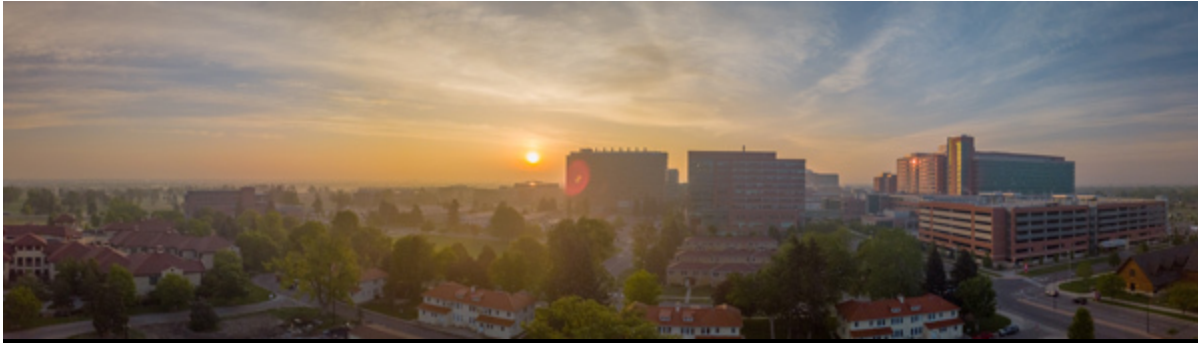




Department of Pharmacology

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**



JANUARY-JUNE 2024 PHARMACOLOGY NEWSLETTER

Letter From the Chair



Dear Colleagues,

I am excited to share with you the latest updates from the CU Pharmacology department. This month, I want to give a shout out to a group whose contributions are pivotal to our mission—our trainees.

PhD students and postdoctoral fellows are not just the future of our field; they are also critical to our present success. Their enthusiasm, innovative ideas, and hard work are the driving forces behind many of our breakthroughs and advancements.

Each research project they undertake, each experiment they conduct, and each manuscript they write contributes significantly to our overall mission.

Trainees bring fresh perspectives and an eagerness to push the boundaries of what we know. Their work is essential not only to advancing scientific knowledge but also to maintaining the dynamic and forward-thinking environment that defines our department.

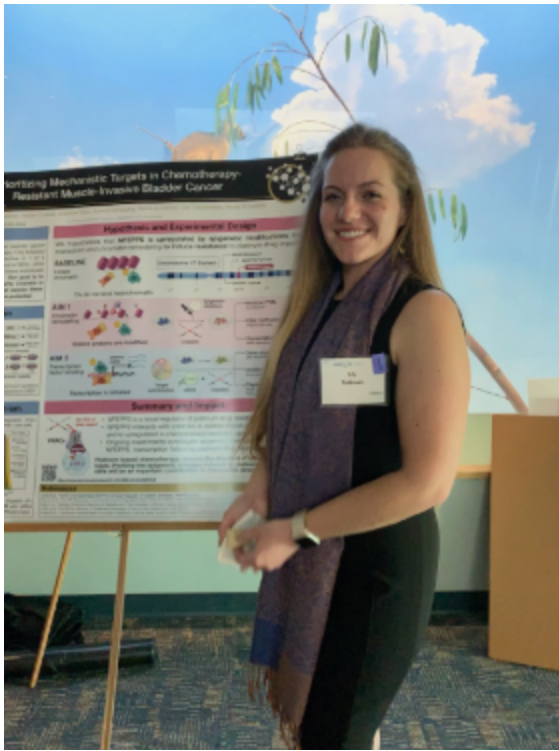
In this newsletter, we celebrate not only the achievements of our faculty, but also those of our trainees- who will shape the future of research in pharmacology.

