Greetings from the University of Michigan Department of Pharmacology. We have had yet another very successful year in our Department. I am excited to update you on our recent accomplishments and our plans for the future.

New faculty: Please join us in welcoming three outstanding new tenure track faculty members to our Department:

- Dr. William Birdsong: Dr. William Birdsong, the new faculty addition to the Edward F. Domino Research Center in the Department of Pharmacology, earned his Ph.D. in Neuroscience from Oregon Health & Science University in Portland under the mentorship of Dr. Edwin W. McIlway, where he investigated the role of ion channels in sensing ischemic pain using electrophysiological approaches. As a postdoctoral fellow in the laboratory of Dr. John Williams in the Vollum Institute at the University of Oregon, he investigated mu-opioid receptor trafficking and the molecular basis of opioid tolerance using electrophysiological and optical approaches. His current work involves optical imaging and electrophysiological characterization of mu-opioid receptor signaling and ligand binding. His research includes experiments designed to map brain circuits associated with acute and chronic pain using a combinatorial optogenetic approach. Using this approach, Dr. Birdsong is working to define cortical and midbrain circuits that are sensitive to opioids and their roles in sensing and alleviating pain. Dr. Birdsong was awarded a R01 from the National Institute on Drug Abuse (NIDA) in 2017 to investigate “Opioid control of midline thalamic and thalamic-cortical glutamate transmission,” and has transitioned this grant to the University of Michigan. This funded research project seeks to explore the brain regions that are involved in mediating affective pain perception and the specific sites of opioid action within this system, with the ultimate goal of providing a mechanistic basis of opioid-induced affective pain relief, contributing to our understanding of opiate addiction, and developing novel therapeutics to treat chronic pain.

- Dr. David Jones: Dr. David Jones earned his Ph.D. in the Department of Physiology and Kinesiology at Simon Fraser University in British Columbia under the mentorship of Dr. Gail A. Robertson in the Department of Neuroscience at the School of Medicine and Public Health at the University of Wisconsin where he investigated HIF2α channel activity as well as variants linked to human cardiac disease. Dr. Jones is recognized nationally for his research in the understanding of HIF2α protein in cardiac cellular physiology. His structure-function studies have provided some of the first definitive functional proof of an integral role of the HIF2α subunit in inward rectifier potassium current, IKr, in human cardiomyocytes. Most recently, Dr. Jones has conducted research using single chain Fv antibodies targeting the PAS domain of the HIF2α-1a subunit as a novel way of modulating channel gating. In addition, his work uses patient-derived pluripotent stem cell cardiomyocytes to link fundamental observations in ion channel biophysics with cardiac physiology and disease, with the ultimate goal of developing novel therapeutics.

- Dr. Kyoung Eun Lee: Dr. Kyoung Eun Lee earned her Ph.D. in Cellular and Molecular Biology under the mentorship of Dr. Dafna Bar-Sagi at New York University, where she explored the endogenous expression of oncopgenic Kras on pancreatic ductal epithelial cells and tumor immunization. Her thesis work provided evidence that, in the context of immunization, a well-established risk factor for pancreatic cancer, oncogen Kras can contribute to pancreatic tumor immunogenicity by protecting cells from antitumor senescence. As a graduate student, Dr. Lee developed and characterized a highly innovative three-dimensional cell culture system for the study of primary mouse pancreatic ductal epithelial cells. As a postdoctoral fellow, Dr. Lee developed a strong interest in the hypoxic tumor microenvironment and oncomucology. Her work revealed that pancreatic acinar cells of the submandibular gland constitutively exhibit high levels of HIF1α and B cells on tissue resiliency and the specific sites of pancreating cancer for the first time. Dr. Lee’s work also demonstrated the significant impact of HIF1α and B cells on tissue resiliency and the specific sites of pancreating inflammatory injury. Her independent research program at the University of Michigan will focus on defining the roles of hypoxia and B cells in inflammation and cancer of the pancreas to ultimately develop novel therapeutics.

As the year comes to a close and we take stock of the things we value, I ask you to reflect on the impact that your Michigan appointment, education, or training has had on your life and career. Please consider making or renewing a tax-deductible gift to one or both of our Department funds to help us continue our mission to provide national leadership in Pharmacology research and training.

