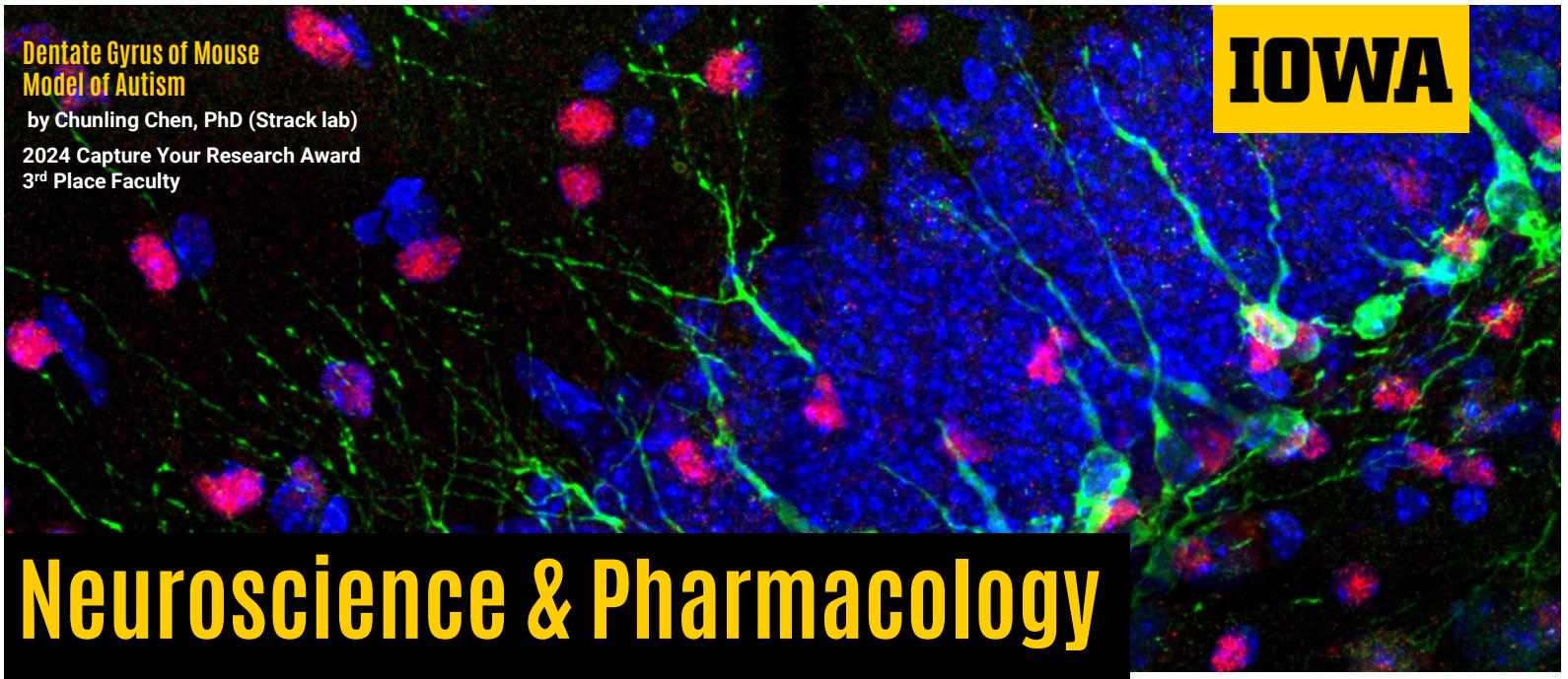


Dentate Gyrus of Mouse Model of Autism

by Chunling Chen, PhD (Strack lab)

2024 Capture Your Research Award
3rd Place Faculty

Neuroscience & Pharmacology

2024-25 Academic Year Newsletter

Message from the Chair

Ted Abel, PhD

Professor,
Neuroscience & Pharmacology

Greetings Alumni, Faculty and Friends,

As the Fall season approaches, it is a good time to reflect on the past academic year and take stock of our accomplishments. The following pages highlight our research achievements, education initiatives, faculty news, and student successes. We have much to be proud of!

Despite unprecedented funding challenges in the past year, our faculty competed successfully for grants and received over $12 million in new and renewed research support. The research efforts of our faculty and trainees generated 15 first-author papers in a range of top journals, including *Cell Reports* and *Molecular Psychiatry*. Throughout the year, our Education program hummed along, with more than 350 students enrolled (undergraduate, graduate, and professional) in our 16 courses. In recognition of our academic efforts, several of our faculty received prestigious college awards.

As we celebrate our past success, we look forward to a new year of opportunity. With it, we welcome new faculty (page 1) and students (page 8) to our growing department family.

Edwin (Ted) Abel, III

IN THIS ISSUE

Personnel

Research

Education

Connect with Neuro & Pharm pharmacology@uiowa.edu 319-335-7965 @IowaNeuroPharm

PERSONNEL

RETIRMENTS & HIRING INITIATIVES

Welcome & Farewell

Last year the department welcomed a new faculty member, Kelly Mulfaul, while also saying farewell to a dedicated longtime colleague Barry Kasson.

Learn More

WELCOME

Kelly Mulfaul, PhD

Assistant Professor
Neuroscience & Pharmacology

Kelly Mulfaul started as an Assistant Prof. in the Dept. of Neuroscience and Pharmacology in January 2025. Originally from Dublin, she received her BA and PhD from Trinity College. Prior to joining the dept., she was an Assistant Research Scientist in the UI Dept. of Ophthalmology.