Sincerely,

Heide Ford, PhD

Professor and CU Medicine Endowed Chair in Pharmacology

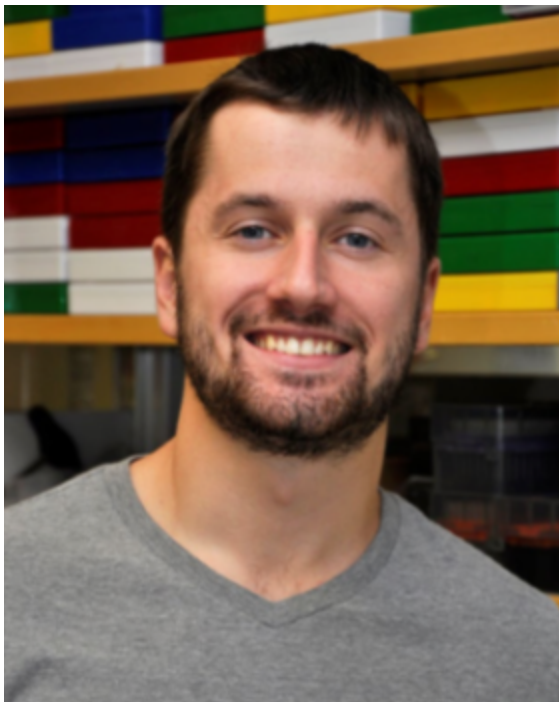
Student Highlights



Lily Feldman, PhD Candidate

Lily Feldman, PhD Candidate

In May 2024, Lily Feldman presented a poster on her thesis research, "Investigating Chemotherapy Resistance through Ion Channel Regulation in Ovarian Cancer," at the Denver Science Museum during the 2024 ARCS Scholar Gala.



Connor Purdy, PhD Candidate

Connor Purdy, PhD Candidate

Connor Purdy was invited by the Early Career Leadership Council (ECLC) of the Metastasis Research Society (MRS) and gave a talk at the 20th Biennial Congress of the Metastasis Research Society (MRS) in London, June 2024, on "Targeting eIF3d-mediated Stress-induced Translation to Inhibit Breast Cancer Metastasis." His research focuses on a unique mechanism of protein translation that occurs when tumor cells are in a hypoxic environment; a common stressor that promotes tumor progression.

[Read Connor's Blog Here](#)

He was also selected for the MRS Advocate Research Program (MetARP), hosted by MRS and the **Theresa's**

Research Foundation, which pairs researchers with patient advocates. He co-authored a blog post about this experience, which can be read here: <https://bit.ly/3SWroQS>.



Harrison Ramsay, PhD Candidate

Harrison Ramsay, PhD Candidate

PhD Candidate Harrison Ramsay has been awarded multiple travel awards in 2024. He received the Graduate Training Committee (GTC) travel award, the Graduate School's C. Werner and Kitty HIRS travel award, and the Pharmacology Department's Dunwiddie travel award. Additionally, Harrison was selected to present a NanoSymposium talk on "Investigating the Mechanisms and Impact of Amyloid-Beta Mediated Disruption of Synaptic Nanoarchitecture" at the Society for Neuroscience (SFN) conference in Chicago in October 2024.

Highlights at Meetings



Dillon Boulton, PhD Candidate

2024 American Association for Cancer Research (AACR) Annual Meeting

PhD Candidate Dillon Boulton was awarded the Pharmacology Department Travel Award and the C. Werner and Kitty HIRS Travel Award, which supported his presentation, "A novel MIRO2/MYO9B/RhoA signaling axis controls tumor cell invasion and metastasis," at the American Association for

Cancer Research (AACR) Annual Meeting
in San Diego in April 2024.



Left to right: Heide Ford, PhD, PhD Candidate Connor Purdy, Dr. Sheera Rosenbaum, and PhD Candidate Kaiah Fields.

2024 Metastasis Research Society Meeting in London

In June 2024, Dr. Heide Ford, Dr. Sheera Rosenbaum, and PhD candidates Connor Purdy and Kaiah Fields attended the 2024 Metastasis Research Society Meeting in London. These trainees attended the meeting on travel awards. Dr. Sheera Rosenbaum received the Bursary Travel Award from the Metastasis Research Society, Kaiah Fields received the C. Werner and Kitty Hirs Travel Award and Bolie Travel Award, and Connor received the MetARP award, HIRS, and Pharmacology Travel Award.



Micah Donovan, PhD

Trisomy 21 Research Society Biennial Meeting

Former Pharmacology Postdoc Fellow and current Research Associate, Micah Donovan, PhD, presented two oral presentations, titled "Variegated overexpression of chromosome 21 genes reveals molecular and immune subtypes of Down syndrome" and "Multi-omics analysis of delayed development and early ageing in Down syndrome," at the Trisomy 21 Research Society Biennial Meeting in June 2024. Additionally, Micah was the first author of **"Variegated overexpression of chromosome 21 genes reveals molecular and immune subtypes of Down Syndrome"** in *Nature*

Research Highlights

From January-June 2024 our department published a total of 26 publications.
Check out our research highlights for this newsletter below!



