory. Fortunately, to support their efforts in developing the data necessary for new grant initiatives, there are a number of sources of seed grant funding for which our faculty can compete. Sources of seed grant funding at the UI include the Roy J. Carver Charitable Trust, the Holden Comprehensive Cancer Center (HCCC, for seed grants funded by American Cancer Society and other sources), the Environmental Health Sciences Research Center (EHSRC, funded by the NIH), the Fraternal Order of Eagles Diabetes Research Center (FOEDRC), and the Center for Hypertension Research. Our faculty can also apply for pilot grants via NCI-funded Specialized Programs of Research Excellence (SPORE) in lymphoma and neuroendocrine tumors (NET).

Pharmacology faculty have aggressively pursued pilot grant funding for new projects, and have been quite successful in this effort. This crucial funding helps our faculty diversify their research portfolios and expands their opportunities for acquiring long-term funding for their research. We acknowledge below new funding that our trainees and faculty have received since the last issue of *Iowa Pharmacology News*.

Trainee fellowship awards

UI Graduate College Fellowship Awards

Sharon Idiga (Molecular Medicine Graduate Student, Potthoff lab)
Post-Comprehensive Research Award for the spring semester

Jacob Rysted (Neuroscience Graduate Student, Usachev lab)
Ballard and Seashore Dissertation Fellowship for the spring semester

Extramural Predoctoral Fellowship Award

Katherine Perschbacher (Molecular Medicine Graduate Student, Grobe lab)
American Heart Association Predoctoral Fellowship – Molecular Mechanisms of RGS2 in Preeclampsia

Extramural Postdoctoral Fellowship Award

Jing Wu (Postdoctoral Research Scholar, Sigmund lab)
American Heart Association, Postdoctoral Fellowship – The Role of Endothelial Cullin3 in Vascular Function and Blood Pressure Regulation

Faculty grant awards

Intramural Grant Awards to Pharmacology Faculty

Songhai Chen (Associate Professor)
FOEDRC Pilot & Feasibility Grant – WDR26: A Novel Regulator of Insulin Signaling and Metabolism

Anne Kwitek (Associate Professor)
EHSRC Internal Pilot Grant – Gene x Environment Influences on Bisphenol A (BPA) Exposure in Population-based Heterogeneous Stock Rats

Dawn Quelle (Associate Professor)
HCCC Sarcoma Multidisciplinary Oncology Group (MOG) Pilot Grant – Targeting RB1 Pathway in MPNSTs
NET SPORE Developmental Research Project – Development of Shared NET PDX Repository

IOWA PHARMACOLOGY

WELCOME NEW STUDENTS!

Introducing Our New Students!!

Iowa Pharmacology News extends its warm welcome to predoctoral trainees recently joining Pharmacology! In the past year, nine graduate students have either directly enrolled in the Pharmacology Graduate Program, or have, as students of other graduate programs, begun their thesis research in Pharmacology labs. These students, their former institutions, program affiliations, and thesis advisors are:



Aditi Bapat - University of Mumbai, Pharmacology, rotating

Yue Deng - Sichuan University, Pharmacology, rotating



Alex Keyes - Linfield College, Pharmacology, rotating

Bolu Zhou - Capital Medical University, Pharmacology, rotating



Abdul (Sheps) Qaadir King-Mcalpin - Morehouse College, Molecular Medicine & MSTP, Potthoff

Jordan Kohlmeier - Wartburg College, Molecular Medicine, D. Quelle



Collin Nolte - Oklahoma State University, Mathematics, Potthoff

Sarah Sapouckey - University of Massachusetts, Molecular Medicine, Grobe



Grant Walters - Gustavus Adolphus College, Neuroscience, Usachev

What's in a name?

We wonder if you know that:

From 1867 to 1876 the current University of Iowa was officially named "Iowa State University!"

Medicine was first taught at the University in 1870 in what was called the "Medical Department."

The discipline concerned with the instruction on drugs was at that time termed "Materia Medica." The "Department of Pharmacology" was not named as such until 1929.

We thank Professor Emeritus Harold E. Williamson for sharing these historical tidbits!