Kelly's research interests lie in age-related macular degeneration (AMD), a leading cause of central vision loss in individuals over the age of 50. Currently, the treatment options for early AMD are limited, and no treatment prevents the progression of AMD to the sight-threating threatening, late-stage disease. Research in the Mulfaul lab is focused on identifying immune signaling pathways which can be targeted therapeutically to prevent progression of AMD. As Kelly explains, "We know that early in disease progression there are increased numbers of macrophages in human choroidal tissue. We are investigating the molecules responsible for recruiting macrophages to the choroid early in AMD. By identifying candidate immune signaling pathways, we will begin to elucidate whether modulating these pathways is protective or pathogenic, utilizing murine models of retinal degeneration." The Mulfaul lab recently received funding from the Edward N. & Della L. Thome Memorial Foundation, which supports research to improve therapies for individuals suffering from AMD.

Outside the research lab, Kelly enjoys time with her 5-month-old, Luke, and family stroller walks with their dog, Ollie.

FAREWELL

Barry Kasson, PhD

Associate Professor
Neuroscience & Pharmacology

After a distinguished 38 years of service at UI, Barry Kasson retired on Sept. 9, 2025.

A Californian by birth, Barry received his BA from the Univ. of California, Los Angeles, where he remained for both his MS and PhD (Pharmacology, 1982). Barry took a postdoctoral position in the lab of Dr. Aaron Hsueh at the Univ. of California, San Diego, where his research on reproductive endocrinology was funded by an NIH NRSA fellowship. He joined the UI Dept. of Pharmacology as an Assistant Prof. in 1986 and was promoted to Associate Prof. in 1996. Immediately following this promotion, he pursued a year of sabbatical studies at the Fred Hutchinson Cancer Res. Center, Seattle. Barry's UI research accomplishments include the discovery of a novel splenocyte-derived role that stimulates steroidogenic enzyme activities in ovarian cells.

During his tenure at the UI, Barry's role gradually transitioned from that of a researcher to that of an educator, as he assumed a wide variety of classroom teaching and educational leadership responsibilities. Barry was an indispensable lecturer in dept. pharm. courses and served as director of several dept. courses, including the Pharm. for Nurse Anesthetists course, which he developed.

As the long-time director of Pharm. for Med. Students, Barry played a significant role in the recent revision of the med. curriculum, ensuring that crucial pharm. content would be appropriately retained and presented in the new organ/systems-based curriculum. He also served for several years as course director in the Mechs. of Health and Human Disease IV within the med. curriculum.

Given his long-standing commitment to the dept's. educational mission, Barry was appointed Associate Chair for Education in 2011, a position held until his retirement. In this role, Barry coordinated all dept. course instruction and facilitated the introduction of new faculty to their teaching roles. Other key leadership contributions include Barry's 15-year service as the Pharm. DGS, and most recently his efforts in developing, along with Dr. Katelin Dannen, two new undergraduate Pharm. courses bolstering the dept's. undergrad. educational mission. Barry's teaching efforts were recognized by multiple teaching awards, including the prestigious CCOM Collegiate Teaching Award (2014-15).

Barry was a trusted and valued colleague who made exemplary contributions to UI through his dept. and collegiate roles. Through it all, Barry demonstrated a strong and sincere commitment to the education and service pillars of faculty life. To those who worked with Barry, his concern and compassion for students was clear. He was also an outstanding departmental citizen, generously assisting his colleagues young and old in any way he could. We will miss Barry's quiet and patient leadership, but if you're lucky, you might still bump into him on the second floor of BSB!

Faculty Search

With a goal of recruiting 3 new faculty, the Dept. Search Committee was hard at work this past year identifying and interviewing potential candidates. Concurrently, the Center for Neurodegeneration conducted a search for a new faculty member whose primary appointment would be in the Dept. of Neuroscience & Pharmacology. The two searches combined brought 9 candidates to campus for interviews in spring 2025, and at the time this newsletter went to press, 2 offers had been extended and 2 accepted! We are thrilled to announce that Dr. Taylor Jay and Dr. Dionéia Araldi will join the Dept. as Assistant Professors in FY26. Stay tuned for more developments!

Taylor Jay, PhD

Taylor Jay currently a Postdoc Fellow at Oregon Health & Sci University, will join the Dept in January 2026. Her research interests lie in synapse homeostasis.

Dionéia Araldi, PhD

Dionéia Araldi currently an Assoc. Professional Researcher at UCSF, will join the Dept in May 2026. Her research interests lie in chronic pain mechanisms.

PERSONNEL **PROMOTIONS & AWARDS**

Thank you for all you do

Our faculty and students have been busy earning recognition for their excellent work. Take a look at what they've been up to during the past year…

Promotions

Deniz Atasoy, PhD

Associate Professor,
Neuroscience & Pharmacology

Deniz Atasoy was promoted to Assoc. Prof. His research focuses on how brain circuits control appetite and glucose homeostasis.

Catherine Marcinkiewcz, PhD

Associate Professor,
Neuroscience & Pharmacology

Catherine Marcinkiewcz was promoted to Assoc. Prof. Her research focuses on the impact of disruptions in serotonin sig. on Alzheimer's disease progression.

CCOM Faculty Awards

Faculty awards are presented each year to recognize those who have made exceptional contributions impacting students, colleagues, and patients.

Dawn Quelle, PhD

Professor,
Neuroscience & Pharmacology

Dawn Quelle received the Faculty Service Award.

Yuriy Usachev, PhD

Professor,
Neuroscience & Pharmacology

Yuriy Usachev received the J.P. Long Teaching Award in the Basic Sciences.

Stead Family Scholar

The goal of this program is to recognize and advance the development of outstanding early-career faculty who are becoming internationally recognized leaders in their respective fields.

Deniz Atasoy, PhD

Associate Professor,
Neuroscience & Pharmacology

Dare to Discover Campaign

This annual banner campaign promotes the research, scholarly, and creative achievements of exceptional UI students.

Two Neuroscience and Pharmacology students were featured in FY25:

Emese Kovács

Pharmacology Graduate Student,
Gaine Laboratory

Emese Kovács is working to discover biomarkers of mental illness.

