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To: biochem_universe@lists.colorado.edu
Subject: Department of Biochemistry Graduate Newsletter for January
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University of Colorado Boulder Department of Biochemistry

Biochemistry Graduate Newsletter

HAPPY NEW YEAR!

FRIDAY January 13, 2023



Join our [Slack Workspace](#) for more frequent updates.



Got suggestions? Drop them into the [FLC suggestion box](#).



Consult our [Google Calendar](#) to see what's happening.

This newsletter is unofficial and run by graduate students. We hope it comes in handy!

Since we're only able to include the publications, achievements, and new departmental colleagues we know about, these lists may be incomplete. Please [send us a tip](#) if you have an event, opportunity, or piece of news you'd like to see featured in our next newsletter.

We are looking for new additions to the newsletter team. If you have any interest in science communication or want experience writing HTML, reach out to Rosie Garris (rosanna.garris@colorado.edu)

News & Announcements

Classes start Tuesday, January 17th

Remember to register through your buff portal!

Feel free to use the newsletter as a virtual version of the JSCBB bulletin boards. If you have any information you'd like to share with the department, please [let us know](#).

Upcoming Events

Research Discussions

Biophysics Supergroup

4-5:15 pm, JSCBB A115

January 23, Luger and Randolph Labs

Followed by Pizza and Refreshments

Signaling & Cellular Regulation

Mondays 4 - 5:30 pm, JSCBB A104 (this month only)

January 30: Hannah Ledvina (Aron Whiteley Lab) & Kristyn Hayashi (Natalie Ahn Lab)

Electron Microscopy Users Supergroup

The EM Users meeting is open to all who are interested. Presentation topics include methods and current EM research going on in the CU Boulder EM community.

Usually takes place the last Wednesday of the month at noon.

Email Alli Schier (Allison.Schier@colorado.edu) to be added to the email list.

Biochemistry Seminars

Dr. Oleta Johnson | University of California- San Francisco

- January 18 | 3:30pm-4:45pm | In-person/A115 Butcher Auditorium
- **Title:** Leveraging Dynamic Properties to Understand Protein (Dys)function in Disease
- **Synopsis:** The dynamical properties of proteins are critical for their function and are often perturbed in disease. Despite this knowledge, developing chemical probes that explicitly target protein dynamics is challenging, and therapeutic molecules that alter protein dynamics are often discovered serendipitously. However, all living organisms contain a dedicated class of proteins, termed molecular chaperones, that specifically regulate protein folding and dynamics to prevent pathological outcomes. Can understanding the function of these molecular chaperone proteins inspire development of novel “pharmacological chaperones”? By combining biochemistry, biophysics, and chemical biology approaches with human genetics and emerging technologies, my research aims to answer this question. Specifically, my goal is to use these molecules to study and correct altered protein dynamics in neurodegenerative and neuromuscular diseases.

Dr. Mira Moufarri | The Column Group, San Francisco

- January 25 | 3:30pm-4:45pm | In-person/A115 Butcher Auditorium
- **Title:** Improving prenatal care through cell-free RNA liquid biopsies
- **Synopsis:** Pregnancy complications like preeclampsia and preterm birth pose huge risks to fetal and maternal long-term health and a large financial burden. Here, I will describe the development 3 liquid biopsy tests that

measure cell-free RNA (cfRNA) to monitor prenatal health and predict risk of pregnancy complications long before symptoms manifest. This work paves the way for affordable, simple, and reliable tests for preeclampsia and preterm delivery – risks that no other test can presently diagnose early enough to allow for meaningful clinical intervention. I will also describe the development of a low-cost, semi-automated pipeline to process samples and enable such discoveries, which to date, has extracted cfRNA from ~1100 samples in 9 days. This pipeline is generalizable for many nucleic acid extraction applications, thereby helping to democratize large-scale discovery stage work and presenting a means for smaller labs to process large sample sets with higher technical reproducibility. Altogether, liquid biopsy tests that measure cfRNA provide new tools to understand pregnancy and its complications and even change the standard of prenatal care.

Information regarding Biochemistry seminars can be found on the department [events page](#)!