- The Pharmacology Fellowships Fund -
  My goal is to endow doctoral education in Pharmacology by providing tuition and stipend support to all Ph.D. students in our Department who are not awarded a training grant or an individual fellowship following their first year of Program in Biomedical Sciences (PBS) support, or who need an additional year of support as senior students following training grant support. This funding mechanism will give students the freedom to work in any lab in the Department that best suits them, instead of being limited to only labs with sufficient funding and will be a particularly important factor in the success of our young faculty who are working toward promotion and tenure.

- Edward F. Domino Research Center -
  My goal is to make the Edward F. Domino Research Center sustainable beyond its initial start-up funds by creating a new endowment. Please consider supporting this critical new research initiative aimed at solving the national crisis of opioid misuse and addiction.

Thank you for considering a gift in support of Michigan Pharmacology. I love hearing from our alumni and I encourage you to share your ideas with me as we continue to move our Department forward.

Go Blue!

With kind regards,

Dr. Bill Pratt

Lori L. Isom, Ph.D.
Maurice H. Seegers Professor and Chair of Pharmacology

Lori L. Isom, Ph.D.

Building a Legacy of Communicators
By Way of Student Seminar Series

By Steve Fisher, Ph.D.

To the best of my knowledge, the student seminar series, Pharmacology 646, is the course that has endured the longest without any major change within our Department. It was already in full force when I joined the faculty in 1985 and had been initiated by Dr. Bill Pratt several years earlier. Much to his credit, Bill has remained very involved with the course since its inception and continues to be a driving force in support of its objectives of providing graduate students with training in both public speaking and analytical thinking.

The primary goal of these seminars is to provide training for students to help them become effective communicators. For students to succeed as scientists, they need to not only have good ideas but also the ability to write well and to be able to speak effectively in public. Within our Department, we provide students with training in both categories. Dr. Isom’s Pharmacology 502 class covers the elements of scientific writing and grant proposal preparation while the student seminar series provides training in public speaking.

In terms of organization, all students in the 2nd, 3rd and 4th years (and sometimes beyond) are required to present to the Department on an annual basis, with the most senior students being scheduled first. Usually students present the results of their own research work although there exists the option to present a published scientific paper. A week or two before the seminar, students practice their talk in front of one or more of the 4 course directors (Drs. Pratt, Holz, Otsuka and Fisher). Sometimes junior students will practice up to 3 times to make sure that they are fully prepared. During the seminar itself, students will often receive questions from faculty and students since we try to encourage a dialogue between the speaker and the audience. After the seminar, the course Directors meet with the student to provide constructive feedback. While we are not reluctant to point out any shortcomings, we also praise the positive aspects of the talk. What we find over the 3 years is that students gain substantially in self-confidence and become very effective public speakers. Since I have been a faculty member at Pharmacology 646, we have heard from many of our alumni as to how much they valued it and how beneficial this course has been to their careers.

On a final note, I personally consider that one of the most worthwhile features of the Seminar Series is that through the student presentations, each year we are reminded of the great diversity of research that is underway in our Department. This undoubtedly constitutes an important part of the educational experience for our graduate students.
By Nicholas Denomme

Welcome New Faculty

I’m most excited about the environment in the department. Everyone has been helpful answering questions and steering me in the right direction. I’m looking forward to working with everyone in the Domino Center and the department as a whole and think the collaborative environment and broad range of expertise in the department will be great for that.

Education and Training:
Post doctoral Fellow, Neuroscience, Oregon Health & Science University (OHSU), OR, 2008 - 2014
Ph.D., Neuroscience, Oregon Health & Science University, OR, 2008
B.S., Biochemistry, University of Oregon, OR, 2000

Previous Appointments:
Research Assistant Scientist, OHSU, 2017-2018
Research Assistant Professor, OHSU, 2014-2018

Dr. Birdsong’s research interests are in the areas of 1) dynamics of opioid receptor signaling; 2) functional anatomy of thalamo-cortico-striatal pain circuitry; 3) drugs of abuse; and 4) electrophysiological study of ion channels and circuits

Select Grants, Honors, and Awards:
National Institutes of Health, F32 Award, 2016-2020
Tartar Trust Fellowship, Oregon Health & Science University, 2008

I am excited to launch my independent career in such a spectacular environment. Never in my wildest dreams did I think I would have the opportunity to work with such esteemed and accomplished colleagues!

