Greetings from THE DEPARTMENT HEAD

2018 brought great news and many great additions to the Department of Pharmacology!

This year, we recruited four new faculty to the department. Dr. Sade Spencer joined us in April from the Medical University of South Carolina. Dr. Spencer was appointed jointly to the Medical Discovery Team (MDT) on Addiction, and her research interests involve synaptic mechanisms that contribute to drug addiction and relapse. She has also developed a mouse model of self-administration of cannabinoids. Dr. Steven Graves also came in April from Northwestern University. Dr. Graves was recruited with support from the MDT on Addiction and the Institute for Translational Neuroscience and his research interests include the neuropharmacology and physiology of systems regulating motor control and addiction. Dr. Justin Drake joined us in June from Rutgers University, and his research uses basic and translational approaches to better understand the signaling networks in lethal metastatic castration resistant prostate cancer. Our newest addition, Dr. Marco Pravetoni, joined our department in October but he has been one of our Graduate Faculty since 2014, and an alumnus of our graduate program. Dr. Pravetoni moved from Hennepin Healthcare Research Institute and was recruited with support from the Center for Immunology and the MDT on Addiction. His research area is the development of novel therapies for prescription opioid abuse, including vaccines against addictive drugs. We are lucky to have so many bright minds to enhance our department, and we look forward to seeing what they each will contribute to our department mission!

Pharmacology also contributed to the renewal of the University of Minnesota Masonic Cancer Center (MCC) Comprehensive Core Grant from the National Cancer Institute. Dr. Douglas Yee, Director of the MCC and Joint Appointee in Pharmacology and Medicine, led the renewal effort. The Comprehensive Core Grant provides funding for cancer-related research programs and core facilities, including our state-of-the-art animal and imaging facilities. The Head of Pharmacology, Dr. Jill Siegfried, is also an Associate Director for Translation of the MCC and participated in grant preparation and the site visit. Dr. Carol Lange, also a Joint Appointee in Pharmacology & Medicine, is a Program Leader for the Cellular Mechanisms research program at the MCC, and many of our primary faculty are MCC members: Drs. Colin Campbell, Justin Drake, Tanya Freedman, Aaron LeBeau, Cheuk Leung, Hiroshi Hiasa, Marco Pravetoni and Nicholas Levinson. The MCC, which received its highest-ever rating of “outstanding” from the site visitors, is another great example of collaborative science at the University of Minnesota involving the Department of Pharmacology.

The Graduate Program in Pharmacology brought eight new PhD-seeking students and 14 new MS-seeking students to our department in September. We are proud to have recruited students from around the United States, from Montana to Vermont, and also from around the world, from China to India. Our graduate program is growing thanks to the hard work of Dr. Colin Campbell and our Committee for Graduate Studies. Also in September, we held our Annual Retreat at the Humphrey School of Public Affairs. The morning started with a lively poster session which led into research talks by three of our new faculty. The afternoon session started with a workshop on Preventing Sexual Harassment by Dr. Alan Berkowitz to address the problems brought into focus by the #MeToo movement, followed by breakout sessions for graduate students, post-docs and faculty. The day was rounded out with awards; graduate students and post-docs received awards for exceptional posters, and the first three winners of Ben G. Zimmerman Travel Awards were able to join Professor Emeritus Dr. Zimmerman on stage for a photo. We also acknowledged the many contributions of Dr. Earl Dunham, who retired this year after providing outstanding teaching and service to the Department of Pharmacology for nearly 50 years.

We hope you enjoy reading more about the many achievements of our trainees, faculty, and alumni!

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From the Director of Graduate Studies—Dr. Colin Campbell

About a year and a half ago, I began my third stint as DGS in Pharmacology. They say that the third time’s the charm, and I hope that is true! There’s no doubt, I am enjoying the opportunity even more this time than the last two times. There are a number of reasons for this, starting with our students. In addition to a talented, enthusiastic, and hard-working cohort of PhD students (31 in all), we currently have 13 year-one MS students. Combined with our 8 new PhD students, the incoming class of 2018 is, at 21 individuals, the largest in memory – and perhaps the largest in the history of the GPP. The newest members of our learning community include international scholars from 5 countries, and domestic students from 8 different states. They are a terrific group, and I am pleased that they chose to come study with us. Of course, I won’t miss this chance to express the high regard in which I hold our more senior students. They have continued the strong academic traditions of our program, and a list of some of their accomplishments is provided below. But beyond that, I want to express my gratitude and admiration for the work they do to build community and peer-mentor their colleagues. In particular, I want to commend the founding leadership of the Pharmacology Graduate Student Organization (PGSO), and the individuals who are stepping up to help run this group. Your organization is making us better, in so many ways, and I thank you. Naturally, students need teachers, and I am thrilled by the chance to work with an exceptional group of graduate faculty colleagues (56, in all), including a number of individuals who have just recently started up their labs here at the University of Minnesota. The knowledge, expertise, passion, and dedication of these individuals is inspiring – and makes my job as DGS much easier than it might otherwise be. I do not want to stop here, however, because a program like ours cannot function without a support team. So, I want to acknowledge all the members of the MNPI center for the ongoing work they do that allows us to focus our energy on our science. I am especially pleased to recognize the exceptional work that Jim Shoemaker, the program-level coordinator for the GPP, performs on our behalf. In closing, thank you all for your support and loyalty to our program.

Honors & Awards

Lisa Chesner (advisor: Colin Campbell) and Christopher Richards each received Beatrice Z. Milne and Theodore Brandenburg Awards, which recognize “...exceptional thesis research by graduate students in the basic biomedical sciences”. Lisa and Christopher were also recipients of Dr. Marvin and Hadassah Bacaner Research Awards, which recognize “...intellectual achievement by graduate students” in the basic medical sciences. Ralph White (advisor: Justin Drake) was awarded a Diversity of Views and Experiences (DOVE) Fellowship, and Bethany Crouse (1st year student) received a Dean’s Distinguished Graduate Fellowship. Hallie Hintz (advisor: Aaron LeBeau), Artur Serebrenik (advisor: Reuben Harris), and Jenna Robinson (advisor: Anna Lee) received Louise M. Nutter Poster Awards at the 2018 Department of Pharmacology Annual Retreat. Finally, congratulations to the three inaugural recipients of the Ben G. Zimmerman Travel Awards: Jennifer Nhieu (advisor: Li-Na Wei), Mariya Shapovalova (advisor: Aaron LeBeau), and Allison Anderson (advisor: Kevin Wickman).

