

Carver College of Medicine Celebrates Sesquicentennial Anniversary



Iowa State University - 1870

Throughout the 2020-2021 academic year, the Roy J. and Lucille A. Carver College of Medicine is celebrating the 150th anniversary of medical education at the University of Iowa. In what was then the “Medical Department of Iowa State University,” the first medical school classes were held in 1870, with thirty-seven students including eight women enrolled – making Iowa one of the first co-educational medical schools in the nation. With a course on drugs called “Materia Medica” taught by Dr. Philo Judson Farnsworth “Chair of Materia Medica and Diseases of Children,” the

Department of Neuroscience and Pharmacology could be considered to share its origin with the Carver College of Medicine, and its long tradition of outstanding healthcare education.

Among events commemorating the anniversary is the *Sesquicentennial Virtual Lecture Series*, with the initial *Distinguished Lecture* already presented this past September by Dr. David Skorton, President and CEO of the Association of American Medical Colleges, former President of the UI, former faculty member in the CCOM, and an old friend of our department.

To view past and future *Sesquicentennial Virtual Lectures* see <https://medicine.uiowa.edu/150/events> (HawkID required). To read more about *Sesquicentennial Celebration* see <https://medicine.uiowa.edu/150>.

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Potthoff receives Roy. J Carver Endowed Professorship



It is our great pleasure to announce that **Matthew Potthoff, Ph.D.**, Associate Professor in the Department of Neuroscience and Pharmacology, the Fraternal Order of Eagles Diabetes Research Center, and the Iowa Neuroscience Institute, has been named the recipient of the *Roy J. Carver*

Endowed Professorship in Neuroscience and Pharmacology as a recognition of his outstanding academic achievements and contributions to the College. Potthoff's research explores how peripheral hormonal cues signal to the brain to control body weight and blood glucose levels. His research has been published in top-ranked journals, and his work is internationally recognized for its impact on our understanding of the endocrine control of metabolism. Dr. Potthoff also serves as the Director of the Molecular Medicine Graduate Program at the University of Iowa Carver College of Medicine.

Please join us in congratulating Matt on this outstanding career accomplishment!

Hammond named Roy J. Carver Chair in Iowa Neuroscience Institute



We are delighted to announce that **Donna Hammond, Ph.D.**, Professor of Anesthesia and of Neuroscience and Pharmacology, has been named the *Roy J. Carver Chair in the Iowa Neuroscience Institute*. Dr.

Hammond's recognition honors her outstanding academic achievements and contributions to the Carver College of Medicine and Iowa Neuroscience Institute. Dr. Hammond studies the neurobiology of the central and peripheral nervous system pathways that convey pain. Her lab is currently focused on understanding the mechanisms that contribute to the sensory consequences of chemotherapy, such as numbness, tingling, and shock- or burning-like pain, which patients experience both during and after chemotherapy. Hammond's extensive publication and citation record reflect both the high quality of her scholarship and the

recognition of her peers. She is Vice Chair for Research in the Department of Anesthesia and a member of the Holden Comprehensive Cancer Center. In 2020 she earned a *UI Diversity Catalyst Award* for her efforts to promote an inclusive campus community.

Our congratulations to Donna on this prestigious honor!



An Amish Couple Returning Home in a Horse-buggy

For the second consecutive year, Neuroscience and Pharmacology graduate student **Chandra Kumar Maharjan (D. Quelle lab)** won First Prize in the "Exploring Local Cultures" category in the UI International Education Week photo contest. Chandra "picked up" photography as a hobby only three years ago, but certainly seems to have learned fast! Congratulations to Chandra! (See a full-size version of Chandra's photograph and those of the 120-plus semi-finalists at <https://www.flickr.com/photos/international-programs/albums/72157716284437642>.)