Education and Training:
Postdoctoral Fellow, Neuroscience, University of Wisconsin, Madison, WI, 2012-2018
Ph.D., Biomedical Physiology and Kinesiology, Simon Fraser University, Coquitlam, BC, Canada, 2012
B.Sc., Biological Sciences, Utah State University, Logan, UT, 2006

Dr. Jones’ research interests are in the areas of ion channel biophysics in cardiac physiology. Specific focal areas are a) ion channel structure and function; b) developmental cardiac biology and electrophysiology; c) mechanisms of cardiac arrhythmia and disease; and d) stem cell biology to study cardiac physiology and disease.

Select Grants, Honors, and Awards:
National Institutes of Health, K99/R01 Pathway to Independence Grant, 2017-2021
Gordon Research Seminar: Ion Channels, Chair, 2016
Canadian Institutes for Health Research, Vanier Canada Graduate Scholarship, 2010-2012
Simon Fraser University Graduate Fellowship, 2008-2009

Patents:

Kyoung Eun Lee, Ph.D.
Assistant Professor of Pharmacology

I was a graduate student in Pharmacology at U-M back in the ’90s, and I have had the pleasure of collaborating with U-M professors over the last 15+ years while I was in the pharmaceutical industry - I collaborat ed with Rick Neubig on research related to RGS inhibitors, and John Traynor and I have been collaborating on allosteric modulators of opioid receptors since 2012. So I would say that I never really left!

“No need in bringing ‘em back cause they’re never really gone!” - Andy Williams, An Old Fashioned Love Song

The most exciting thing about returning to Michigan for me is the chance to work more closely with Professor Traynor and all of the tremendous faculty here. I see lots of therapeutic potential in much of the cutting-edge research that is going on here; and as a scientist who continues to be very focused on drug discovery, this makes U-M truly rich with opportunity!

Education and Training:
Postdoctoral Research Scientist, Eli Lilly and Company, Indianapolis, IN 2002-2006
Postdoctoral Research Fellow, Dept. of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN 2000-2002
Ph.D. in Pharmacology, University of Michigan Medical School, Ann Arbor, MI 2000
B.A., Psychology (with distinction and honors), University of Iowa, Iowa City, IA 1993

Patents:
N. Burford and A. Alt: “Positive allosteric modulators and silent allosteric modulators of the µ-opioid receptor.” Publication number: WO2014107344 A1

Michigan Pharmacology offers a unique take on multidisciplinary research. There is a highly collaborative and interactive environment at the University of Michigan so it is a great opportunity to work with renowned investigators and exceptional students.

Education and Training:
Postdoctoral Fellow, Cancer Biology, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, 2010-2018
Ph.D., Cellular and Molecular Biology, New York University, New York, NY, 2010
B.S., Biological Sciences, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, 2003

Dr. Lee’s research at Michigan will focus on defining the roles of hypoxia and B cells in inflammation and cancer of the pancreas to ultimately develop novel therapeutics.

Select Grants, Honors, and Awards:
Pancreatic Cancer Action Network-AAACR Innovative Grant (Co-I with Dr. M. Celeste Simon as PI), 2013-2015
Korea Science and Engineering Foundation Scholarship for Study Abroad, 2003 – 2005
Magnus Cum Laude in the Biological Sciences, KAIST, Korea, 2003
Korean Government Scholarship, Ministry of Science and Technology, 1999-2003

Andy Alt, Ph.D.
Director of Center for Chemical Genomics, Life Sciences Institute, Assistant Research Scientist of Pharmacology

Leadership Roles in Biotech and Pharma Industry
Arvinas, Inc., New Haven, CT 2016 –2017
Associate Director, Biology
Senior Research Investigator, Lead Discovery & Optimization
Senior Scientist, Biology
Pfizer, Inc., Ann Arbor, MI 2008 – 2007
Principal Scientist, Inflammation Biology