Graduations

Shawna Persaud (advisor: Li-Na Wei) defended her thesis (The functional role of retinoic acid and the cellular retinoic acid binding protein 1 (Crabp1) in tumor suppression) in January, and is currently working at AbiliTech Medical Inc, as a Clinical and Product Manager. Erika Dahl (advisor: Tim O’Connell) defended her thesis (Compartmentalization of proximal G-alpha-q receptor signaling in adult cardiac myocytes) in February, and she is currently working as a Consultant (Clinical Operations) at Halloran Consulting Group, Inc. Amanda Salzwedel (advisor: Masato Yamamoto) defended her thesis (Use of oncolytic adenovirus expressing IFN-alpha as a tool to improve IFN-based chemoradiation regimen to treat pancreatic cancer) in February, and is currently a Postdoctoral Fellow in the Department of Biomedical Engineering at the University of Minnesota. Patricia Dauer (advisor: Ashok Saluja) defended her thesis (The role of SP1-mediated ER stress and oncogenic signaling in PDAC) in April, and she is conducting postdoctoral research at the University of Chicago. Zahra Masoud (advisor: Cheuk Leung) defended her thesis (Mechanistic insight into the clonal expansion advantage of quiescent pre-neoplastic breast cells) in May, and is working as a medical writer at Medpace, Inc. Christopher Richards (advisor: Reuben Harris) defended his thesis (HIV-1 counteraction mechanisms versus APOBEC3-mediated restriction) in June, and he is currently conducting postdoctoral research with Dr. Jan Carette at Stanford University School of Medicine. Lisa Chesner (advisor: Colin Campbell)
defended her thesis (Repair of DNA-protein crosslinks in mammalian cells) in June and is currently conducting postdoctoral research at the University of California – San Francisco. Dustin Chernick (advisor: Ling Li) defended his thesis (HDL-mimetic peptides as potential therapeutics for Alzheimer’s Disease) in August, and he is currently a Publications and Scientific Communications Manager at Adams Pharmaceuticals, Inc. Christopher Gallardo (advisor: W. Gibson Wood) defended his thesis (Investigation of monoaminergic neurotransmitter systems as a method to study Alzheimer’s Disease-related neurodegeneration) in August and is now conducting postdoctoral research on aging and psychiatric symptoms in dementia at Northwestern University. Gihan Gunaratne (advisor: Jonathan Marchant) defended his thesis (Characterization and modulation of NAADP-dependent Ca2+ signaling events supporting Middle East respiratory syndrome Coronavirus cell entry) in September and is working as a postdoctoral associate on his collaborative research project with Drs. Marchant and Walsh. Finally, congratulations go out to Malavika Chandrashekar (advisor: Julia Davydova), Alkaya Massaly (advisor: Masato Yamamoto), Oshin Miranda (advisor: Jill Siegfried), Jenna Robinson (advisor: Anna Lee), and Yuan Zheng (advisor: Fang Li) for earning their Master’s Degrees!

New Faculty Member

We are pleased to welcome Dr. Scott Dehm, Associate Professor of Laboratory Medicine and Pathology and Apogee Enterprises Chair in Cancer Research, to the GPP Faculty. Dr. Dehm has already been an active contributor to student and faculty mentorship in Pharmacology. Learn more about Dr. Dehm and his research.

GPP SPOTLIGHTS

The Economic Development Fellows Consulting Program

Over the last few years, several of our graduate students have participated in the University of Minnesota EDF Consulting Program, which provides motivated graduate students and postdoctoral trainees business consulting experience with real-world clients. Mariya Shapovalova (advisor: Aaron LeBeau), has worked on four projects, including three as Project Manager. Her first experience as Project Manager involved a Minnesota-based start-up company called Thrivors, which sought to develop a new implantable device. Mariya and her team, which included Paige Glumac (advisor: Aaron LeBeau) provided product design, patent searching, and market research for this endeavor. Mariya and Paige continue to provide consulting services for a clinical trial that the company has initiated. Allison Anderson (advisor: Kevin Wickman) recently completed her first project as Intern/Consultant, working with a new brand (Stella) from Blue Cross and Blue Shield, which is focused in healthcare innovation. Jennifer Nhieu (advisor: Li-Na Wei) was the Project Manager, and the team sought to better understand “end-of-life” aspects of the healthcare market using market research and traditional market analysis. This was Allison’s first involvement in the EDF Consulting Program, and she notes, “Overall, it was an extremely positive experience. I particularly enjoyed working collaboratively with the client and seeing how our research would inform their business.” Hallie Hintz (advisor: Aaron LeBau) recently completed a stint as Project Manager working with Cell Culture Company (C3), a Minneapolis Contract Development and Manufacturing Organization that provides GMP custom mammalian and insect cell culture services to its customers. C3 was looking for growth opportunities outside of its current markets, and Hallie and team were tasked with assessing new potential markets through market research and recommending targetable market segments and entry strategies.

Most projects start at the beginning of a semester and last for 12 weeks. Teams consist of a Project Manager and multiple Interns/Consultants. Everyone serves as an Intern/Consultant for their first project, with opportunities for management of projects contingent on recommendations. While Interns/Consultants and Project Managers conduct most of their work independently, teams meet periodically on campus to discuss progress. Teams might also visit a client’s venue – typically located within the Twin Cities metro area – once or twice a semester. Some projects culminate in a group presentation to the executive team of the company. The time commitment for an Intern/Consultant depends on the student, but the typical investment is 5 hours per week. Project Managers will likely dedicate 7-10 hours of effort each week, depending on the needs of the team and client. While no compensation is provided to Interns/Consultants, Project Managers are paid up to $100 per week. That said, Mariya notes that the most valuable take-aways of the EDF Consulting Program are not financial: “For students seeking a non-academic career path, there are certain skills that need to be developed outside of the research environment. The most important things I learned were teamwork, project management, and how to build relationships with clients.” Hallie concurs, while also noting that “This program reinforces the skills that I am developing through my PhD work (critical thinking, research, analytical thinking) and applies them to real-world experiences. This program is also a great way to network with local businesses and start-ups and I know several students who have been offered positions after working on a project.”
Incoming Class

Our 2018 incoming class includes 8 students in the PhD track: Ashley Anderson (BA in Neuroscience, Wartburg College), Aditi Bapat (BPPharm/Pharmacy, Vivekanand Education Society’s College of Pharmacy; MS in Pharmacology, University of Minnesota), Sanghoon Choi (BS in Pharmacology, SUNY–Stony Brook), Bethany Crouse (BS in Biochemistry, University of Montana), Joseph Gallant (BS in Biological Sciences & MS in Pharmacology, University of Vermont), Lyda Hashmall (BA in Biological Chemistry, Grinnell College), Hannah McMullan (BS in Neuroscience, Duke University), and Dechen Wangmo (BS in Nursing, Delhi University; BS in Genetics, Cell Biology, and Development, University of Minnesota).