Postdoctoral scholars to start new seminar program

In the interest of fostering their own career development and disseminating their science, Neuroscience and Pharmacology postdoctoral scholars and graduate students are organizing a new workshop/seminar program to better engage them with peer scientists within and outside the University. Spearheaded by postdoctoral scholars **Kyle Flippo, Ph.D. (Potthoff lab)**, **Chian Ju Jong, Ph.D. (Strack lab)**, **Paul Williams, Ph.D. (Rahmouni lab)**, and **Gary Deng, Ph.D. (Cui lab)**, the new on-line seminar series will feature both career development and scientific presentations. Invited speakers will include postdocs and grad students from Neuroscience and Pharmacology, other

(continued below, see *New seminar series*, page 7)

Neuroscience & Pharmacology CONGRATULATIONS

Junior faculty receive first R01s



We are excited to announce that two of our newest Neuroscience and Pharmacology faculty, Assistant Professors **Deniz Atasoy, Ph.D.** and **Catherine Marcinkiewicz, Ph.D.**, have each been awarded their first National Institutes of Health (NIH) R01 grant! While both had already obtained significant research funding since joining the department in 2018, obtaining an R01 grant as “Principal Investigator” has been traditionally considered a pivotal step in the scholarly development of new faculty and is certainly an occasion for celebration.



Deniz received his five-year \$1.9 million R01 grant for

a project entitled “Targeting Ascending Catecholamine Pathways to Prevent Hypoglycemia.” Its goal is to identify brain circuits that protect against hypoglycemia and determine the mechanisms underlying blunted glucose counter-regulation, a potentially deadly condition that people with diabetes are prone to develop. Catherine’s R01 entitled “Alcohol and the Serotonin System in the Progression of Alzheimer’s Disease” is also a five-year \$1.9 million grant, the goal of which is to elucidate the neural circuits underlying the progression of tau pathology and neurodegeneration in alcohol dependence.

Since joining our faculty, both Deniz and Catherine have aggressively sought extramural funding for their work and have multiple grant applications currently under review. Please join us in congratulating Deniz and Catherine on their first R01s!

Mitochondrial Disease Expert Vamsi Mootha Presents 2020 Michael J. Brody Lecture



The 2020 Michael J. Brody Lecture was delivered this past October by the distinguished **Dr. Vamsi K. Mootha, M.D.**, Investigator of the Howard Hughes Medical Institute and Professor of Systems Biology and of Medicine at Harvard Medical School. Dr. Mootha joined the impressive list of scholars who have presented the annual *Brody Lecture*. The lecture honors **Dr. Michael J. Brody**, a longtime Professor of Pharmacology who was an esteemed cardiovascular researcher, an outstanding educator and mentor, and a leading voice in university governance. Now part of the *Distinguished Biomedical Scholar Lecture Series* of the Carver College of Medicine, the lecture has been a signature event in the department since its inception in 1993, with the lecturers all chosen by Neuroscience and Pharmacology graduate students.

Dr. Mootha received his B.S. (with honors, with distinction) in Mathematical and Computational Science at Stanford University. He then received his M.D. (*cum laude*) from the Harvard-MIT Division of Health Sciences and Technology, where his thesis research focused on mitochondrial energetics. Following an internship and residency in Internal Medicine at Brigham and Women’s Hospital, he pursued postdoctoral training in genomics at the Whitehead Institute.

Dr. Mootha’s laboratory is based in the Department of Molecular Biology and Center for Genome Medicine at Massachusetts General Hospital. He leads a research team of clinicians, computer scientists, and biologists, who work collaboratively to elucidate the network properties of mitochondria, and how these properties go awry in human disease. His work has led to the discovery of nearly twenty Mendelian disease genes, the discovery that mitochondrial dysfunction is associated with the common form of type 2 diabetes mellitus, and the elucidation of all of the molecular components of the mitochondrial calcium uniporter. His team has also developed computational tools widely used in biomedical research.

Dr. Mootha has received a number of honors, including a *MacArthur Foundation Fellowship*, the *Judson Daland Prize* of the American Philosophical Society, the *Keilin Medal* of the Biochemical Society, a *Padma Shri* from the Government of India, and election to the National Academy of Sciences.

To read more about the Michael J. Brody Lecture, see <https://medicine.uiowa.edu/neuroscience-and-pharmacology/news-events/michael-j-brody-memorial-lecture>.

CONGRATULATIONS

Jon Resch joins Neuroscience and Pharmacology faculty



We are very pleased to introduce **Dr. Jon Resch, Ph.D.** as our newest faculty member! Dr. Resch performed his dissertation studies in the laboratory of Dr. SuJean Choi at Marquette University, receiving a Ph.D. in Neuroscience in 2014, and did subsequent postdoctoral work under the direction of Dr. Bradford Lowell at Beth Israel Deaconess Medical Center. His Assistant Professor appointment formally beginning on January 31 of this year, Dr. Resch was a joint recruit of Neuroscience and Pharmacology and the Iowa Neuroscience Institute.