Williams, An Old Fashioned Love Song

Andy Alt, Ph.D. Assistant Research Scientist of Pharmacology

David Jones, Ph.D.
Assistant Professor of Pharmacology

Kyoung Eun Lee, Ph.D. Assistant Professor of Pharmacology

William Birdsong, Ph.D.
Assistant Professor of Pharmacology
Diversity in mentorship is presently an important matter for the department. When asked about the gaps in numbers of women and people of color who are students in graduate classes juxtaposed to the demographics of established Ph.D. and chair, Dr. Isom emphasized the importance and relevance of sufficient representation in these spaces in order to maximize an effective environment for all trainees and faculty. “Graduate school classes are overwhelmingly female, around 80%. At the grant stage, it’s then significantly reduced to 30% of women. At my stage, I am sometimes the only woman in a room of chairs. There’s a lack of critical mass of women in senior leadership. If you walk into a room and you’re greeted by leadership and there’s no one in the room that looks like you, the implicit message to you is that you don’t belong here and that there is no room in leadership for you.” Dr. Isom fondly speaks of fearless female scientists who have mentored her, including Dr. Sally Camper and Dr. Peggy Gnegy who have been trailblazers and opened many doors by their presence and example—Dr. Gnegy was the first female professor in the original Department of Pharmacology here at the University of Michigan. While the department has made substantial strides in increasing numbers, especially while Dr. Isom has been with the department as chair, she admits that there is still room for growth for women and scientists of color in dealing with barriers such as unconscious bias. “We must support each other!” Dr. Isom continues to emphasize how important it is to broaden the department’s legacy by continuing the department’s upward trend of diverse mentorship and effective training parallel to the continued expansion of the department’s scientific advancements. Dr. Gnegy adds that something she wishes to see more of in the future of the department is “diversity, it is key.”

The department is known now for its excellence in mentorship, but has long been known for a role leading in research excellence. Several faculty, including Dr. Emily Jutkiewicz, stated that this is what brought them to the University of Michigan. “I knew I wanted to come here for my doctoral work because of the long-standing history of excellent pharmacology, particularly behavioral pharmacology in the department,” Dr. Maurice Seavers, a former chair, started a number of research programs in the drug abuse and addiction field that were an attraction to Dr. Gnegy as well. Dr. Carrie Ferrario, Assistant Professor who also obtained her Ph.D. at the University of Michigan and has done postdoctoral studies in the department, emphasizes that there must be “substantive science to have something to talk about” that is paired with effective communication and mentorship. “I don’t think of science as separate from training. Training is an umbrella where lots of components fall (under the umbrella) including mentorship, effective communication skills, and great science. Dr. Gnegy speaks on the rapid growth of teaching such essential skills within the department as being helpful for faculty as well as students. It allows the faculty another way to mentor one-another, and to improve. Furthermore, it allows the students to experience more cohesive learning. Dr. Emily Jutkiewicz, Assistant Professor and co-director of Pharmacology 603, says on the legacy of the department’s research—“A goal of mine is to work to continue to expand this legacy of research… and going forward, I very much would like to see this united with clinical researchers to push forward the treatment options that are being investigated.” With new efforts from the university under President Schlissel’s leadership to unite clinical and basic science researchers, this may prove to be more easily achievable. Dr. Gnegy summarizes that well, in saying “I obviously enjoyed my time here—I stayed, didn’t I?”, and that she has some of her closest friends because of the department. The department is a close-knit community and our most recent and continued expansion in research, diversity & inclusion, as well as better teaching, training, and genuine mentorship for all is a true sign of the legacy continuing.

Congratulations!

Carole Parent and Peggy Gnegy named new AAAS fellows

In November 2018, Drs. Margaret (Peggy) Gnegy and Carole Parent were elected fellows to the American Association for the Advancement of Science (AAAS). They were elected based on their significant contributions to scientific discovery and exceptional mentorship of women in science.

Diversity in Michigan Pharmacology

By Gwen Burgess & Kaylin M. White

As the original Department of Pharmacology in North America established in 1891 by John Jacob Abel, our department here at the University of Michigan has exemplified a deeply effective legacy that has grown and diversified through the years. Dr. Lori Isom, current chair of the Pharmacology Department, who has been with the department since 1995 and was appointed as chair in the year 2015, speaks fondly and proudly of her experiences within her time here thus far. Dr. Isom, along with the rest of department, welcomes several new faculty members and a large cohort of masters and PhD students who will ultimately be major contributors to the future of the department’s legacy. When reminiscing on those who have contributed to her success through excellent mentorship, Dr. Isom recalls an experience at a professional development activity during a meeting for female senior faculty where they were asked to share their greatest achievements.