Ahmet Kuralay

Neuroscience Graduate Student,
Resch Laboratory

Ahmet Kuralay is working to map appetite in the brain.

Career Impact Awards

The Pomerantz Career Center recognizes award-winning students, staff, and faculty who have gone above and beyond to provide career resources, guidance, and opportunities.

Dawn Quelle, PhD

Professor,
Neuroscience & Pharmacology

Dawn Quelle received a Faculty & Staff Award.

Jon Resch, PhD

Assistant Professor,
Neuroscience & Pharmacology

Jon Resch received a Supervisor of the Year, Certificate of Distinction.

OVPR Recognition

The following Neuro. and Pharm. faculty were recognized by the Office of the Executive Vice President and Provost (OVPR), as they were identified by graduating seniors for making a positive difference in their lives.

Songhai Chen, PhD

Associate Professor,
Neuroscience & Pharmacology

Katelin Dannen, PhD

Assistant Professor,
Neuroscience & Pharmacology

Rory Fisher, PhD

Professor,
Neuroscience & Pharmacology

Catherine Marcinkiewcz, PhD

Associate Professor,
Neuroscience & Pharmacology

Dawn Quelle, PhD

Professor,
Neuroscience & Pharmacology

PSET 2025 Student Scholar of the Year

Emese Kovács

Graduate Student,
Gaine Laboratory

This award recognizes outstanding productivity, teaching, and/or service while enrolled as a graduate student.

Invitation to the State Capitol

Cameron Moore

Undergraduate Student,
Usachev Laboratory

Cameron Moore was 1 of 20 students at UI selected to present his research to Iowa's legislators.

There are more Awards

than there is space to recognize them. **Congrats to everyone** who received poster awards, presentation awards, travel awards, and more!

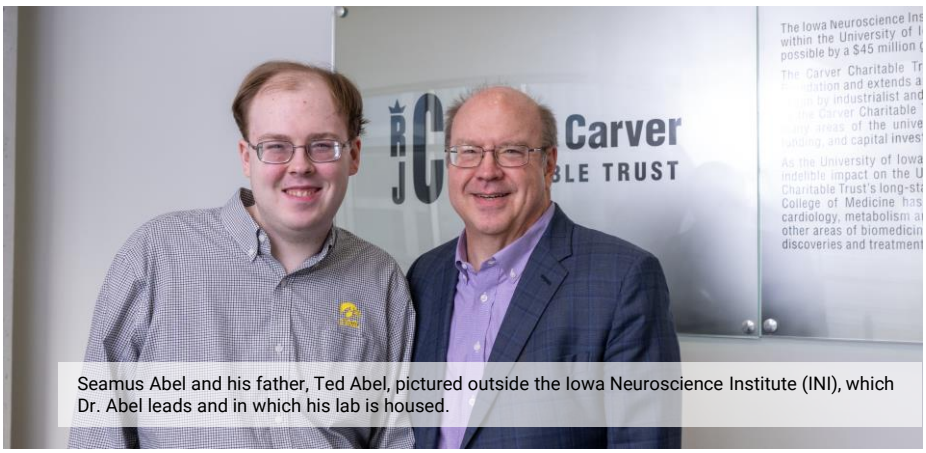
RESEARCH DEMOGRAPHICS

Department research focuses on three broad areas: Neuroscience, Obesity/Metabolism, and Cancer.

- 7 faculty work in the areas of Neuroscience and Obesity/Metabolism, investigating neural control of body homeostasis.
- 6 faculty are chiefly Neuroscientists exploring neural mechanisms of pain, addiction, intellectual disabilities, sight, neurodegeneration, and stroke.
- 2 faculty are Cancer researchers investigating mechanisms and innovative therapies.
- 1 faculty bridges the gap between Cancer and Metabolism with research into mitochondrial metabolism in cancer.

Recently, research surrounding Pharmacology education was also added as a fourth focus area.

RESEARCH FACULTY HIGHLIGHTS



Seamus Abel and his father, Ted Abel, pictured outside the Iowa Neuroscience Institute (INI), which Dr. Abel leads and in which his lab is housed.

Seamus, who graduated with a BA in German from UI in Spring 2025, is pictured here in Phillips Hall, which houses the Division of World Languages, Literatures, and Cultures.

A SON'S DIAGNOSIS INSPIRES RESEARCH

Last February, Sara Epstein Moninger, senior writer in the Office of Strategic Communication, published "A neuroscientist and his son make strides at Iowa," a story about our Dept. Chair & DEO, Ted Abel, and his son, Seamus. More than twenty years ago, when Ted was in the Biology Dept. at the University of Pennsylvania studying behavior and memory, Seamus, age 3, was diagnosed with autism spectrum disorder. The diagnosis motivated Ted to expand his research to include neurodevelopmental disorders, and in 2017, he became the founding director of the Iowa Neuroscience Institute

Moninger's article underscores how moving to Iowa was the right choice for Ted and his family. Although Seamus has exceptional skills in languages and math, there were early concerns that college would not be an option for him. But Seamus, now 25, just graduated from the University of Iowa with a degree in German. Ted credits Iowa as an important factor in his son's success: "I don't know of very many other places where Seamus could have accomplished what he's accomplished moving here. Both the University of Iowa and Iowa City have been extraordinary for him."

Find out more

RESEARCH
FACULTY FUNDING

Research Initiatives

Our **RESEARCH MISSION** is to conduct cutting edge research in Neuroscience, Obesity/Metabolism, and Cancer with the goal of providing a new understanding of how natural and synthetic drug molecules work normally and in disease

With a history of excellence spanning over 100 years, the Department has established itself at the forefront of research. Our cohort of innovative, collaborative faculty not only publish in high-impact journals but have received international recognition. In testament to this, our research program is supported by over $12 million in funding annually from federal and private agencies, including the National Institutes of Health (NIH), National Science Foundation (NSF), and American Heart Association (AHA).