Blocking Key Protein May Halt Alzheimer's Progression

Mark Dell'Acqua, PhD
Tyler Martinez, PhD Candidate

"Researchers at the University of Colorado Anschutz Medical Campus have found that inhibiting a key protein can stop the destruction of synapses and dendritic spines commonly seen in Alzheimer's disease."

[Read More](#)



Study Examines Impact of Antidepressants on Early Brain Development

Won Chan Oh, PhD
Roberto Ogelman, PhD

"A new study published in Nature Communications suggests that antidepressant use can impact early post-natal brain development."

[Read More](#)



Researchers Discover a Mechanism That Could Improve Platinum-Based Cancer Therapy

James Costello, PhD
Bob Jones, PhD



Studying CaMKII: Tools and standards

Ulli Bayer, PhD
Carolyn Nicole Brown, PhD Candidate



"Targeting a protein in bladder cancer could increase patient eligibility for platinum-based therapies, as well as make this treatment more effective."

[Read More](#)

"The Ca²⁺/calmodulin (CaM)-dependent protein kinase II (CaMKII) is a ubiquitous mediator of cellular Ca²⁺ signals with both enzymatic and structural functions. Here, we briefly introduce the complex regulation of CaMKII and then provide a comprehensive overview of the expanding toolbox to study CaMKII."

[Read More](#)



A mystery illness stole their kids' personalities. These moms fought for answers.

Joaquin Espinosa, PhD

"Their children's decline was precipitous and dramatic, with patients losing function in days or weeks, including the ability to talk, move or take care of themselves."

[Read More](#)



Molecular Targets of Cannabidiol warn against its consumption during pregnancy

Won Chan Oh, PhD

"People use cannabidiol (CBD), the primary non-psychoactive cannabinoid of cannabis, as a treatment for symptoms that are commonly associated with pregnancy including nausea, pain, and anxiety. Many people believe CBD is safe to take during pregnancy. However, CBD crosses the placenta and affects the activity of protein targets that are expressed in the fetal brain."

[Read More](#)

Events Recap

2023 Department of Pharmacology Awards



2023 Department of Pharmacology Awards Ceremony

Our annual award ceremony is an event to celebrate excellence in the department. This ceremony honors outstanding achievements by faculty, researchers, students, and administrative staff. Recognizing those who have made significant impacts through their dedication and innovation in the department is always the highlight of our year.

Join us in congratulating our 2023 awardees!

Student Award: Connor Hughes

Postdoc Award: Samantha Schwartz Olah

Research Award: Ulli Bayer (PhD)

Teaching Awards: Jim Costello (PhD), and Kate Smith (PhD)

Dream Team Awards: Mark Dell'Acqua (PhD), Matthew Kennedy (PhD), and Kate Smith (PhD)

Research Service Award: Brian Brady (PhD Candidate)

Administrative Service Award: Jennifer Orsund

Department Service Awards: Ceci Caino (PhD), Claire Gillette (Postdoc), Eric Stokes (PhD Candidate)

2024 Department of Pharmacology Retreat



Students, Postdocs, Staff, and Faculty at the 2024 Department of Pharmacology Retreat

In April 2024, our students, postdocs, staff, and faculty had the opportunity to visit Copper Mountain Resort for our annual Department of Pharmacology Retreat!

Thank you to our planning committee—students Lorena Alamillo, Madison Barker, Spencer Hall, Brian Brady, and Eric G. Stokes; faculty members Wonchan Oh, PhD, and Tatiana Kutateladze, PhD; and pharmacology administration members Stephanie Baker, Matthew Witt, and Austin Kovac—for organizing this wonderful event. Your efforts made this retreat a memorable experience for everyone involved!



Left to right: Heide Ford, PhD, and PhD Candidates Dillon Boulton, Annika Gustafson, and Carley Miller.

Poster Awards

Congratulations to PhD Candidates Dillon Boulton, Annika Gustafson, and Carley Miller for receiving poster awards!