Resch's research aims to uncover the neural mechanisms underlying the homeostatic regulation of appetite and cardiometabolic physiology. To do so, he uses genetically engineered mouse models and Cre-dependent AAVs to specifically map neuronal circuits as well as manipulate and record their activity in order to define function. His work exploits a variety of modern neuroscience tools including chemogenetics, channel-rhodopsins, genetically encoded calcium indicators, and modified G-deleted rabies viruses in behavioral, hormonal, electrophysiological, and anatomical circuit mapping studies. Recently, he has applied these methodologies to investigate adrenal steroid hormone influences on appetite, defining a role for hindbrain aldosterone-sensing neurons in sodium appetite and demonstrating that glucocorticoids stimulate hunger through direct activation of hypothalamic AgRP neurons. He is also interested in the discovery of previously unidentified, genetically defined neuronal subtypes within the hypothalamus and brainstem that regulate energy and fluid balance. His plan to combine the use of next generation sequencing, transgenic mouse engineering, physiology and behavior is well suited for mechanistic investigation of neural circuits regulating appetite, metabolism, and endocrine function.

Dr. Resch's research has already been extremely productive having resulted in over twenty published manuscripts. He is currently funded by an NIH R00 *Pathway to Independence Award*. A native of Wisconsin, Jon is an avid Milwaukee Brewers fan, who in his free time enjoys walks with his wife Jess and dog Annie, and summer music festivals! Join us in welcoming Dr. Jon Resch to the department!

Trainee achievements

We would like to recognize students training in Neuroscience and Pharmacology-affiliated laboratories for their many recent awards and accomplishments:

Molecular Medicine 2020 Virtual Retreat – Travel Awards:

- **Mackenzie Spicer** (Molecular Medicine, **Fisher lab**) – Oral Presentation Winner
- **Qierra Brockman** (Molecular Medicine, **Dodd lab**) – Poster/Slam Slide Presentation Winner
- **Nathan Witmer** (Molecular Medicine, **Boudreau lab**) – Poster/Slam Slide Presentation Winner

2020 HCCC “Virtual” Research Retreat:

- **Jordan Kohlmeyer** (Molecular Medicine, **D. Quelle lab**) – Best Presentation Award - Cell Pathways Section

AAAS/Science Program for Excellence in Science:

- **Mackenzie Spicer** (Molecular Medicine, **Fisher lab**) – AAAS Membership Award

Dean's Award for Biomedical Graduate Studies:

- **Benjamin Kelvington** (Pharmacology, rotating)

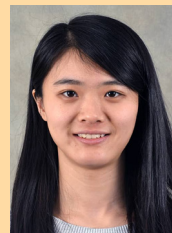
Biomedical Science Program Graduate Student Ambassador Program invitees:

- **Cierra Boyer** (Pharmacology, **Stephens lab**)
- **Qierra Brockman** (Molecular Medicine, **Dodd lab**)
- **Emese Chmielewski** (Pharmacology, **Strathern lab**)
- **Yue Deng** (Pharmacology, **Cui lab**)
- **Erica Gansemer** (Cell and Developmental Biology, **Rutkowski lab**)
- **Alex Keyes** (Pharmacology, **Usachev lab**)
- **Tam Nguyen** (Pharmacology, **Usachev lab**)
- **Mackenzie Spicer** (Molecular Medicine, **Fisher lab**)

Trainees featured on 2021 Dare to Discover Banners



Rachel Crawford (top), a Medicinal and Natural Products Chemistry graduate student working in the Doorn lab and Pharmacological Sciences Training Program appointee, and **Mengya Wang** (bottom), a Pharmacology graduate student working in the Russo lab, will be featured in the **UI 2021**



Dare to Discover banner campaign. Read their profiles and their thoughts about science at <https://dare.research.uiowa.edu>. Their stories are also shared on social media using the hashtag #DiscoverUI.

Congratulations to Rachel and Mengya!