Funding obtained in FY25

DEPARTMENT FUNDING STATS

$12.5M

TOTAL GRANT FUNDS

#6

MOST HIGHLY FUNDED DEPT. IN CCOM

Ted Abel, PhD

Professor,
Neuroscience & Pharmacology

- *The role of striatal circuits on repetitive e and stereo typed behaviors in 16p11.2 deletion mouse model*, SURFiN, Simons Foundation
- Co-I with Christopher Petkov, *Laminar circuit motifs for working memory and language: From cells to systems, NIH U01*

Snehajyoti Chatterjee, PhD

Assistant Professor,
Neuroscience & Pharmacology

- Co-I with Christopher Petkov, *Laminar circuit motifs for working memory and language: From cells to systems, NIH U01*

Huxing Cui, PhD

Associate Professor,
Neuroscience & Pharmacology

- *Uncovering the role of hypothalamic ciliary cAMP signaling in sex-specific control of metab. homeostasis,* NIH R01
  Co-I – Deniz Atasoy

Catherine Marcinkiewcz, PhD

Associate Professor,
Neuroscience & Pharmacology

- *Environmental exposure to bisphenol compounds in the pathogenesis of Alzheimer's disease,* EHSRC Alzheimer's Disease Pilot Project Award

Kelly Mulfaul, PhD

Assistant Professor,
Neuroscience & Pharmacology

- *Elucidating choroidal CCL5-CCR5 signaling to develop therapeutic targets for early AMD,* Edward N. & Della L. Thome Memorial Foundation

Matthew Potthoff, PhD

Professor,
Neuroscience & Pharmacology

- Co-I with Hongshuai Li, *Role of FGF21 in DMD,* NIH R01

Dawn Quelle, PhD

Professor,
Neuroscience & Pharmacology

- *FOXM1 as a new drug target in malignant peripheral nerve sheath tumors,* HCCC AYA Cancer Program Grant
- *Role of Plasma Cells in Anti-tumor Immunity in MPNSTs,* Pilot Grant, HCCC Sarcoma Molecular Oncology Group

Kamal Rahmouni, PhD

Professor,
Neuroscience & Pharmacology

- *Neuronal cilia in hypertension,* NIH R01
  Co-I – Deniz Atasoy
- Co-I with Kavaljit Chhabra, *Role of hypothalamic Adgrl1 in counteracting hypoglycemia,* NIH R56

Jon Resch, PhD

Assistant Professor,
Neuroscience & Pharmacology

- *Neuronal control of salt appetite, thirst, and blood pressure*, Iowa Neuroscience Institute Early-Stage Investigator Award

Adele Stewart, PhD

Assistant Professor,
Neuroscience & Pharmacology

- *Sex-based, region-specific regulation of DA release and clearance,* NIH R21

Seth Tomchik, PhD

Professor,
Neuroscience & Pharmacology

- *Mechanisms of neuronal dysregulation underlying behavioral alterations in Neurofibromatosis Type 1,* DOD/CDMRP

> ***Scientific research can reduce superstition by encouraging people to think and view things in terms of cause and effect.***
>
> Albert Einstein

RESEARCH TRAINEE FUNDING FY25

One of the Department's **GOALS** is to help students develop skills needed for success in academic or research careers, including **GRANT WRITING**. Students share responsibility with their mentors in obtaining funding. Here is a list of new FY25 student funding.

EXTERNAL

Nagalakshmi Balasubramanian, PhD

Postdoctoral Scholar, Marcinkiewcz Laboratory

Alcohol-induced metabolome-epigenome dysfunct. & Alzheimer's dis. risk, NIH K99

Louis Kolling, PhD

Postdoctoral Scholar, Marcinkiewcz Laboratory

Reversal of tau path. to rescue serotonergic funct. in early Alzheimer's dis., NIH F32

Alexandra Petrucci, PhD

Postdoctoral Scholar, Abel Laboratory

Lesion extent & seizure prop. pathws. across acute infect. & chronic epilepsy in an infect. induced mouse model, NIH F32

Jae Kyoon Kim, PhD

Assistant Research Scientist, Abel Laboratory

Striatal circs. underlying repetitive behav., 2024 NARSAD Young Invest. Brain & Beh. Found. Award

Yuxi Li

Pharmacology Grad. Student, Resch Laboratory

Hypothalamic regulation of blood pressure, AHA Predoc. Fellowship

Uday Singh, PhD

Assistant Research Scientist, Cui Laboratory

Analyzing lateral hypothalamic MC4R+ neuronal circs. in Cardiovasc. & sympathetic reg., AHA Career Dev. Award

INTERNAL

Tayfun Ates

Pharmacology Grad. Student, Atasoy Laboratory

Chunling Chen

Toxicology Grad. Student, Strack Laboratory

Emily Hagan

Pharmacology Grad. Student, Ferri Laboratory

Graduate College Post-comp Fellowships

Alex Glebov-McCloud

Molecular Medicine Grad. Student, Strack Laboratory

Graduate College Summer Fellowship

Emese Kovács

Pharmacology Grad. Student, Gaine Laboratory

Tam Nguyen

Pharmacology Grad. Student, Usachev Laboratory

Ballard & Seashore Dissertation Fellowships

Misty Perez

Molecular Medicine Grad. Student, Potthoff Laboratory

Samantha Pierson

Neuroscience Grad. Student, Marcinkiewcz Laboratory

Jesse Rose

Molecular Medicine Grad. Student, Potthoff Laboratory

Ballard & Seashore Dissertation Fellowships Continued

RESEARCH PUBLICATIONS

Paper Trail

Below is a list of research manuscripts published from the Dept. in FY25 in which trainees and faculty are first and/or senior authors.