We also welcomed 13 new students to our Master’s track: Duha Alshareef (PharmD/Pharmacy, King Abdulaziz University), Jingran Cao (BPPharm/Pharmacy, China Pharmaceutical University), Jingyu Cheng (BPPharm in Pharmaceutical Preparation, China Pharmaceutical University), Aileen Chu (BA in Biology, Grinnell College), Inae Har (BS in Genetics, Cell Biology, and Development, University of Minnesota), Vaishnavi Kankate (MBBS/Pharmacy, Dr. NTR University of Health Sciences), Apoorva Limaye (BPPharm/Pharmacy, Mumbai University), Zia Matti (BS in Biochemistry, St. Cloud State University), Marvis Monteiro (BPPharm/Pharmacy, Mumbai University), Natalie Monteiro (BS in Neuroscience and Behavior, University of New Hampshire-Durham), Sachinthan Seneviratne (BS in Pharmacology and Toxicology, University of Toledo), Chikako Yanagiba (BA in Biology, University of Minnesota), and Xiaoyin Zhang (BS in Biopharmacy, Huazhong University of Science and Technology). Welcome to the GPP everyone – we hope you are finding the GPP to be a stimulating and supportive environment!

Alumni Relations

We are proud of our alumni and the ways they have translated their training in pharmacology into successful careers in academia, industry, government, law, and medicine.

We hope to continue strengthening our relationships with our alumni community over the next several years, in part to help our current trainees develop a stronger awareness and appreciation for the type of careers they can aspire to, and to help them build a professional network that can support them in the years to come. As part of this effort, we have established a LinkedIn Group with more than 315 members affiliated with the Department of Pharmacology at the University of Minnesota. If you have a LinkedIn account and would like to be a member of this group, you can request access.
Pharmacology Graduate Student Organization (PGSO)

The PGSO was established in 2017 by several of our graduate students, with the goals of promoting the professional development of GPP students. Leadership of the PGSO includes President Mariya Shapovalova (advisor: Aaron LeBeau), Vice Present Hallie Hintz (advisor: Aaron LeBeau), Treasurer Paige Glumac (advisor: Aaron LeBeau), Secretary Stephanie Ortiz-Valle (advisor: Ling Li), and Event Planning Coordinator Ralph White III (advisor: Justin Drake). The emphasis of the PGSO has been on providing GPP students with academic, networking, and social opportunities. PGSO-sponsored events have given GPP students a chance to connect outside of the lab and have fostered a strong sense of community within the GPP.

In 2018, key events and activities organized by the PGSO included:

STEM Academy volunteer event: PGSO officers and GPP students put together a booth for children (ages 5-12) describing the drug screening process. To convey the complicated process to children, multi-colored M&Ms were used as drug candidates to find a medicine for treating diseases such as “purple goop.”

Alumni career panel: The PGSO organized a career panel consisting of previous Pharmacology trainees, including Angela Brunner (Medical Science Liaison), Nicole Victoria (Investigator at the FDA), Lisbeth Robinson (Patent Examiner), Lin Aanonsen (Professor of Biology at Macalaster College), and Mike Boulware (Senior Clinical Research Manager at Medtronic). The panel was very well attended and arguably the most beneficial event of the year for graduate students and postdocs.

Lunch and Learn: The PGSO-sponsored “Lunch and Learn” event occurs twice a year. In spring 2018, students preparing for the 3 Minute Thesis Competition were given an opportunity to practice their talks and get feedback. The fall 2018 session allowed 2nd-year PhD students to present their 20-minute seminars in front of peers before they delivered their departmental presentations.

End-of-year barbecue: In June 2018, the PGSO hosted a barbecue to celebrate the end of the academic year. While the term “academic year” may not mean much to the older students, the PGSO wanted to mark another year of accomplishment for all GPP students.

Happy hours: (pictured below) PGSO-sponsored happy hours are fun events with no educational strings attached. They serve as a time to relax and for students to be able to socialize around whatever topics they want.

Twins game: (pictured above) Students made their way to a baseball game at the start of September! The PGSO hopes this becomes the traditional way to welcome and meet the incoming class.

Cook-out for new graduate students: For the first time, the PGSO hosted a barbecue cook-out for all incoming graduate students at the home of one of its officers – Paige Glumac. This event was an intimate welcome for those students who will be part of the pharmacology department for the next few years.

The PGSO welcomes students interested in contributing ideas and energy to ensure the vitality of this organization. Please reach out to PGSO leadership if you would like to learn more about opportunities to contribute to the PGSO.

JOIN US!
The Department of Pharmacology is currently home to 15 postdoctoral scientists who are working to develop vaccines to address the opioid crisis, explore therapeutic approaches to prevent or reverse synapse loss observed in patients with HIV-associated neurological disorders, identify key molecular drivers of cancer progression and therapeutic resistance, unravel the cellular and circuit basis of addiction, and elucidate the roles of nuclear and extra-nuclear signaling pathways that underlie the differentiation and function of neurons and adipocytes.

Our postdoctoral trainees played a supportive role in our successful faculty recruiting efforts in 2017-2018, and they serve on a daily basis as excellent role models for our undergraduate and graduate students. Thank you, postdoctoral trainees, for all that you do!

**Transitions**

Dr. Jill Touchette (advisor: Anna Lee) accepted a position as Director of Medical Writing at Superior Medical Experts in June 2018. Dr. Megan Tipps (advisor: Kevin Wickman) transitioned to a Research Scientist position at Allina Health in June 2018. Thank you for being part of our community over the last few years - we wish you both well in your new positions!

**Arrivals**

Dr. Yijuan Du (advisor: Steven Graves) earned her BS in Biology from Peking University in China and her PhD in Neuroscience from University of Pittsburgh. She is currently investigating the role of cytosolic monoamines in the pathogenesis of neurodegenerative diseases.

Dr. Halena VanDeusen (advisor: Justin Drake) earned her BS in Biochemistry from Western Washington University, and her PhD in Cancer Biology from the University of Wisconsin-Madison. She is currently studying the role of the RET receptor tyrosine kinase in aggressive metastatic prostate cancer. An interesting fact about Halena is that she has only lived in states that are also home to black bears.

Dr. Zoi Sychev (advisor: Justin Drake) earned her BS in Biological Sciences from Florida International University-Miami and her PhD in Molecular Cell Biology from University of Washington-Seattle. She is currently developing a mass spectrometry-based proteomics and phosphoproteomics platform to detect androgen receptor variants in prostate cancer models. An interesting fact about Zoi is that she loves dancing Tango and building miniature ships with her two children and husband.

Dr. Isha Nagpal (advisor: Li-Na Wei) earned her BS degree in Biotechnology from Kurukshetra University, and her PhD in Biological Science from Jwaharlal Nehru University in 2017. She just recently joined the Wei lab (October 2018), and will participate in research examining vitamin A signaling pathway in health and disease.

Dr. April Huseby Kelcher (advisor: Marco Pravetoni) earned her BS in Biology from University of Wisconsin-River Falls, and her PhD in Immunology from the University of Wisconsin-Madison. She is currently studying how immunomodulators increase vaccine efficacy against opioids. An interesting fact about April is that she used to be a helicopter mechanic for the MN Army National Guard.