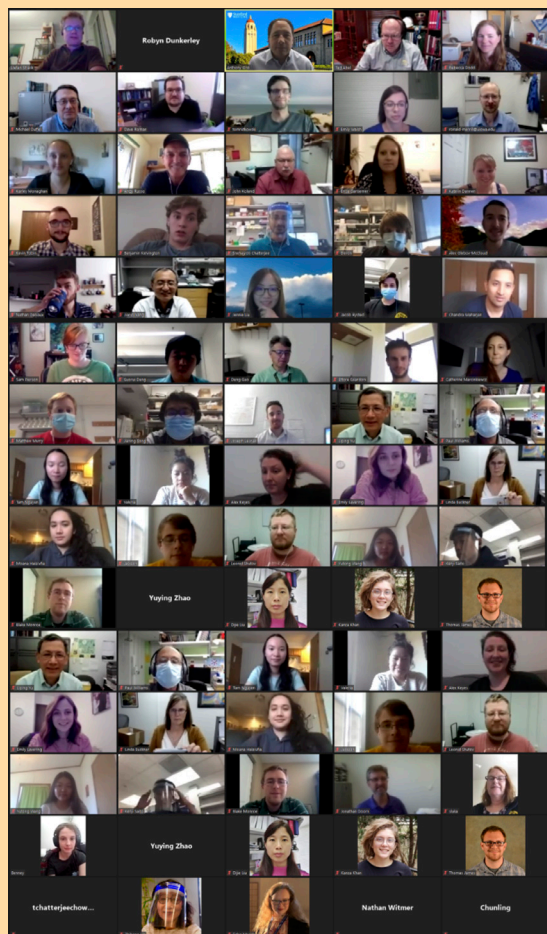
Neuroscience and Pharmacology **TRAINEE NEWS**

Pharmacological Sciences training grant appoints new trainees

Valeria Cota (Human Toxicology, Brogden lab), **Alex Glebov-McCloud** (Molecular Medicine, **Strack** lab), Moana Hala'ufia (Medicinal and Natural Products Chemistry, Roman lab), **Samantha Pierson** (Neuroscience, **Marcinkiewicz** lab), **Conner Laule** (Pharmacology, **Rahmouni** lab), and Nathan Whitmer (Molecular Medicine, Boudreau lab) were recently appointed to the Pharmacological Sciences Predoctoral Research Training Program. Students reappointed for 2020-2021 include Qierra Brockman (Molecular Medicine, Dodd lab), Erica Gansemer (Cell and Developmental Biology, Rutkowski lab), Emily Laverling (Biochemistry, Weeks lab), and Joe Lesnak (Physical Therapy and Rehabilitation Science, **Sluka** lab). Funded by an NIH T32 training grant with additional institutional support and administered by the Department of Neuroscience and Pharmacology (PI **Stefan Strack**), the program provides two years of stipend and tuition support for its trainees. Congratulations to all of the 2020-2021 appointees!



2020-2021 Pharmacological Sciences Training Program Trainees
Top row: Valeria Cota (Brogden lab), Alex Glebov-McCloud (Strack lab), Moana Hala'ufia (Roman lab), Samantha Pierson (Marcinkiewicz lab), and Connor Laule (Rahmouni lab); Bottom row: Qierra Brockman (Dodd lab), Erica Gansemer (Rutkowski lab), Emily Laverling (Weeks lab), Joe Lesnak (Sluka lab), and Nathan Witmer (Boudreau lab).



Joint research retreat virtually amazing!

The annual joint research retreat of the Pharmacological Sciences Training Program, the Department of Neuroscience and Pharmacology, and the Department of Pharmaceutical Sciences and Experimental Therapeutics was held virtually this past August. The very full slate of activities included nearly forty oral presentations given by students, postdocs and faculty, which were held in seven parallel Zoom breakout sessions organized by topic area. Two outstanding keynote addresses were delivered by **Lydia Finley, Ph.D.** of the Memorial Sloan Kettering Cancer Center Cell Biology Program, who spoke on "Metabolic Coordination of Cell Fate Decisions" and **Anthony Oro, M.D., Ph.D.** of the Maternal and Child Health Research Institute and Center for Definitive and Curative Medicine at Stanford University, who spoke on "The Nuclear Option: New Mechanisms of Tumor Evolution and Drug Resistance." Trainees especially appreciated a virtual Career Development Luncheon featuring seven Pharmacological Sciences Training Program alumni employed across academia and industry.