Dr. Sally Camper—the first female basic science chair of the medical school in which Dr. Isom is now the second—started to Lori that her proudest achievement was the people that she’s trained. Dr. Isom now agrees more than ever that this idea is “actually right—really, really right because we as scientists are standing on the shoulders of others. We are building this scientific body of knowledge while also changing the lives of our trainers.” Furthermore, Dr. Isom continues to explain that “our education mission, to me, is as important as our scientific mission. Not just didactic training, but training in mentorship” when asked what were some of the qualities she hoped the department could gain from recently hiring 12 new faculty members that are a diverse mixture of established and junior scientists. In continuing and broadening this legacy, it is imperative that the department has excellent training for both students and faculty. Dr. Margaret (Peggy) Gnegy, associate chair for education and mentor to many, says that when she began her role at the department, “mentoring of new faculty was not a focus.” The expansion of mentoring from not only students and postdocs but also to new faculty exemplifies the department’s commitment to leading through mentorship.

The Department of Pharmacology was first in the medical school to pilot the “Launch Committee”, an original idea from the NSF Advance Program. Dr. Isom defines this program as one that functions similarly to a thesis committee of a PhD student, but instead for new faculty. The chair and other members sit on the committee to meet regularly with the faculty member within their first year to “provide mentorship, to discuss hiring, grant writing, [and] the development of [the new faculty member]’s independent research program.” In addition to these skills, Dr. Isom notes that the program also provides resources for finding housing, childcare, and “all the little things that add up to big things that determine one’s success. We’re not letting anyone fall into the ocean. That’s not going to start here in pharmacology”. The sense of community in the department, Dr. Gnegy adds “has always existed”, and “each chair has brought something new to the department”.

Carole Parent and Peggy Gnegy, Ph.D. 29

Students

25

Primary Faculty

10

Administrative Staff

13

Masters Students

22

Postdoctoral Fellows

People in Pharmacology

Opposite page: Carrie Ferrario, Ph.D., Peggy Gnegy, Ph.D., Lori Isom, Ph.D., Emily Jutkiewicz, Ph.D.
New, innovative products come to the market through transla-
tional science research, often involving collaborations between
industry and university researchers. Among the trans-
lational scientists at Michigan Pharmacology are Drs. Michael
Holinstat and Raymond Adili. I had an opportunity to discuss
with these entrepreneurial researchers how they took basic sci-
ence from the bench to bedside.

Ongoing studies in the Holinstat lab revolve around platelets.
Platelets are cells responsible for forming thrombi, or blood
clots that prevent excessive bleeding and contribute to wound
healing. Researchers in the Holinstat lab seek to understand
signaling to and from platelets to describe the basic biology of
platelets better and to develop new therapies when plate-
let function goes awry. Holinstat started his group in 2009 at
Thomas Jefferson University with the goal of understanding the
mechanism of action of a high abundance enzyme in platelets—
12-LOX. In classic biochemistry, a golden ticket to character-
izing an enzyme, including 12-LOX, is a selective
inhibitor. 10 years ago, no such tool existed for 12-LOX.
Holinstat, therefore, collaborated with the National Center
for Advancing Translational Sciences (NCATS) to screen a library
of 553,000 compounds. The hard work paid off. The Holinstat
group identified ML355 as a selective 12-LOX inhibitor, which
was subsequently patented in 2012.

When Adili joined the lab in 2015, he used ML355 to demonstrate
the potential utility of 12-LOX in platelet activation using isolat-
ed human platelets. While this work answered the long-lasting
question regarding 12-LOX’s function, it was just the start of
pathbreaking discoveries made with ML355. Drs. Holinstat and
Adili went on to show that unlike existing anti-platelet drugs on
the market, selective 12-LOX inhibitors can block platelet acti-
vation without causing bleeding, one of the life-threatening side
effects of many other agents used to stop thrombus formation.
Given the critical role of platelet activation in the pathogene-
sis of numerous life-threatening disorders, they conceived that
ML355 could be used as an effective therapeutic strategy for
blood clotting related disorders.

This research success opened doors to further research fund-
ing as well as collaborations outside academia. While ongoing
experiments have been well-supported by numerous federal
research grants, Holinstat is also a recipient of multiple inter-
national and external innovative business grants. When asked
about the difference between these two funding sources, Holinstat
explained: “Generally, business grants are short-term and are
milestone driven. You must be ‘shovel ready’ with ‘go/no go’
experiments clearly defined. Unlike research grants, which are discovery based, business grants are more focused on devel-
ment, de-risking, and finding an unmet clinical need. Busi-
ness talks are not non-inferiority but superiority studies. You
have to unambiguously define why your approach is better,
identify the market size for the new application, current com-
petition for treatment, and how your therapeutic approach is
superior to what is currently available or being developed by
others.”