Psychiatry Research

Interaction of serotonin/GLP-1 circuitry in a dual preclinical model for psychiatric disorders & metabolic dysfunction

Kolling LJ, Kahn K, Wang R, Pierson SR, Hartman BD, Balasubramanian N, Guo DF, Rahmouni K, **Marcinkiewcz CA**

2024 July:337:115951. doi: 10.1016/j.psychres.2024.115951.

ENDOCRINOLOGY

Characterization of FGF21 sites of production & signaling in mice

Sullivan AI, Jensen-Cody SO, Claflin KE, Vorhies KE, Flippo KH, **Potthoff MJ**

2024 Sep 26; 165(11):bqae120. doi: 10.1210/endocr/bqae120.

The Journal of Physiology

Differential effects of phosphodiesterase 4A5 on cAMP-dependent forms of long-term potentiation

Tadinada SM, Walsh EN, Mukherjee U, **Abel T**

2024 Dec 18;10.1113/JP286801. doi: 10.1113/JP286801.

Journal of Alzheimer's Disease

Spatial diffs. in gene express. across the dorsal raphe nucleus in a model of early Alzheimer's disease

Kolling LJ, Chimenti MS, **Marcinkiewcz CA**

2025 Jan;103(1):133-148. doi: 10.1177/13872877241299119.

RESEARCH PUBLICATIONS

JNeurosci
THE JOURNAL OF NEUROSCIENCE

A new insight into the role of CART peptide in serotonergic funct. & anxiety

Balasubramanian N, Wang R, Ismail S, Hartman B, Aboushaar Z, **Marcinkiewcz CA**

2025 Feb 5;45(6):e0467242024.
doi: 10.1523/JNEUROSCI.0467-24.2024.

Cardiovascular Research
Published since 1967

Loss of MRAP2 in MC4R neurons protect from obesity-assoc. autonomic & cardiovasc. dysfunct.

Guo DF, Williams PA, Olson A, Morgan DA, Herz H, Resch J, Atasoy D, Stauss HM, Sebag JA, **Rahmouni KR**

2025 April 17;cvaf067
doi: 10.1093/cvr/cvaf067.

Oncogene

Unveiling RACK1: a key reg. of the PI3K/AKT pathway in prostate cancer dev.

Lyu C, Vaddi PK, Elshafae S, Pradeep A, Ma D, **Chen S**

2025 Feb; 44(5):322-335.
doi: 10.1038/s41388-024-03224-9.

frontiers in Immunology

A high-sat., long-chain fatty acid ketogenic diet nega. impacts visual & motor-sens. funct. in a pre-clinical model of mult. sclerosis

Capper EN, Anders, JJ, Elwood BW, Kardon RH, **Gramlich OW**

2025 May 22:16:1587760.
doi: 10.3389/fimmu.2025.1587760.

Molecular Psychiatry

Tau pathology in the dorsal raphe may be a prodromal indicator of Alzheimer's dis.

Pierson SR, Fiock KL, Wang R, Balasubramanian N, Reinhardt J, Kanza KM, James TD, Hunter ML, Cooper BJ, Williamsen HR, Betters R, Lee G, Aldridge G, Hefti MM, **Marcinkiewcz CA**

2025 Feb; 30(2):532-546.
doi: 10.1038/s41380-024-02664-9.

Cell Calcium

Mitochondrial Ca^{2+} uniporter b (MCUb) regs. neuronal Ca^{2+} dynamics & resist. to ischemic stroke

Nguyen T, Lin Z, Dhanesha N, Patel RB, Lane M, Walters GC, Shutov LP, Strack S, Chauhan AK, **Usachev YM**

2025 June: 128:103013
doi: 10.1016/j.ceca.2025.103013.

The Journal of Physiology

Act. of TRPA1 & TRPM3 triggers Ca^{2+} waves in ctr. terms. of sens. neurons & facil. synaptic act. in the spinal dorsal horn

Andrianov YE, Keyes AL, Warwick CA, McDonough MC, Shutov LP, Solanki KS, Resch JM, Bassuk AG, Voitenko N, Belan P, **Usachev YM**

2025 Apr 2. doi: 10.1113/JP286407.

Epigenomics

SNP-assoc. diff. meth. in ARHGEF38: insights into genetic-epigen. interactions

Kovács EHC, Casten LG, Mullins N, Richards JG, Williams AJ, Wemmie JA, Magnotta VA, Fiedorowicz JG, Michaelson J, **Gaine ME**

2025 June: 17;(9):579-588.
doi: 10.1080/17501911.2025.2513215.

JNeurosci
THE JOURNAL OF NEUROSCIENCE

Neurofibromin deficiency alters the patterning & prioritization of motor behaviors in a state-dependent manner

Suarez GO, Kumar DS, Brunner H, Knauss A, Barrios J, Emel J, Teel J, Botero V, Broyles CN, Stahl A, Bidaye SS, **Tomchik SM**

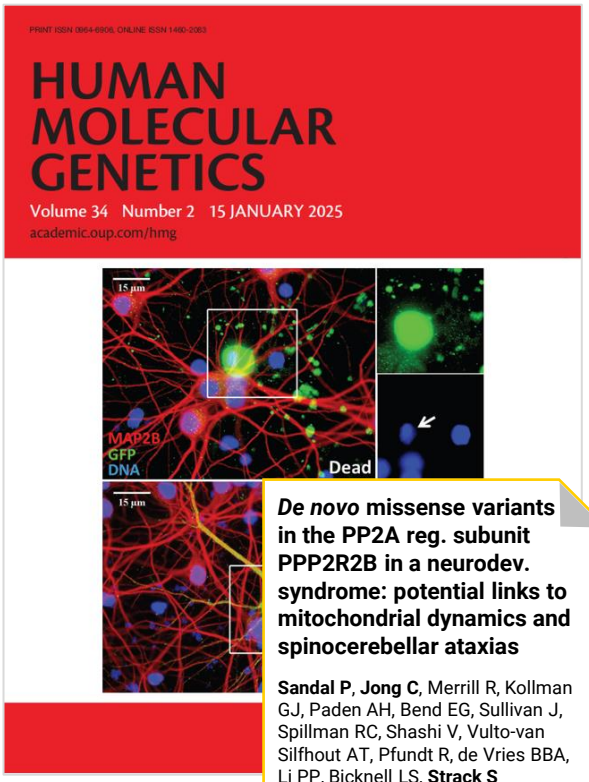
2025 April 16; 45(16):e1531242025.
doi: 10.1523/JNEUROSCI.1531-24.2025.