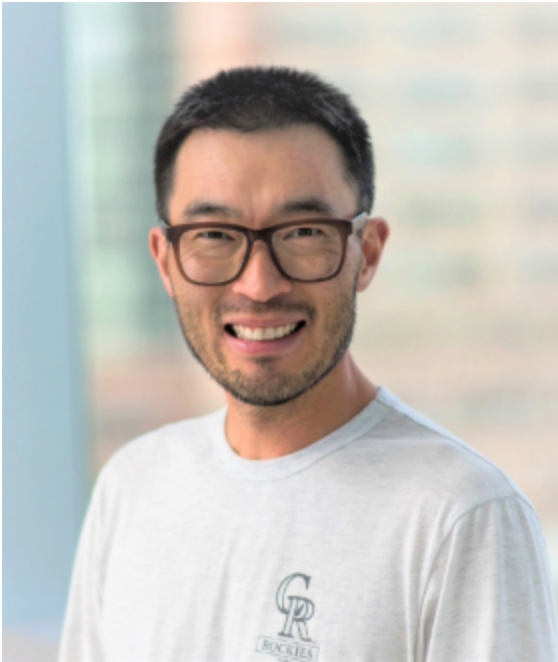


Left to right: Heide Ford, PhD, and PhD Candidates Nicole Brown and Eric Stokes.

Presentation Award

Congratulations to PhD candidate Nicole Brown on receiving the presentation award at this year's retreat!

Faculty Updates



**Congratulations, Dr. Won
Chan Oh, on being
promoted to Associate
Professor!**



Welcome to the faculty, Justin O'Hare, PhD!



Born and raised in Indiana, Dr. Justin O'Hare first realized his passion for neuroscience in a high school psychology class. He received his Bachelor of Science from Northwestern University in Evanston, IL, and his PhD from Duke University, where he uncovered circuit and microcircuit mechanisms that allow mice to learn new habits.

Working between molecular- and circuit-focused laboratories as a postdoctorate research fellow at Columbia University in NYC, Dr. O'Hare refined his focus to dendrites: the input structures of neurons that allow them to change their input-output properties during learning. In deciding where to establish his own laboratory, Dr. O'Hare says he came to CU Anschutz because of the high quality of its neuroscience research and the many collaborative opportunities he envisioned with its current faculty. In the Department of Pharmacology at CU Anschutz, the **O'Hare Laboratory** will investigate how dendrites allow a neuron to interpret signals from many different brain circuits, and how that interpretation changes during learning.

In his free time, he enjoys spending time with his wife, cooking, gardening, tennis, running, and stand-up comedy.

[Learn more about the O'Hare Lab](#)

Welcome to the faculty, Bruce Mandt, PhD!



Dr. Bruce Mandt's curiosity about human motivation began during his undergraduate studies at the University of Wisconsin-Madison, where he first explored intrinsic motivation, asking the question: why do people do what they do? He then ventured into behavioral and biochemical research on sleep in migratory songbirds, which set

the stage for his move to Colorado.

At CU Anschutz, he completed his PhD in Pharmacology, focusing on individual differences in drug abuse under the mentorship of Dr. Nancy Zahniser.

Dr. Mandt's postdoctoral work at CU Denver allowed him to delve deeper into drug abuse research while also discovering a passion for teaching and mentoring. This led him to a role as a Research Assistant Professor, where he balanced behavioral pharmacology research with undergraduate teaching and program coordination for a T34 MARC U-STAR training grant.

Returning to CU Anschutz, Dr. Mandt now leads the Postdoctoral Office and the Career Development Office, and serves as an Assistant Professor.

Dr. Mandt's work centers on creating a supportive environment for graduate students and postdoctoral scholars, developing workshops, providing coaching, and fostering career development.

In addition to his work building the Career Development Office and subsequent resources, Dr. Mandt is a Center for the Improvement of Mentored Experiences in Research (CIMER) trained facilitator and is actively working to promote CIMER's evidence-based research mentoring curricula throughout our institution. As a member of the AAMC GREAT Postdoctoral Training section Steering Committee, he served as co-chair for a working group that created a document to promote supportive and inclusive training environments titled, Appropriate Treatment of Research Trainees (AToRT). The broad goal for the AToRT document is to foster healthy research environments in which graduate students and postdocs can conduct their training.

Dr. Mandt hopes to help establish CU Anschutz and the Pharmacology Department, in particular, as a model for how to enact the principles outlined in the AToRT document.

New Grant Awards

Congratulations to the following faculty, postdoctoral fellows, and students on receiving new awards!

The Department of Pharmacology has had a 12.5% grant proposal

success rate for Principal Investigator (PI)'s whose home department is in the Department in January-June 2024. 75% of the proposals were federal awards.