Dr. Carly Baehr (advisor: Marco Pravetoni) earned her BS with a double major in Chemistry and Biochemistry from Rose-Hulman Institute of Technology, and her PhD in Molecular Pharmacology and Experimental Therapeutics from the Mayo Graduate School. She is currently working on developing techniques to produce monoclonal antibodies that target opioids and other small molecules.

Dr. Matthew Green (advisor: Stan Thayer) earned his BS in Molecular and Cellular Biology from the University of Illinois at Urbana-Champaign, and his PhD in Neuroscience from the University of Minnesota. He is currently designing an automated synapse loss detection assay to screen for drugs to prevent synaptic damage caused by HIV proteins. An interesting fact about Matt is that when he is not fishing for drugs he likes to fish for fish.

**Honors & Awards**

Dr. Carly Baehr (advisor: Marco Pravetoni) and Dr. April Huseby Kelcher (advisor: Marco Pravetoni) were awarded Louise M. Nutter Poster Awards at the Department of Pharmacology Annual Retreat.
At the end of the last academic year (May 2018), 107 students were enrolled in the Pharmacology Minor program, the highest enrollment since the program started!

Dr. Hiroshi Hiasa is the Director of Undergraduate Studies for our Pharmacology Minor program, a free-standing undergraduate minor within the College of Biological Sciences. Presently, the Pharmacology Minor attracts undergraduate students from 9 colleges, schools, and centers (CBS, CLA, CSE, CFAN, CCE, Nursing, EHD, CAH, and CLI). We currently offer 10 undergraduate courses, with a total enrollment in 2018 surpassing 300 students! At the end of the last academic year (May 2018), 107 students were enrolled in the Pharmacology Minor program, the highest enrollment since the program started! Fourteen of these students are in the University of Minnesota Honors Program and are actively working on thesis research projects. Learn more about our undergraduate minor program.

Pharmacology Club

The Pharmacology Club is a Campus Life Program that welcomes undergraduate students from diverse backgrounds who share an interest in pharmacology. The club organizes science-oriented presentations of state-of-the-art research in pharmacology, as well as career-development presentations from researchers in the field, experts in industry, or current students at the professional or graduate level. GPP alumni Dr. Angela Brunner (PhD 2013; Advisor: Stanley Thayer), Dr. Shawna Persaud (PhD 2018; Advisor: Li-Na Wei), and Dr. Tiffany MacKenzie (PhD 2013; Advisor: Ashok Saluja) were among the guests hosted by the club in 2018. The club also hosted a luncheon in April to celebrate the graduation of Pharmacology Minor students, as well as a number of volunteer events. In February, they volunteered with MATTER!, packing 295 boxes of medical supplies for the people in the Democratic Republic of Congo. Our club set a new packing record – packing enough supplies to impact 33,925 lives! In October, they volunteered with Second Harvest Heartland – a Minneapolis-St. Paul food bank – and packed 6,987 pounds of food for people in need in our community! The 2018 Pharmacology Club Executive Board consists of: President Alyssa Butterfield, Vice-President Heidi Larson, Co-Chairs Thomas Kim & Mason Dworak, Treasurer Selamawit Girmachew, Secretary Emma Kozurek (spring) & Sarah Skubai (fall), Event Planning Coordinator Alexandra Mueller, and CLP Faculty Advisor Dr. Hiroshi Hiasa. You can learn more about the Pharmacology Club at the University of Minnesota, and associated events and achievements, on its Facebook page.

Graduations

In 2018, 37 students graduated with an undergraduate minor in Pharmacology. Many of these students have advanced to medical, pharmacy, and graduate schools.

Congratulations students, and best of luck to you all!
Honors, awards, & recognition

We are pleased to highlight successes of our newer faculty members in 2018! Their achievements showcase the diversity of research interests in our department. Dr. Tanya Freedman received her first NIH R01 award entitled “Roles of the Src-family kinases LynA and LynB in macrophage inflammatory signaling” from the National Institute of Arthritis and Musculoskeletal and Skin Diseases, and Dr. Anna Lee earned her first NIH R01 award for a project entitled “Dissecting nicotinic receptor contributions to alcohol aversion” from the National Institute on Alcoholism and Alcohol Abuse. We look forward to seeing these projects progress!

Drs. Cheuk Leung (eLife), Nick Levinson (eLife; Biochemical Journal; Biochemistry), Aaron LeBeau (Molecular Imaging; Clinical and Translational Medicine; Prostate), and Anna Lee (Neuropsychopharmacology) published some of their work in strong research journals. Dr. Leung saw his first graduate student (Dr. Zahra Masoud) successfully earn her PhD. Congratulations on these achievements!

Transitions

We would like to acknowledge the contributions of two of our colleagues to our department, and to wish them well on their much-deserved retirements!

Dr. Earl Dunham
Dr. Dr. Dunham graduated from Drake University in 1965 before matriculating in the Graduate Program in Pharmacology at the University of Minnesota in 1966. He conducted his thesis research with Dr. Ben Zimmerman, earning his PhD in 1971. He then accepted a faculty appointment in the College of Pharmacy, with a secondary appointment in the Department of Pharmacology. His NIH-funded research program focused on regulation of peripheral vascular resistance by cyclic nucleotides and eicosanoids and served as a platform for the training of several students and postdoctoral researchers who continue to make important scientific contributions in academia and industry. During his nearly 50 years as a faculty member at UMN, Dr. Dunham has been a passionate advocate for our department and a dedicated educator, introducing thousands of students in Pharmacy, Medical, Nursing and Dental Schools to the pharmacology of the cardiovascular and autonomic nervous systems.

Dr. Horace Loh
Dr. Loh earned his BS in Biochemistry from National Taiwan University (ROC) in 1958, and his PhD in Biochemistry from the University of Iowa in 1965. He conducted postdoctoral research with Dr. Eddy Leong Way at the University of California-San Francisco Medical Center. He joined the faculty at Wayne State University before transitioning to the University of California-San Francisco in 1970. In 1989, he became the 4th Head of Pharmacology at the University of Minnesota, serving in this capacity for 23 years while holding the Frederick and Alice Stark Professorship. Dr. Loh earned international prominence for his research into the pharmacology of opioids and endorphins, the receptors and intracellular signaling pathways regulated by these substances, and the translational and epigenetic regulation of opioid receptor genes. He has published more than 675 manuscripts, and these studies have been cited more than 21,000 times. He holds several patents related to his scientific discoveries. While at the University of Minnesota, he secured more than $50 million to support his research. He directed the long-standing NIH-funded Center for Molecular and Cell Biology of Drug Addiction, which brought international recognition to the Department of Pharmacology and University of Minnesota. During his tenure as Head of Pharmacology, the department regained a top-10 ranking among pharmacology departments in the USA.