Cell Reports

Aberrant phase separation of two PKA RIβ neurological disorder mutants leads to mech. distinct sig. deficits

Pool EH, Glebov-McCloud A, Lee HN, Hardy JC, Pane V, Herberg FW, Taylor SS, Mehta S, **Strack S, Zhang J**

2025 June 24;44(6):115797.
doi: 10.1016/j.celrep.2025.115797.



De novo missense variants in the PP2A reg. subunit PPP2R2B in a neurodev. syndrome: potential links to mitochondrial dynamics and spinocerebellar ataxias

Sandal P, Jong C, Merrill R, Kollman GJ, Paden AH, Bend EG, Sullivan J, Spillman RC, Shashi V, Vulto-van Silfhout AT, Pfundt R, de Vries BBA, Li PP, Bicknell LS, **Strack S**

2025 Jan;34(2):193-203.

RESEARCH IT MADE THE COVER

Stefan Strack, PhD

Professor,
Neuroscience & Pharmacology

With the advent of whole-exome sequencing, the causes of neurodevelopmental disabilities are increasingly understood. The Strack lab recently discovered that a gene previously associated with a neurodegenerative disorder can also cause developmental disabilities when mutated.

Find out more

Stay up-to-date on Dept. Publications!

There are more papers than there is space to recognize all our faculty, staff, and student publications. Visit **Iowa Research Online** for a running list of our publications.

Iowa Research Online
Neuroscience & Pharmacology

EDUCATION

TRAINING PROGRAMS

Hands-on Learning in Pharmacology

The Department's mission is to educate the next generation of leaders in the biomedical research and drug discovery. Students at all levels work side-by-side with faculty to explore basic physiological systems, as well as mechanisms of disease and drug action, while also performing meaningful, translational research. Through our cutting-edge research facilities, highly applicable interdisciplinary coursework, and collaborative environment, we provide students the skills and expertise needed to set them apart from the crowd.

STUDENTS IN OUR LABS

45

UNDERGRADUATE

39

GRADUATE

46% in Pharmacology Graduate Program

20

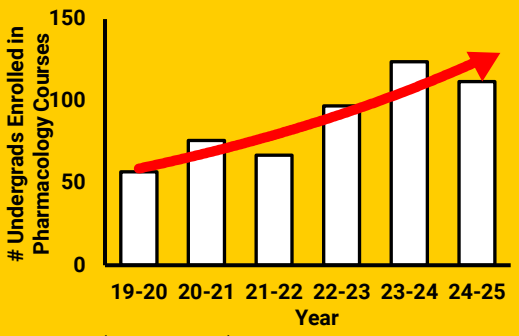
POSTDOCS

Want to know more about our training programs?

EDUCATION UNDERGRADUATE

A changing landscape

In recent years, the Dept. has broadened its presence into the University's undergraduate curricula by designing and implementing 3 new Pharm. courses: Drug Use and Abuse (PCOL:2220), Pharmacology I: A Drug's Fantastic Journey (PCOL:3101) and Pharmacology II: Mechanisms of Drug Action (PCOL:3102).



These efforts continue as we work to incorporate our courses as electives in receptive curriculums on campus and through our work to educate new undergraduate students about the career options available within the Biomedical Sciences.

EDUCATION CAREER DEVELOPMENT

One of the Department's **GOALS** is to inform and train students in **CAREER OPTIONS** within the biomedical (and particularly pharmaceutical) sciences.

WHICH PATH IS RIGHT FOR YOU? Dr. Rich Vaillancourt Weighs In

Do you remember reflecting on the purpose of your college degree? Most of us went to college with a clear preference for the Arts or Sciences. But was that enough? Many years later, as I look back on my college experience, I realize that as a freshman I could have used a little help in guiding my career choices. Like most students, my parents had no knowledge about the pharmaceutical sciences, so who could I turn to for advice? My experience in pharmacy and now pharmacology education, as well as 27 years of basic science research, inspired me to create an *Exploring Careers in the Pharmaceutical Sciences* course. The Office of the Provost, University College, and the Office of Academic Support & Retention recently initiated a program of First-Year Seminars, and my course idea fit the bill. *Exploring Careers in the Pharmaceutical Sciences* (CSI:1200:0012) debuted this past Fall 2024. During that time, I facilitated student exploration of different pharmaceutical career options, ranging from topics like pharmacognosy (the use of plants and other natural products in drug development) to industrial pharmacy, where the creation of advanced technologies has recently allowed for the "printing" of an FDA-approved pill used in the treatment of epilepsy.

This course has already made an impact on student lives. One of the most gratifying parts of this past year was when former student Ada Kendall contacted me to discuss her course plans for future semesters, as she was contemplating careers in both pharmacy and chemistry. Recalling our class discussions prompted her to contact me for advice, as neither her college advisor nor her parents were familiar with her career options. Thinking back to my college years, I wish I had had someone to help guide me, and it gives me great job satisfaction knowing that I can make a difference in a student's life. I look forward to meeting the new group of students taking my course in Fall 2025.