Motivation to cure HITT (Heparin-induced thrombocytopenia and
thrombosis), a disease caused by the increased bleeding risk in
patients on the blood thinner Heparin, has led Holinstat and
Adili to collaborate with a biotech start-up, Veralox Ther-
apoiesis, located in Frederick, Maryland, where Dr. Holinstat
serves at the Vice-President for Translational Research. Mul-
tiple resources at the University of Michigan have helped to
make this translation from bench side discovery to develop-
ment possible. When asked about his experience with Veralox
Therapeutics, Adili says: “As a scientist, (our research proj-
ects are) science-driven, but the interest in the business side
is very different. The Tech Transfer office at the University of
Michigan has guided (us) to understand the business side as
we work to bring our lead compound to the market.” In addition
to the Office of Tech Transfer Office, the Fast Forward Medical
Innovation (FFMI) program played a critical role in helping Ho-
linstat and Adili commercializing their scientific breakthrough.
These resources and others make it possible for biomedical
researchers at Michigan to be leaders in the field of transla-
tional research.

Holinstat, Adili, and others in their research group at Michigan
and Veralox Therapeutics continue to seek ‘healing through
discovery.’ When asked about the key to success in integrat-
ing basic science and innovation, Holinstat described a “30K
and 5-foot view.” He went on to explain: “The 5-foot view is
to perform the properly controlled experiments…The 30K view
is to see the clinical implication, or how this work could assist
in the clinic.” He went on to explain: “The 5-foot view is to
see the clinical implication, or how this work could assist
in the clinic.” Holinstat believes their efforts will lead to the first Phase 2 study targeting
12-LOX for the prevention of HITT. Successful completion of
these studies will enable the collaboration of a larger phar-
maceutical company to help bring this new approach into the
clinic and decrease the morbidity and mortality of HITT.

Advances in Entrepreneurship: Dr. Michael Holinstat and Dr. Raymond Adili

By Nancy Chandan

Above: Nancy Chandan, Nicole Michmerhuizen

Ram Kandaswamy (Postdoc, Traynor Lab), Postdoctoral Scientist Best Oral Presentation Award at ASPET.

Nicole Michmerhuizen (Student, Brenner and Carey labs), Margaret Ayers Host Award from Rackham Graduate School.

Amanda Davis (Student, Osawa Lab), Best Poster Award at the 10th International Conference on the Biology, Chemistry and Pharmacology of Nicotinamide Oxide in Oxford, UK.

Steve Fisher (Faculty), 2018 Rackham Master’s Mentorship Award.

Alexandra Bouza (Student, Isom Lab), NIH-NRSA F31 Predoctoral Fellowship. Awarded with a percentile score of 1.

Karl Link Early Career Investigator Award in Thrombosis.


Ram Kandaswamy (Postdoc, Traynor Lab), Postdoctoral Best Poster Award at the 29th Annual Albert J. Silverman Research Conference, Department of Psychiatry.

Amanda Davis (Student, Osawa Lab), Best Poster Award at the 10th International Conference on the Biology, Chemistry and Pharmacology of Nicotinamide Oxide in Oxford, UK.

Kevin Bohannon (Research Fellow, Holz Lab), Rackham Predoctoral Fellowship.

Amanda Davis (Student, Osawa Lab), Best Poster Award at the 10th International Conference on the Biology, Chemistry and Pharmacology of Nicotinamide Oxide in Oxford, UK.

Andrew Nelson (Student, Jenkins Lab), Rackham Predoctoral Fellowship.

Kevin Bohannon (Research Fellow, Holz Lab), Rackham Predoctoral Fellowship.

Amanda Davis (Student, Osawa Lab), Best Poster Award at the 10th International Conference on the Biology, Chemistry and Pharmacology of Nicotinamide Oxide in Oxford, UK.

Kevin Bohannon (Research Fellow, Holz Lab), Rackham Predoctoral Fellowship.

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identify the market size for the new application, current com-
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these studies will enable the collaboration of a larger phar-
maceutical company to help bring this new approach into the
clinic and decrease the morbidity and mortality of HITT.

Bench to Bedside Research Funding:

- NIH SBIR grant
- Mi-Kickstart early-stage funding
- Mi-TRAC mid-stage funding

Additional significant funding by the NIH for discovery re-
search.
Dr. Carole Parent Inaugurated as the first Lynne and Raymond Ruddon Professor of Cancer Biology and Pharmacology

By Song Chen and Cosmo Saunders, Ph.D.