Dr. Loh has served as chair or member of numerous grant review, search, and advisory committees. He has been a scientific consultant to the US Army Research and Development Command and the Food and Drug Administration. He has presented more than 200 invited lectures and has served as a member of the editorial or advisory boards for more than 20 journals, including Current Opinion in Pharmacology. He has served as an Associate Editor for the Annual Reviews in Pharmacology and Toxicology for more than 20 years. His long-standing affiliations include memberships in the American College of Neuropsychopharmacology, College on Problems of Drug Dependence, American Society of Pharmacology and Experimental Therapeutics, and Western Pharmacology Society. He was one of the founders of the Society of Chinese Bioscientists in America – a society now numbering more than 5,000 members – and served as its first president. He is widely lauded for his efforts to shape the development of biomedical research in China, Hong Kong, and Taiwan. Among other achievements, he was instrumental in establishing the National Health Research Institute in Taiwan – analogous to the NIH in the United States.

Dr. Loh mentored more than 30 PhD students and over 100 postdoctoral trainees over the course of his career. Dr. John Holladay – Dr. Loh’s second graduate student – notes, “Horace is my lifelong mentor...I consider him part of my family”. Dr. Loh also hired many of faculty members working in the Department of Pharmacology today, including Drs. Stan Thayer, Colin Campbell, Dan Romero, Li-Na Wei, Frank Burton, Greg Connell, Hiroshi Hiasa, and Kevin Wickman. One of Dr. Loh’s hires – Dr. Duanqing Pei, who is now Professor of Stem Cell Biology and Director General of the Guangzhou Institutes of Biomedicine and Health notes, “Horace is a caring mentor for young people...it continues to inspire me to this day!”
In 2002, Dr. Loh was one of the first inductees into the Academic Health Center's Academy of Excellence in Health Research. In 2010, he was named Regents Professor, the highest award bestowed on a faculty member at the University of Minnesota. He has also received numerous external awards, including the 13th National Innovation Award in 2016 from Taiwan (ROC), an honorary doctorate in 2015 from the China Medical University in Taiwan (ROC), the first "Presidential Award" (1999) and the Lifetime Achievement Award (2015) from the Society of Chinese Bioscientists in America, the International Narcotics Research Conference Founders’ Award in 2007, the Nathan B. Eddy Memorial Award for Lifetime Excellence in Addiction Research in 2002 from the College on Problems of Drug Dependence, the Otto Krayer Award in Pharmacology in 1999 from the American Society for Pharmacology and Experimental Therapeutics, the first "Award of Excellence for Basic Pharmacology" in 1999 from the Pharmaceutical Research and Manufacturers of America Foundation. He was also awarded membership in Academia Sinica in Taiwan (ROC) in 1986 and was one of three scientists to receive the Method to Extend Research in Time (MERIT) Award from the NIH (1988-1998).

Arrivals

We are excited to welcome four exceptional scientists to the Department of Pharmacology!

Dr. Steven Graves joined the Department of Pharmacology as an Assistant Professor in April 2018, after completing postdoctoral training with Dr. D. James Surmeier at Northwestern University. The Graves Lab is located on 2nd floor of Nils Hasselmo Hall. The recruitment of Dr. Graves was made possible with support from the Medical Discovery Team (MDT) on Addiction and the Institute for Translational Neuroscience. Dr. Graves applies techniques in behavioral pharmacology, electrophysiology, biochemistry, two-photon imaging, and optogenetics to understand mechanisms underlying the neurotoxic effects of drugs like methamphetamine, the neuroadaptations that support addictive behaviors, and circuit dynamics associated with motor dysfunction in Parkinson’s disease.

Dr. Justin Drake joined the Department of Pharmacology as an Assistant Professor in June 2018, after completing postdoctoral training with Dr. Owen Witte at the University of California – Los Angeles. Dr. Drake is also an adjunct Assistant Professor in the Department of Urology and a Member of the Masonic Cancer Center. Research in the Drake Lab, located on the 3rd floor of Nils Hasselmo Hall, blends basic and translational research approaches to better understand the signaling networks in lethal metastatic castration resistant prostate cancer, and how to more effectively treat patients who are suffering from this disease using rationalized targeted therapies. Using in vivo primary mouse and human cancer model systems, the Drake Lab investigates kinase signaling pathways that are activated that may lead to this resistance and how new targeted therapies, such as kinase inhibitors, may perturb these pathways for future clinical utility. Dr. Drake's lab will also employ phosphoproteomics enrichment technologies coupled to quantitative targeted mass spectrometry to identify the activated kinases and pathways in clinical tumors for development of predictive biomarkers. Read more about Dr. Drake's work here and follow him on Twitter (@DrJustinDrake).

Dr. Marco Pravetoni joined the Department of Pharmacology as an Associate Professor in the fall of 2018, transitioning his lab from the University of Minnesota Foundation/Hennepin County Medical Center (HMC) to 3rd floor Nils Hasselmo Hall. Dr. Pravetoni earned his BS/MS degree in Veterinary Biosciences from the Universita degli Studi di Milano in Italy in 2001, and then trained as a Research Associate with Dr. Sheldon Sapper in the Department of Pharmacology at the University of Minnesota. He joined our graduate program in 2004 and completed his thesis research with Dr. Kevin Wickman in 2008. He then joined the lab of Dr. Paul Pentel at HMC for postdoctoral training, transitioning to an independent faculty position in 2011. The Pravetoni Lab conducting innovative and important research into the development and utilization of vaccines and monoclonal antibodies to treat substance abuse disorders and infectious disease. His work blends basic mechanistic investigations into factors that impact the immune response, to highly translational efforts evaluating the efficacy of vaccines to address the opioid epidemic. The recruitment of Dr. Pravetoni was made possible with support from the MDT on Addiction and the Center for Immunology.

Dr. Sade Spencer joined the Department of Pharmacology as an Assistant Professor in April 2018, after completing her postdoctoral training with Dr. Peter Kalivas at the Medical University of South Carolina. Dr. Spencer is a member of the Medical Discovery Team (MDT) on Addiction, an interdepartmental research initiative supported by the State of Minnesota and the Medical School. The Spencer Lab is located on the 3rd floor of the McGuire Translational Research Facility, along with other members of the MDT on Addiction. Dr. Spencer utilizes approaches in behavioral neuroscience, high-resolution microscopy, and chemogenetics to probe mechanisms that underlie the development of addictive behaviors as well as those mechanisms that mediate relapse to drug-seeking behavior following periods of abstinence. Dr. Spencer is also interested in risk factors and co-morbidities associated with addiction including poly-substance use and other psychiatric disorders. Learn more by perusing Dr. Spencer's lab website and following the Spencer lab on Twitter (@SpencerLab_UMN).
Awards & Honors

The Department of Pharmacology is excited to offer awards that recognize excellence and achievements of our student and postdoctoral trainees in producing and communicating stellar science.