This year we are particularly grateful for the efforts of **Linda Buckner** and **Lisa Ringen** in our office, who negotiated the challenging logistics of a large virtual event! We give special thanks to our keynote speakers, **Drs. Lydia Finley** and **Anthony Oro**, and our alumni panelists, **Drs. Elizabeth Boehm, Lucas BonDurant, Laurie Davenport (Eckert), Justin Drake, Amanda Fenner, Jacqueline Reilly** and **Kevin Tidgewell**, the presence of whom added much to the experience for our trainees. We lastly thank all in attendance for their enthusiastic participation, which made the Pharmacological and Pharmaceutical Sciences Research Retreat of 2020 the great success it was!

Here's to the hope that we will next year meet in person!

THE FUNDING STREAM

Recent Neuroscience and Pharmacology grant awards

The vigorous efforts of Neuroscience and Pharmacology faculty and trainees to procure funding for their research continues to be well rewarded. Since our last issue, a healthy number of significant grants were awarded, with our faculty doing especially well in procuring new NIH grants. Two junior faculty were just awarded their first NIH R01 grants, and our newest recruit successfully converted a previous NIH K99 *Pathway to Independence Award* to an R00 grant (see stories pages 3 and 4). This success in obtaining funding is a consequence of an impressive number of grant applications being submitted by our faculty and trainees in each grant cycle, as well as the meritorious efforts of our administrative and staff in orchestrating many often simultaneous submissions. Our burgeoning funding reflects the continuing expansion of our research portfolio and the volume and quality of the research ongoing in Neuroscience and Pharmacology!

Trainee fellowship and grant awards

UI Graduate College Predoctoral Fellowship Award

Chandra Maharjan (Graduate Student, D. Quelle Lab)

Ballard Seashore Dissertation Fellowship – Spring 2021 semester

Faculty grant awards

Intramural Grant Awards to Neuroscience and Pharmacology Faculty

Songhai Chen (Associate Professor)

Oberly Seed Grant (HCCC) – Repurposing an FDA-approved, Anti-cancer Drug to Treat Triple-Negative Breast Cancer (TNBC), \$20,000

Extramural Grant Awards to Neuroscience and Pharmacology Faculty

Ted Abel (Professor)

US-Israel Binational Science Foundation – Behavioral and Cellular Characterization of a PRKAR1B Mutation Associated with a Neurodegenerative Disease, \$40,000

R01 Subcontract with Washington State University – Astroglial Mechanisms in Sleep Homeostasis, \$977,153
Fibrous Dysplasia Foundation (Gift), \$59,233

Deniz Atasoy (Assistant Professor)

R01 – Targeting Ascending Catecholamine Pathways to Prevent Hypoglycemia, \$1,931,250

Catherine Marcinkiewicz (Assistant Professor)

R00 Supplement – The Role of Serotonin Signaling in the Nucleus Accumbens in Excessive Alcohol Drinking, \$309,000

R01 – Alcohol and the Serotonin System in the Progression of Alzheimer's Disease, \$1,920,350

Matt Potthoff (Associate Professor)

R01 competing – Regulation of Energy Homeostasis by FGF21, \$2,096,528

R01 subcontract with Univ of Texas-Houston/Baylor - Metabolic Impact of FGF-21 in Adipose Tissue and Liver of PLWH, \$302,805

Dawn Quelle (Professor)

P50 supplement – Neuroendocrine Tumor Specialized Programs of Research Excellence (SPORE) in Human Cancer, Project 2 (HCCC), \$116,999

P01 Supplement/Mezhir Award, Project 2 (HCCC), \$15,355

John Resch (Assistant Professor)

R00 – Central Regulation of Sodium Appetite via Synergistic Action of RAAS-sensitive Neurons, \$747,000

Stefan Strack (Professor)

ARSACS Canada Foundation – \$71,750

NEUROSCIENCE & PHARMACOLOGY

NEW STUDENT WELCOME!

Introducing Our New Students!!

Neuroscience & Pharmacology News welcomes six predoctoral trainees who are newly affiliated with our department! Their names, former institutions, graduate degree programs, and thesis advisors are:



Chunling (Ling) Chen
Huazhong University of Science and Technology, Human Toxicology Strack lab

Alexander (Alex) Glebov-McCloud
Grinnell College
Molecular Medicine, Strack lab



Benjamin (Ben) Kelvington
Augustana University
Pharmacology, rotating

Samantha (Bral) Pierson
University of Iowa
Neuroscience, Marcinkiewicz lab



Yann Vanrobaeys
Université de Sherbrooke (Canada)
Genetics, Abel lab

Yutong Wang
University of Southern California,
Los Angeles, Pharmacology, rotating



Please join us in welcoming these **AWESOME** new students to our department and wishing them the best of luck with their careers!!!