GIVING OPPORTUNITIES

The research and teaching missions of UI Pharmacology receive critical support in the form of generous gifts from friends and alumni. Contributions to the **Pharmacology Development Fund** or specifically designated gifts to UI Pharmacology can be made at:

[GIVING OPPORTUNITIES](#)

CONTACT US

To mail in a gift or to receive more information about giving, please contact:

Madelynn Krall
University of Iowa Foundation
P.O. Box 4550
Iowa City, IA 52244-4550
(800) 648-6973 | (319) 335-3305
madelynn-krall@uiowa.edu

OUR APPRECIATION

We thank those of you who have already made generous contributions to UI Pharmacology!

Please join us in welcoming these talented new students, and wishing them the best of luck with their careers!

UPCOMING EVENTS

Center for Hypertension Dec 1

Research Seminar

David W. Stepp, PhD
Leon Henri Charbonnier
Chair in Physiology
Co-Director, Diabetes and
Obesity Discovery Institute
Augusta University

Visiting Speaker Seminar Dec 5

Charles Bourque, PhD, FRSC
James McGill Professor
Centre for Research in
Neuroscience
Montreal General Hospital

Center for Hypertension Jan 26

Research Seminar

Andreas M. Beyer, PhD
Assistant Professor
Department of Medicine
Division of Cardiology
Medical College of Wisconsin

Visiting Speaker Seminar Jan 30

Toren Finkel, MD, PhD, Chief
Center for Molecular Medicine
National Heart, Lung and
Blood Institute
National Institutes of Health

Distinguished Biomedical Feb 15

Scholar Lecture

Paul Ridker, MD
Senior Physician, Brigham and
Women's Hospital and Eugene
Braunwald Professor of Medicine
Harvard Medical School

Inclusive Excellence Feb 27

Seminar

Fidel Santamaria, PhD
Associate Professor
Department of Biology
University of Texas at San Antonio

Visiting Speaker Seminar Mar 1

Lalage Wakefield, DPhil
Senior Investigator
Laboratory of Cancer
Biology and Genetics
National Cancer Institute

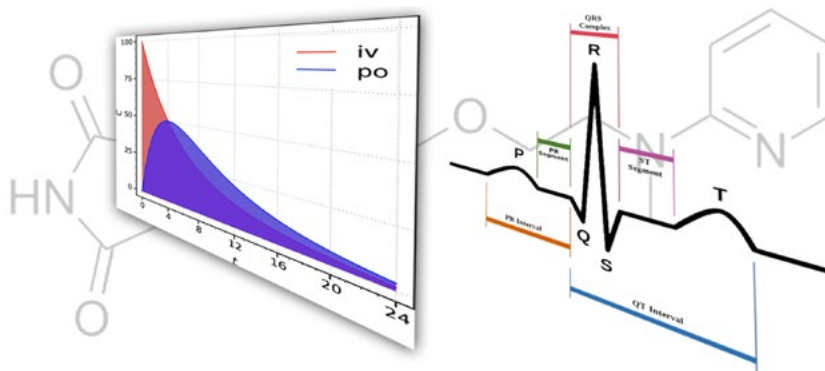
Center for Hypertension Mar 23

Research Seminar

Adam C. Straub, PhD
Assistant Professor
Department of Pharmacology and
Chemical Biology
University of Pittsburgh



Department of Pharmacology
2-471 Bowen Science Building
51 Newton Road
Iowa City, IA 52242-1109



Contact us:

Department of Pharmacology
University of Iowa
Roy J. and Lucille A.
Carver College of Medicine
51 Newton Road, 2-471 BSB
Iowa City, IA 52242-1109

Phone: (319) 335-7965
FAX: (319) 335-8930
E-mail: pharmacology@uiowa.edu

<http://www.medicine.uiowa.edu/pharmacology/>

Please direct comments and inquiries to:

John Koland, Editor
Iowa Pharmacology News
319-335-6508
john-koland@uiowa.edu

To receive this or future editions of Iowa
Pharmacology News electronically or to be
removed from the mailing list, please express
your desire to pharmacology@uiowa.edu