These awards were developed in consultation with faculty, postdocs, and students, and will be administered by the Department of Pharmacology Awards Committee. The Awards Committee is chaired by Dr. Tanya Freedman, with Drs. Greg Connell, Louis Mansky, Marco Pravetoni, and Deepali Sachdev serving as standing members. Several of the awards were inspired by our distinguished alumni and friends, and are supported by Department of Pharmacology charitable funds:

Fellowship Recognition Award
Recognizing trainees who secure external funding to support their training.

Frederick E. Shideman Leadership Award
Recognizing trainees who make profound contributions to our departmental climate in the promotion of scientific connectedness, diversity, and/or mentoring.

Master’s 1st-Year Excellence Award
Recognizing Master’s students who have demonstrated the potential to be exceptional research scientists.

Frederick E. Shideman Research Proposal Award
Recognizing trainees who produce research proposals of exceptional quality, in both substance and style.

Louise M. Nutter Presentation Award
Presented to trainees in recognition of exceptional oral or poster presentations at the Department of Pharmacology Annual Retreat.

Research-Leadership Publication Award
Recognizing graduate students who drove the research or writing of their published research to an extraordinary extent.

Frederick E. Shideman Publication Award
Recognizing high-impact and well-crafted scientific publications authored by trainees or non-faculty research staff.

Ben G. Zimmerman Travel Award
Provides funds for participation at a scientific conference, for trainees conducting integrative, organ/systems-level pharmacological research. Note that Department of Pharmacology travel awards are also available to trainees to support participation and attendance at scientific meetings.

Those interested in applying or being nominated for Department of Pharmacology Awards will find instructions and timelines on our website, along with links to awards administered by the University of Minnesota Medical School and Graduate School.

(left-to-right): Dr. Jill Siegfried stands with inaugural Ben G. Zimmerman Travel Award winners Jennifer Nhieu, Mariya Shapovalova, Allison Anderson, as well as Dr. Ben Zimmerman and Dr. Kevin Wickman.
We are pleased to highlight 10 trainees working in academic, industry, or governmental/regulatory settings:

Alumni in Academia

Yunn-hwa (Grace) Ma

**UMN training period:** 1984 – 1989 (PhD)
**UMN advisor:** Dr. Earl Dunham
**Current position/title(s):** Professor, Department of Physiology and Pharmacology
**Current institution:** Chang Gung University (Taiwan)
**Email:** yhma@mail.cgu.edu.tw

*Career overview:* After I earned my PhD, I took postdoctoral positions with Richard Roman in the Department of Physiology at the Medical College of Wisconsin and later, with Harlan Ives, in the Cardiovascular Research Institute at University of California- San Francisco (UCSF). As a research-track faculty at the General Clinical Research Center at UCSF, I made a major decision to leave the US and I took a position at Chang Gung University (CGU) in 1998. Since then, I have been interested in looking for mechanisms underlying cardiovascular diseases and solutions in therapeutics. Recently, we have been working on target drug delivery in combating thromboembolic diseases with a nanomedicine approach, which allows me to work with talented and creative people in different disciplines such as chemical and mechanical engineering. In addition to research and teaching, I started my service in the Curriculum Section of the Academic Affairs Office at CGU in 2016. This part-time position allows me to think more of university education beyond a pharmacologist.

*Favorite UMN memories:* I still remember the first lecture of “Investigative Pharmacology” given by Dr. Shideman in 1984. The lecture followed an orange book with the biography of great pharmacologists in history, which was an eye-opening experience. We were very fortunate to have those people to look up to, so we could visualize our journey. My training in Dr. Dunham’s lab laid the foundation for independence and enthusiasm necessary for an academic position. The people I met in the Department of Pharmacology, including Donna Barton, Hunjoo Ha, Susan Allen, Sandy Roerig, and Ben Zimmerman, expanded my vision in different aspects of life. A couple of times when I was frustrated due to geographic limitations in career development, I was encouraged by what Sandy Roerig once told me, “We could always make the best out of our current situation.”

Lisa K. Mullany

**UMN training period:** 2000 – 2004 (PhD)
**UMN advisor:** Dr. Carol Lange
**Current position/title(s):** Assistant Professor, Department of Molecular and Cellular Biology
**Current institution:** Baylor College of Medicine
**Email:** mullany@bcm.edu

*Feel free to email me. I enjoy helping scientist trainees!*

*Career overview:* I received a PhD degree in Pharmacology, working in Dr. Carol Lange’s lab. My career goal at the time was to identify anti-cancer therapeutics in an academic setting. Towards this goal, I accepted a post-doctoral training position at Hennepin County Medical Center to study liver cancer, and I received an individual NRSA fellowship. This funding and subsequent publications allowed me to obtain a second post-doctoral training position at Baylor College of Medicine, studying ovarian cancer. I was promoted to Instructor after one year due to the success of my research project, followed by Assistant Professor a few years later. Recently, while assisting with a cardiac injury research project, I discovered a potent small molecule that improves cardiac function following myocardial infarction. I am currently leading clinical translation efforts for this new drug that may serve as an innovative agent for cardiac protection after ischemic injury.

*Favorite UMN memories:* A lasting memory while training in the Graduate Program in Pharmacology is the great friendships that were built during the times we spent studying together...

—Lisa K. Mullany

The people I met in the Department of Pharmacology ... expanded my vision in different aspects of life.

—Yunn-hwa (Grace) Ma
Nien-Pei Tsai

**UMN training period:** 2006 – 2009 (PhD)

**UMN advisor:** Dr. Li-Na Wei

**Current position/title(s):** Assistant Professor, Department of Molecular and Integrative Physiology

**Current institution:** University of Illinois at Urbana-Champaign

**Email:** nptsai@illinois.edu

**Career overview:** Because of the solid training I received in Dr. Li-Na Wei’s lab, I was able to demonstrate my expertise in molecular neurobiology and secure a postdoctoral position fairly quickly after obtaining my PhD degree in 2009. My postdoctoral training was done in Dr. Kim Huber’s lab in the Department of Neuroscience at UT Southwestern Medical Center. My postdoctoral research project studied synapse pruning and maturation in the mammalian brain, and the deficits of those in autism. The project was supported by a F32 fellowship from the NIH and led to a publication in Cell. After two years on the academic job market, I landed a tenure-track faculty position at the University of Illinois at Urbana-Champaign in 2014. My lab is currently studying synaptic plasticity and brain excitability homeostasis in autism and epilepsy, with the support of an R01 grant from the NIH and two young investigator grants from Brain and Behavior Research Foundation.

**Favorite UMN memories:** My favorite memory is that I celebrated every Thanksgiving together with my labmates. It is really important for foreign students whose families are not around during that time of the year.