New seminar series

(continued from page 2)

UI departments, and institutions outside the UI. Established scientists in academia and industry, including UI alumni, will give seminars/workshops specifically focused on career development.

The multi-faceted program is intended to broadcast the outstanding science being done by UI trainees to a wider audience, to develop connections with scientists at peer institutions, and to foster the career development of all participating trainees. We applaud our scholars for envisioning and implementing this new initiative, which we anticipate becoming a signature component of Neuroscience and Pharmacology training. For more information, or to express your interest in participating, please contact Kyle Flippo at kyle-flippo@uiowa.edu.

GIVING OPPORTUNITIES

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

[GIVING OPPORTUNITIES](#)

CONTACT US

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

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OUR APPRECIATION

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



Iowa State University Medical Faculty – 1870

A photo showing the founding Iowa Medical Faculty assembled in 1870. (Note the UI was then known as Iowa State University!) Seated first from left, **Dr. Philo Judson Farnsworth**, Chair of Materia Medica and Diseases of Children and instructor of Materia Medica, a precursor of what is now known as pharmacology. The photo was kindly provided by **Dr. Harold Williamson**, Professor Emeritus of Neuroscience and Pharmacology on the occasion of the Sesquicentennial Anniversary of the Carver College of Medicine.

UPCOMING EVENTS

Visiting Speaker Seminar Feb 23

Karen Ashe, MD, PhD
Professor, Department of
Neurology and Director
N. Bud Grossman Center for
Memory Research and Care
University of Minnesota

Careers in Drug Development Roundtable Mar 11

Bryan Cox, PhD
Adjunct Professor
Neuroscience and Pharmacology
Chief of Research
TriSalus Life Sciences

Visiting Speaker Seminar Mar 16

Erik Herzog, PhD
Professor, Department of Biology
Director, St. Louis Neuroscience
Pipeline Program
Washington University

Visiting Speaker Seminar Mar 23

Elena Chartoff, PhD
Associate Professor of Psychiatry
Director, Neurobiology of
Motivated Behavior Laboratory
Harvard Medical School

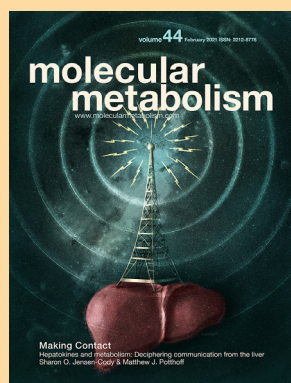
Visiting Speaker Seminar Apr 8

Mary T. Szela, BS, MBA
CEO and President
TriSalus Life Sciences

Visiting Speaker Seminar Apr 20

Matthew S. Gentry, PhD
Associate Professor of
Biochemistry, College of Medicine
University of Kentucky

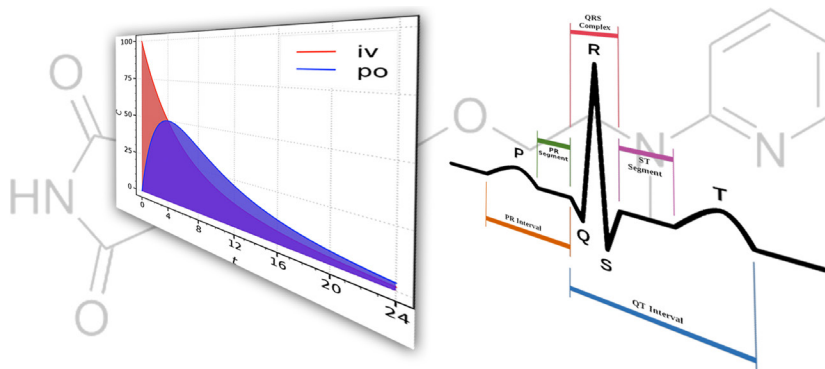
THEY MADE THE COVER!



The paper "Hepatokines and Metabolism: Deciphering Communication from the Liver" authored by **Sharon O. Jensen-Cody** and **Matthew J. Potthoff** will be featured on the February cover of *Molecular Metabolism*. A hearty congratulations to Sharon and Matt!



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