Dr. Raymond W. Ruddon, M.D., Ph.D., graduated from the University of Detroit with a double degree in biology and chemistry and a goal of making the world a better place through healthcare. He decided that pharmacology would serve as the means of applying his love of chemistry to help others. To attain his goal, Dr. Ruddon entered the University of Michigan’s M.D.- Ph.D. program. During his time in graduate school, Ray met his future wife, Lynne Matthews Ruddon, who was at his side throughout the rest of his long and distinguished career.

Dr. Ruddon completed his Ph.D. thesis on the mechanism of nitrogen mustard, the first effective anticancer drug, in 1964 and, he earned his M.D. in 1967. He started his distinguished career at the University of Michigan in 1964 as an instructor of pharmacology and in 1980 was appointed as a full professor of pharmacology. He eventually published over 100 scientific papers and five books, with many faculty, mentoring, and administrative positions spanning academia, government, and private industry.

Dr. Ruddon and his spouse Lynne (now deceased) have for many years had a strong interest in facilitating cancer research and in seeing new research discoveries lead to better diagnosis and treatment of cancer patients. This led to the creation of the professorship upon Dr. Ruddon’s retirement.

The goals of the professorship are:
To support fundamental research in the field of cancer biology that has a clear goal of translating this research into advancing prevention, diagnosis, and treatment of cancer.

To facilitate collaborative research efforts among various disciplines that have impact on advancement of knowledge in cancer biology such as pharmacology, genetics, biochemistry, molecular biology, immunology, and bioinformatics.

To establish linkages between basic science researchers and clinical investigators such as joint lab meetings, co-investigatorships on grants, and joint publications.

Appointment of an outstanding research scientist who has demonstrated leadership in the above research efforts and who also has the qualities of an excellent teacher and collaborative colleague.

While perusing the many candidates to serve as the inaugural Ruddon Professor, Dr. Ruddon was caught by the resume of Dr. Carole A. Parent, Ph.D. and commented, “After reviewing the credentials of many candidates for the Ruddon Professorship, it was clear that Carole Parent was far and away the best candidate for the position. Her outstanding research will have a great impact on developing novel treatments for cancer. In addition, she is a superb teacher and a very considerate and collegial colleague. Her appointment as the first Lynne and Raymond W. Ruddon Professor of Cancer Biology and Pharmacology has been a great addition to the University of Michigan faculty.”

Dr. Parent’s lab moved to the University of Michigan last year after 17 years at the National Institutes of Health in Bethesda, Maryland. The Parent lab has made key contributions to our understanding of evolutionarily conserved cell signaling relays and how they contribute to cellular motility. These findings have far-ranging impacts on physiological processes such as develop- ment and immunity, but also represent targets for future development of novel ther- apeutic agents to treat cancer. Dr. Parent was appointed as the inaugural Lynne and Raymond W. Ruddon Collegiate Professor of Cancer Biology and Pharmacology on December 18, 2017.

Support Drug Misuse & Addiction Research at Michigan Pharmacology

Your donations fund the Edward F. Domino Research Center which uses pharmacology and related sciences to investigate and tackle the problems of drug misuse and addiction, initially aimed at the current opioid epidemic.

https://victors.us/dominoresearchcenter

Dr. Paul F. Hollenberg receives the 2018 ASPET Otto Krayer Award in Pharmacology

Dr. Hollenberg, Professor Emeritus and former chair of Michigan Pharmacology was nominated by Dr. Yoichi Osawa, Professor of Pharmacology for the Otto Krayer award. As shared in the ASPET awards article, Dr. Osawa considers Dr. Hollenberg as “the quintessential mentor”. He also said that “his career of leadership and service to ASPET and to the drug metabolism community is particularly exemplary. Most of all, if you ask anyone who knows Paul, they would all agree that he is a gentleman and a man of his word.”

“The Krayer Award given by The American Society for Pharmacology and Experimental Therapeutics (ASPET) in commeremorating the enduring legacy of Dr. Otto Krayer’s ethical behavior, commitment to teaching, high standards of scientific scholarship, publication and editorship, promotion of interdisciplinary research to reveal the actions of drugs or other chemicals, and his guidance and support of younger scientists.” - ASPET Scientific Achievement Awards Website.
Support Graduate Education at Michigan Pharmacology

Your donations fund learning and training opportunities for our outstanding graduate students, enabling them to advance their knowledge and enhance their skills in basic science research in varied and complex areas of study.

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