—Nien-Pei Tsai

Garret Anderson

**UMN training period:** 2005 – 2010 (PhD)

**UMN advisor:** Dr. Kirill Martemyanov

**Current position/title(s):** Assistant Professor, Department of Molecular, Cell and Systems Biology

**Current institution:** University of California at Riverside

**Email:** garret.anderson@ucr.edu

**Career overview:** My first experience working in an academic research laboratory was during my days as an undergraduate student, and I was hooked. Looking back, I knew I was interested in an academic research career but did not really know what that meant at the time. After working for several years in various research labs, I decided to fully commit to an academic career by coming to UMN to pursue my PhD. Best decision I ever made, and I have not looked back since. My fortunate research path started at UMN working with Dr. Kirill Martemyanov (now at The Scripps Research Institute in Florida), continued as a postdoctoral researcher with Drs. Thomas Südhof and Robert Malenka at Stanford University, which in turn launched me into my current Assistant Professor position at the University of California-Riverside. There have been many challenges along the way, and certainly my path could have turned out very differently than it has. In the end however, my journey in academia has been an incredibly rewarding and exciting adventure, and feels like it has only begun...

**Favorite UMN memories:** So many memories! The people are what I will remember the most, however. My mentor, my labmates, my classmates, the faculty – all helped me through to successfully complete my PhD degree. I remember lots of late nights in the lab, getting a few exciting results, but it was the interactions with my colleagues that made it so much more exciting. They were there for the good times, and the bad times. When I was down, they helped pick me back up. This was perhaps best exemplified in this story. Towards the end of my training, I became suddenly ill in the middle of the day, went to the clinic, and ended up having an emergency appendectomy that night. I called my labmates from the emergency room, who took care of my ongoing experiments, made phone calls to other people to let them know the situation, and visited me in the coming days to check up on my recovery. My time at UMN consisted of not only great colleagues, but friends I consider for life.

**The people are what I will remember the most...** My mentor, my labmates, my classmates, the faculty – all helped me through to successfully complete my PhD degree. I remember lots of late nights in the lab, getting a few exciting results, but it was the interactions with my colleagues that made it so much more exciting.

—Garret Anderson
Alumni in Industry

Pancras Wong

**UMN training period:** 1976 - 1981 (PhD)
**UMN advisor:** Dr. Ben Zimmerman

**Current position/title(s):** Senior Research Fellow, Cardiovascular and Fibrosis Discovery Biology
**Current company:** Bristol-Myers Squibb Company

Email: pancras.wong@bms.com

**Career overview:** After receiving my PhD in Pharmacology in 1981 with Professor Ben Zimmerman at the University of Minnesota, I began my pharmaceutical career in Hoechst-Roussel Pharmaceuticals, later in DuPont and Bristol-Myers Squibb. While at DuPont, I was a key pharmacologist to co-discover losartan (Cozaar®), the first of a new class of anti-hypertensive drugs known as angiotensin II receptor blockers. Now working at Bristol-Myers Squibb, I have contributed to the discovery of apixabán (Eliquis®), the best-in-class direct oral anti-coagulant (blood thinner, factor Xa inhibitor), for the treatment of thrombotic disorders, for the treatment of thrombotic disorders.

**My accomplishments in Drug Discovery could not have happened without the fine education I received in the Graduate Program in Pharmacology at the University of Minnesota.**

—Pancras Wong

Tim Piser

**UMN training period:** 1991 - 1995 (PhD)
**UMN advisor:** Dr. Stan Thayer

**Current position/title(s):** Chief Scientific Officer
**Current company:** Cadent Therapeutics

Email: tpiser@cadenttx.com

**Career overview:** I started as a pharmacology graduate student at UMN having completed a summer internship in the neuroscience department at a major pharmaceutical company. From this work, I knew I wanted to discover and develop new medicines for CNS disorders. Dr. Stan Thayer, my adviser at UMN, taught me how to ask difficult questions in a practical way by adapting existing methods and technology. By adding a healthy dose of network-building with experts in the field and the appetite for risk-taking inherent in drug discovery, I’ve been doing this ever since. During my career, I’m most gratified by advancing development of NMDA receptor antagonists for the treatment of treatment resistant depression, and by our current work at Cadent Therapeutics on positive allosteric modulators of both NMDA receptors for schizophrenia, and SK channels for movement disorders.

**Favorite UMN memories:** My favorite memory is conducting “illegal” experiments, which was what Stan called those experiments that were driven by mere curiosity off the main track of my thesis work.

—Tim Piser
Alumni in government/regulatory affairs

Uma Lakshmipathy

**UMN training period:** 1997 – 2002 (post-doctoral)

**UMN advisor:** Dr. Colin Campbell

**Current position/title(s):** Director, R&D in Cell Biology, Life Science Solutions

**Current company:** Thermo Fisher Scientific

**Email:** uma.lakshmipathy@thermofisher.com

**Career overview:** I joined Dr. Colin Campbell’s lab as a post-doc after completing my PhD in Biophysics from Jawaharlal Nehru University in India. After 5 years of training, I transitioned to the Stem Cell Institute at the University of Minnesota as a Junior Faculty member working on the ex vivo gene repair of adult stem cells, with support from the Lymphoma Society and Fanconi Anemia Society. After 3 years, I accepted a position as Senior Scientist at Invitrogen, and was tasked with establishing a stem cell program. I have been at Thermo Fisher Scientific (formerly Invitrogen and Life Technologies) for the past 13 years. I am currently leading an R&D team involved in the development of products for somatic reprogramming and analytical assays/characterization platforms for cell therapy-relevant cells. I am also an Adjunct Faculty member for the Professional Master’s Program, and Advisory Board member for the CIRM-Bridges to Stem Cell Program at California State University – San Marcos.

**Favorite UMN memories:** I learned everything I know about molecular biology from Colin. His honest, direct, and systematic approach to problem-solving, combined with the open collaborative environment of his lab, was foundational to my scientific career. It provided me with the necessary skills to ask bold scientific questions, and confidently pursue exploring solutions with technical rigor. My fondest memories of Colin are Wild Turkey and the intentionally loud clack of his clogs!

Donald W. Fink

**UMN training period:** 1981 – 1987 (PhD)

**UMN advisor:** Dr. Bernard Mirkin

**Current position/title:** Expert Biologist, Center for Biologics Evaluation and Research (CBER), Division of Cellular and Gene Therapies

**Current agency:** US Food and Drug Administration

**Email:** Donald.Fink@fda.hhs.gov

**Career overview:** I have enjoyed a gratifying 31 years of uninterrupted Federal Government employment, beginning with the awarding of a competitive National Institute of General Medical Science (NIGMS/NIH) Postdoctoral Research Associated Training (PRAT) fellowship on the NIH intramural campus in Bethesda, MD. After completing my post-doctoral fellowship, I moved across campus to the US-FDA/CBER, first as a hybrid bench scientist (biochemical signaling, neurotrophic factors)/regulatory reviewer, to a full-time regulatory reviewer of applications for first-in-human use of cell-based therapies. My intra-CBER recognized expertise is cellular products derived from pluripotent stem cells. Selected FDA career highlights include: (1) organizing a seminal advisory committee meeting on the topic of stem cell-based treatments for neurological indications, (2) serving as FDA liaison to the NIH Stem Cell Task Force, (3) representing FDA at the First Annual Stem Cell Research Forum of India (Bangalore), (4) authoring a perspective on FDA regulation of stem cell-based products for the journal, SCIENCE, and (5) lunching privately with former FDA Commissioner Robert Califf, sharing with him our office’s approach to the regulation of stem cell-based products.