January 2024

Joaquin Espinosa "Umbrella Clinical Trial to Evaluate Repurposed Compounds in Rett Syndrome" Anschutz Acceleration Initiative

Matt Kennedy "Evaluating the functional impact of synaptic nanoarchitecture"
NIH R01

February 2024

Luis Gomez Wulschner (Oh Lab) "Nicotinic modulation of excitatory synapse development in the prefrontal cortex" NIH F31

May 2024

Heide Ford, PhD, "Defining and targeting stress-induced translational control as a means to inhibit metastasis," Cancer League of Colorado

Jim Costello, PhD, "Assessing the phenotypic effects of innervation in bladder cancer," Cancer League of Colorado

June 2024

Sarah Wolfe (Smith Lab), "Mechanisms of transcriptional regulation to control inhibitory synaptic plasticity," NIH F3

Statement from the Department of Pharmacology's DEI Committee:

We are pleased with this year's progress in promoting DEI within our community and are committed to transparency by sharing our report with the Department of Pharmacology.

Support for Trainees:

The Department of Pharmacology will sponsor two trainees to attend the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) and/or the Annual Biomedical Research Conference for Minority Students (ABRCMS). Graduate students (2nd year and up) and postdoctoral

fellows are encouraged to apply. Details on the application process were shared with students and post-docs on Friday, August 23rd. Applications are due Friday, September 13th.

SACNAS Oct. 31st – Nov. 2nd

ABRCMS Nov. 13th – Nov. 16th

Is there another DEI-aligned conference you would like to attend that is not listed? You can apply and list your conference for the DEI committee to review!

Metascience Journal Club:

The DEI Committee is sponsoring refreshments for the Metascience Journal Club, led by Match McGregor, which meets monthly to discuss human aspects of science, including disparities and inequalities in STEM. Previous journal clubs have focused on gender and religion disparities and systemic inequalities for LGBTQ professionals in STEM fields. **The next meeting is on August 29th.**

CU PEAKS Postdoc Recruitment Event:

Our Postdoc recruitment event, CU Postdoc Education and Knowledge Summit (CU PEAKS), is scheduled for **April 7-8, 2025**, with a focus on attracting diverse candidates. This is a joint initiative with the Departments of Physiology and Biophysics.

Workplace Climate Survey:

A survey, in collaboration with the Ombudsman Office, will soon be circulated to postdocs to assess departmental strengths and areas for growth.

For more information or to get involved, contact

claire.gillette@cuanschutz.edu.

Upcoming Events

2024 Rocky Mountain Membrane Trafficking Meeting

9/06/2024 | 9am-4pm. MT

Keynote Talk: Dr. Tomas Kirchhausen, Harvard University

Endosomal Escape

Research Complex Building 2 - Krugman Conference Hall

University of Colorado, Anschutz
12700 E 19th Ave, Aurora, CO 80045

[Register for a Talk/Poster](#)

2024 Down Syndrome Research Symposium

9/10/2024 | 8:30am-3:30pm MT

Keynote Talks:

Ivan Moskowitz, MD – Professor, University of Chicago
Altered Hedgehog Signaling in Trisomy 21 Organ Progenitors

Marius Linguraru, PhD – Professor, George Washington University
Digital Genetic Screening for Diverse Populations and Resource Settings

Anschutz Health and Sciences Building Donald M. Elliman Conference Center
1890 N Revere Ct, Aurora, CO 80045

[Register Here](#)

12th Annual Student Research Day

9/23/2024 | 10am-7pm MT

The Pharmacology and Molecular Medicine Graduate Program is excited to announce the 12th annual Student Research Day! This all-day event will highlight our students' and post-docs' research with seminar talks and poster sessions, with a reception to follow with Pharmacology faculty. This will also give predoctoral trainees the opportunity to engage with one another and promote collaborations across departments and programs.

NOTE: Pharmacology Students 3rd year and up are **required** to present either a poster or oral presentation. 2nd years are *strongly encouraged* to present.

A full agenda will be distributed after titles and RSVPs are submitted. The deadline to register is Friday August 30th, 2024.

Please email madison.rodriguez@cuanschutz.edu with any questions.

Krugman Hall (Research 2, 2nd floor)
12700 E 19th Ave, Aurora, CO 80045

[Register Here](#)

University of Colorado Cancer Center Annual Scientific Retreat

9/26/2024 | 8:30am-5pm

Join the University of Colorado Cancer Center to discuss our latest scientific discoveries and advancements in cancer care.

Anschutz Health and Sciences Building Donald M. Elliman Conference Center
1890 N Revere Ct, Aurora, CO 80045

[Register Here](#)

Thank you for reading our newsletter for January-June 2024! Our department will now be releasing regular quarterly newsletters, so stay tuned for our July-September 2024 newsletter.



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