Rich Vaillancourt and his student, Ada Kendall, pictured inside his office discussing course plans and career options.

EDUCATION GRADUATE

Welcome & Farewell

This past year we welcomed 6 new graduate students into our Pharmacology Graduate Program while saying farewell and best wishes to 3 of our senior students.

Learn More

FAREWELL

Connor Laule, PhD

Pharmacology Grad. Student,
Atasoy & Rahmouni Laboratories

Thesis title: *Neural Mechanisms of Stress and Metabolism*

Tam Nguyen, PhD

Pharmacology Grad. Student,
Usachev Laboratory

Thesis title: *The Role of Mitochondrial Calcium Transport in Neurological Diseases*

Emese Kovács, PhD

Pharmacology Grad. Student,
Gaine Laboratory

Thesis title: *Elucidating the Role of DNA Meth. in Bipolar Disorder in the Context of Suicide Attempt & Lithium use*

WELCOME

Tehreem Haider

Pharmacology Grad. Student,
Strack Laboratory

Hometown: Rawalpindi, Pakistan

Research Interests: Tehreem's research focuses on understanding how genetic muts. disrupt neural dev. and interfere with synaptic sig. paths., ultimately leading to neurodev. disorders. By shedding light on these processes, she hopes to identify potential ther. targets and interventions that can improve patient outcomes.

Dangran Li

Pharmacology Grad. Student,
Tomchik Laboratory

Hometown: Jingzhuo City, China

Research Interests: Dangran's research focuses on dissecting the downstream sig. pathway of Nf1 protein (mutation of Nf1 protein induces neurofibromatosis type 1).

Ruiqi Lyu

Pharmacology Grad. Student,
Strack Laboratory

Hometown: Zhengzhuo, Henan Prov., China

Research Interests: Ruiqi's research focuses on the role of GABAergic neurons, particularly Gad2-expressing cells, in the neurodevelopment of newborn mice.

Brenna Powers

Pharmacology Grad. Student,
Stewart Laboratory

Hometown: Milwaukee, WI

Research Interests: Brenna's research focuses on utilizing a series of pharmacological and behavioral techniques to investigate circuit- and sex-specific G-protein coupled receptor (GPCR) regulation of dopamine neurotransmission.

Kyle Rosenberg

Pharmacology Grad. Student,
Rahmouni Laboratory

Hometown: Modesto, CA

Research Interests: Kyle's research focuses on the cellular and physiological response to neuronal mitochondrial perturbation in the context of obesity and hypertension.

Zhuo Zhen

Pharmacology Grad. Student,
Tucker Laboratory

Hometown: Beijing, China

Research Interests: Zhuo's research focuses on using stem cells to study NF1-associated disease.

EDUCATION GRADUATE ALUMNI HIGHLIGHT

Dr. Adele Stewart is Back in Black...and Gold!

In Fall 2014 I left UI, freshly minted Pharm. PhD in hand, and headed to Music City for a postdoc at Vanderbilt. As I left, Dr. Sigmund, dept. chair, was directing renovations and recruiting new talent; Dr. Kasson was quietly and efficiently managing the dept.'s edu. mission; Lisa Ringen and Linda Buckner ran the office like a well-oiled machine; and the lab of Dr. Fisher, my thesis mentor, was wallpapered in Iowa State paraphernalia in proud defiance to its place in Hawkeye country. After a brief stint enjoying the sites and sounds of Nashville and a longer sojourn in the land of humidity and hurricanes (FL), I'm back where my research career began: the Dept. of Neuro. and Pharm. This time, though, I find myself taking on a new and exhilarating challenge, that of Assist. Prof., having established my lab in 2024 in a space close to where I began over 15 years ago.

The decision to come back to Iowa was an easy one. I am grateful for the myriad ways UI shaped my early career. In fact, the focus of my current research, to establish how bio. sex shapes dopaminergic neurotrans., was tangentially inspired by my teaching assign. (contraceptives lecture), under Dr. Kasson's imperturbable supervision, in our undergrad. Pharm. course. It was also clear, during my faculty interview, that time had done more than replace the crater on Newton Road with a brand-new building (PBDB). Faculty, staff, students, and leadership have maintained and expanded Dept. expertise and, with the INI, UI's commitment to understanding the brain is evident, a goal we share. The comforting familiarity of Bowen's concrete façade, the labyrinthine of dept. cores, and even the gold and red still in Dr. Fisher's lab, have elicited nostalgic memories of my PhD training, and served as a vivid reminder that, in all the places I have worked, none have matched the community that pervades 2nd floor BSB. It was here that I first experienced the exhilaration of discovery, and I am truly thrilled to have the opportunity to pass that on to the next generation of UI Pharm. PhDs.

RESEARCH TRAINEE FUNDING

One of the Department's **GOALS** is to support student development of skills needed for success in all aspects academic or research careers. **TRAINING GRANTS** are key in facilitating this process. The Dept. is proud to say it houses two training grants…

EDUCATION TRAINING GRANTS FY25

Pharmacological Sciences Training Grant

The training grant (T32 GM144636) **MISSION** emphasizes the education of 12 predoctoral students each year (for up to 2 years) with research interests broadly related to the Pharmacological Sciences (e.g. Biochem., Cancer Bio., Cell & Dev. Bio,. Genetics, Human Tox., Immunology, Microbio., Mol. Med., Mol. Phys. & Biophys., Neuro., Pharmaceutical Sci. & Exp. Ther., and Neuro. & Pharm.) and the promotion of research collaborations across these disciplines.

Co-Primary Investigators

Stefan Strack, PhD

Vice Chair & Professor,
Neuroscience & Pharmacology

David Roman, PhD

DGS & Professor,
Pharmaceutical Sci. & Exp. Ther.