**Favorite UMN memories:** Fond recollections of my years spent in training at UMN Department of Pharmacology include toasted turkey subs from the now-closed Big 10 Bar and Grill, hall hockey with my two-year-old son in the former Owre Hall, playing intramural co-rec softball and volleyball with fellow students and staff, a tall stack of blueberry pancakes from Al’s Breakfast in Dinkytown, season tickets to watch Golden Gopher hockey in the old Mariucci arena, and the 1985 Ice Palace at the St. Paul Winter Carnival. My most indelible and enduring memories are of the mentorship, guidance, support, advocacy and friendship of my thesis advisor, the late Bernard (Bernie) Mirkin, MD/PhD.
Ekaterina (Posokhova) Allen

UMN training period: 2007 - 2012 (PhD)

Current position/title(s): Regulatory Project Manager & Reviewer

Current agency: US Food and Drug Administration

Email: Ekaterina.Allen@fda.hhs.gov

Career overview: After my graduation, I took a postdoctoral position at the National Cancer Institute (NCI) in Fort Detrick, MD. It provided me with cancer research experience, an eligibility requirement for Interagency Oncology Task Force Fellowship (NCI-FDA), which I received in 2015. The fellowship combined bench research with regulatory review at FDA and was designed as a segue into a regulatory career. As a reviewer, I applied my knowledge of laboratory techniques and scientific method to ensure that manufacturers met regulatory requirements and could consistently make safe and effective pharmaceutical products. I loved it! The culture at the Agency is very collaborative and mission-driven, so taking a full-time regulatory position there was a no-brainer. In my current role, I do some equipment and facilities review, however, my primary responsibilities are planning and coordinating review team activities, oversight of drug and device submissions management, conducting formal industry meetings and all other communications with industry applicants. As I am transitioning into full-time review early next year, I will start doing pre-approval and pre-licensing inspections of manufacturing facilities as well.

Favorite UMN memories: My first year at UMN I lived in the Cedar-Riverside neighborhood, which is a memory in itself! Every day on my way home, often at sunset, I got to enjoy the fantastic view of downtown Minneapolis from the Washington Avenue Bridge. The view is stunning no matter the weather, but it gets truly magical when it snows. —Ekaterina (Posokhova) Allen

Every day on my way home, often at sunset, I got to enjoy the fantastic view of downtown Minneapolis from the Washington Avenue Bridge. The view is stunning no matter the weather, but it gets truly magical when it snows.

—Ekaterina (Posokhova) Allen

Kelsey Mirkovic

UMN training period: 2009 - 2012 (PhD)

UMN advisor: Dr. Kevin Wickman

Current position/title(s): Strategic Information Branch Chief, Division of Global HIV & TB

Current Agency: Centers for Disease Control and Prevention/CDC-Zimbabwe

Email: kmirkovic@cdc.gov

Job summary: I started my career with CDC as an Epidemic Intelligence Service (EIS) Officer in 2013 working to improve domestic and international infant and young child feeding practices. While pursuing this fellowship pivoted from my thesis work, which focused on understanding the contributions of inwardly rectifying potassium channels to the reward pathways, I was able to capitalize on my critical thinking and writing skills as I gained experience in applied epidemiology. During this time, I was heavily involved with the 2014-2016 Ebola response where I deployed to Guinea, Senegal and Geneva (WHO) mostly in support of efforts to conduct or guide contact tracing of Ebola-exposed persons. After completing my EIS Fellowship, I joined the Division of Global HIV & TB as a Technical Advisor for Pediatric HIV Care & Treatment. In that role, I focused on improving pediatric HIV treatment regimens and coverage of early infant HIV testing in sub-Saharan African, working closely with WHO and other international organizations. In an effort to move more closely serve those infected and affected with HIV in sub-Saharan Africa, my family and I relocated to Botswana in 2016 where I worked as the Senior Advisor for Epi Analysis and Data Use. We recently moved to Zimbabwe where I now work as the Strategic Information Branch Chief. My branch aims to use program, survey, and epidemiological data to ensure our efforts to improve HIV treatment and care are working well and moving Zimbabwe toward control of their HIV epidemic.

Favorite UMN memories: One memory of my time with UMN that always brings a smile to my face occurred during my thesis defense. About half-way through the presentation, the fire alarm went off. It hadn’t been announced as a drill, so we had to evacuate the building and wait for the firefighters to certify the building as safe. Luckily, there was no fire and the cause of the alarm was unknown. By the time everyone was back in the conference room, there was only about 5 minutes left to complete my presentation, and many people went straight back to their offices. As a result, I had only a few tough questions before the closed-door defense!

About half-way through the [thesis] presentation, the fire alarm went off. It hadn’t been announced as a drill, so we had to evacuate the building and wait for the firefighters to certify the building as safe. ... As a result, I had only a few tough questions before the closed-door defense!

—Kelsey Mirkovic
We are very grateful for the generous contributions our department received in 2018!

These gifts will enhance our ability to fund research professorships, recognize our deserving trainees and alumni with awards, provide travel fellowships that support attendance and participation of our trainees at scientific conferences, and help fund pilot research projects. If you find yourself in a position to give, we ask that you consider donating to one or more of the funds that support distinct aspects of our mission:

**PHARMACOLOGY BASIC SUPPORT FUND**
To provide support for educational and research programs, faculty and staff members, and equipment purchase in the Department of Pharmacology

**BEN G. ZIMMERMAN FELLOWSHIP IN INTEGRATIVE PHARMACOLOGY**
To provide support for fellowships in the name of Ben G. Zimmerman, for students in the Graduate Program in Pharmacology who employ integrative pharmacology approaches in their research

**FREDERICK E. SHIDEMAN FUND**
To provide support to recognize the exceptional achievements of past and present trainees in the Department of Pharmacology

**SHIDEMAN-Sterling Visiting Professorship**
To promote the interchange of pharmacology knowledge between the Department of Pharmacology other colleges and universities

**DEPARTMENT OF PHARMACOLOGY FELLOWSHIP**
To provide support and recognize the achievements of outstanding students in the Graduate Program in Pharmacology

**NEUROPHARMACOLOGY RESEARCH FUND**
To provide funds to support research in the area of neuropharmacology, for use by faculty in the Department of Pharmacology

**GRADUATE EDUCATION FUND**
To provide support for research and education programs in the area of analgesic medicine, for use by members of the Department of Pharmacology

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