New Trainees

Gabby Bierlein-De La Rosa

MSTP, Neuroscience Grad. Student,
Marcinkiewcz Laboratory

Alex Dou

MSTP, Mol. Phys. & Biophys. Grad. Student,
Ahern Laboratory

Nathan Gentilman

Pharmaceutical Sci. & Exp. Ther. Grad. Student,
Roman Laboratory

Hannah Hazzard

Neuroscience Grad. Student,
Gumusoglu Laboratory

Olivia Klein

Molecular Medicine Grad. Student,
Shultz & Hefti Laboratories

Emma Luhmann

Mol. Phys. & Biophys. Grad. Student,
Campbell Laboratory

Abigail Morrison

Cancer Biology Grad. Student,
Thiel Laboratory

Julius Yevdash

Cancer Biology Grad. Student,
Kenny & Weigel Laboratories

Pain Training Grant

The training grant (T32 NS045549) **MISSION** is to mentor the next generation of scientists and physicians in the recognition, mechanisms, and management of pain. Training is provided to 2 predoctoral and 2 postdoctoral fellows each year for up to 2 years.

Co-Primary Investigators

Yuriy Usachev, PhD

Professor,
Neuroscience & Pharmacology

Kathleen Sluka, PT, PhD, FAPTA

Professor,
Physical Therapy & Rehabilitation Sci.

Trainees

Adam Janowski, PhD

Postdoctoral Scholar
Frey Law Laboratory

Walter Saide, PhD

Postdoctoral Scholar,
Strack Laboratory

Angela Smith

Neuroscience Grad. Student,
Sluka Laboratory

Timothy Fleagle

Rehabilitation Sci. Grad. Student,
Chimenti Laboratory

Find out more about our Training Grants Pharmacological Sciences Pain

The Dept. is also happy to support other Campus Training Grants!

Seth Tomchick was appointed as a co-Primary Investigator of the Predoctoral Training Program in Genetics (T32 GM145441) in Spring 2025.

Seth Tomchik, PhD

Professor,
Neuroscience & Pharmacology

EDUCATION POSTDOCTORAL SCHOLARS

Postdoctoral Seminar Series

The Postdoctoral Committee oversees the NEURO-ROOT Postdoctoral Seminar Series, a forum for career development talks and research seminars presented by postdocs across the nation. In 2025, the committee received support from the Iowa Neuroscience Institute to supplement the virtual series with one in-person seminar, annually.

2024-25 Invited Speakers

Laurel Seemiller, PhD

Postdoc in Dept. of Biology, Pennsylvania State University

Uncovering the role of the neuropeptide somatostatin in sexually divergent behavioral consequences of adolescent binge drinking

Tyler Nguyen, PhD

Research Assistant Professor of Anesthesiology, Indiana University

Mild Traumatic Brain Injury (mTBI) associated inflammation and chronic pain: through the lens of in vivo imaging

Mauricio Oliveira, PhD

Postdoc Assoc. in the Center for Neural Science, New York University

Regulation of cell type-specific translatomes in response to neuronal activity and behavior

Want to Participate? Apply at:

EDUCATION TRAINEE LEADERSHIP

Part of the Department's **MISSION** is to educate the next generation of leaders in the Pharmacological Sciences. Therefore, one of our goals is to help students develop the **LEADERSHIP SKILLS** required for success in academic or research-based careers by encouraging them to practice leadership.

Pravda Quinones-Labernik

Grad. Student Representative, Neuroscience & Pharmacology

Alex Petrucci, PhD

Postdoc. Scholar Representative, Neuroscience & Pharmacology

FACULTY MEETING REPRESENTATIVES

Each year, one graduate student and one postdoctoral scholar are nominated to act as representatives at faculty meetings. These representatives are student advocates that not only help shape Department policy but also work to strengthen our trainee community.

Community-building Event:

Spring Trainee Networking Event Pinseekers Golf & Entertainment Facility

Emily Hagan

Grad. Student Representative, Neuroscience & Pharmacology

GRADUATE STUDENT SENATE (GSS) REPRESENTATIVE

Each year, one graduate student is elected as a representative to GSS, the primary representative, administrative, and service org. for graduate students.

POSTDOC COMMITTEE

The **MISSION** of the Department Postdoctoral Committee is to provide trainees with the opportunity to build leadership skills and connect with peers.

Jon Resch, PhD

Asst. Prof. (Cmte. Faculty Advisor), Neuroscience & Pharmacology

Bertha Martin, PhD

Postdoc Scholar, Neuroscience & Pharmacology

Valentina Botero, PhD

Postdoc. Scholar, Neuroscience & Pharmacology

Kavita Solanki, PhD

Postdoc. Scholar, Neuroscience & Pharmacology

Louis Kolling, PhD

Postdoc. Scholar, Neuroscience & Pharmacology

Ruixiang (Roy) Wang, PhD

Postdoc. Scholar, Neuroscience & Pharmacology

IOWA | **Department of Neuroscience and Pharmacology**

Carver College of Medicine
51 Newton Road
2-471 Bowen Science Building
University of Iowa
Iowa City, IA 52242-1109

Be part of the action....

IOWA Give to Iowa

Support our research

The University of Iowa is running the **TOGETHER HAWKEYES CAMPAIGN**, established to change lives and ensure a bright future for Iowa's people and programs.

Now's your chance to invest in the Iowa cause that means the most to you...for instance, the Neuroscience and Pharmacology Department research mission!

Make a Pledge

IOWA Alumni

Share your news

If you are one of our trainees (graduate or postdoc) and want to contribute your information to our **ALUMNI DISPLAY**, we'd love to hear from you at:

pharmacology@uiowa.edu

Stay updated with our "Student Spotlight"
A new student is highlighted each week @IowaNeuroPharm

Connect with Neuro & Pharm | pharmacology@uiowa.edu | 319-467-0701 | @IowaNeuroPharm