QSci

There is a new community for queer researchers of all levels, disciplines and descriptions on east campus! Join us for our coffee hour on Thursday, January 19th from 9-11.



Early sunsets
have you feeling
Blue?

Join the rest of the
Rainbow for coffee
and pastries!

Thursday, January 19th, 2022 9-11am
JSCBB Room B115

QSci: Queer in Science, building a LGBTQ+ community on East Campus.
In conjunction with the EMPOWERS program.

Art by Clair Huffine

Publications and Achievements

Publications

Lottie Steward, Jeremy Bennett, Adam Voss, Halil Aydin

[*"The structure of the human LACTB filament reveals the mechanisms of assembly and membrane binding"*](#) PLOS Biology.

The Aydin Lab has published their first paper about the mitochondrial serine beta-lactamase-like protein (LACTB) and how it alters mitochondrial lipid metabolism and potentially inhibits the proliferation of a variety of tumor cells.

Accomplishments

Congratulations to Dr. Kelly Zuccaro from the Aydin Lab for being awarded the American Heart Association Postdoctoral Fellowship! Kelly will study the molecular mechanisms of regulated mitochondrial morphology. We are very excited and ready to celebrate!

Science Buffs

From space missions to minuscule microbes, Science Buffs is a graduate student-run STEM blog covering research at the University of Colorado Boulder and beyond. We are committed to making science more accessible to the general public and helping students and postdocs grow as writers. Learn more about us and getting involved at <https://sciencebuffs.org/>.

Updates from the Faculty Liason Council

FLC will be meeting at noon on Friday, January 20th and all are welcome. Additionally, we are planning on hosting a social hour on the 27th, probably at 3 pm (more details to come). Finally, FLC elections for 1st-, 3rd-, and 5th- year cohort representatives will be happening soon! Keep an eye out for an email with more information.

As always, the department anonymous suggestion box can be found [here](#).

Updates from P2P

P2P is hosting a Welcome Back! Event with free lunch for mentors and mentees on Wednesday, January 18th from 11:30 am – 12:30 pm in B322. We hope to see you there!

Post-Doc Association Events and Announcements

Monthly PAC Boulder Coffee Hour

[January 17th from 10:00-11:00 am](#)

JSCBB, Inside by the East Terrace Grill

Come along and meet other postdocs over coffee, tea, and cookies at a coffee hour hosted by the Postdoctoral Association of Colorado Boulder (PAC Boulder). This week's coffee hour will be on CU East Campus.

Click "I'm interested" in this [calendar link](#) to have updates emailed to you.

PAC Monthly Boulder Social

[January 26th from 5:30-7:30 pm](#)

The Rayback Collective

Join your fellow postdocs for food and fun at our monthly social at the Rayback Collective. The family-friendly event will be sponsored by the Postdoctoral Association of Colorado Boulder (PAC Boulder).

Means of Communication:

Twitter: [@PACBoulder](https://twitter.com/PACBoulder)

Email: pac_universe@colorado.edu

Outreach and Teaching Opportunities

Updates from the Center for Teaching and Learning

If you are TAing a class this semester, would like to earn a teaching certificate, or are simply interested in improving your teaching skills, the Center for Teaching and Learning (CTL) is here to help! Please don't hesitate to reach out to the departmental CTL Lead, Briana Aboulache (Briana.Aboulache@colorado.edu) for resources and information to help you achieve your teaching goals.

If you are interested in receiving teaching announcements throughout the year, please fill out this [form](#) to receive periodic teaching-related emails. You can check out the CTL certificates [here](#), track your certificate [progress](#), and find all upcoming CTL workshops/events [here](#).

Updates from SCOPE

If you are interested in volunteering for the Spring semester and/or assisting the board members with curriculum development, visit our website sign-up form to indicate your interests. If you have any other comments or questions do not hesitate to contact us at scope@colorado.edu (scope@colorado.edu).

Spring event info: May 1st, 8th, 15th and 22nd at Timberline PK-8 (30 min drive from CU - carpooling will be set up).

As always, check out our [website](#) to learn more and sign up to stay in the loop about all things S.C.O.P.E.! Also, take a look at our 'how to think like a scientist' cards in case you need help with your research projects.

How to think like a scientist:

1. Make an observation
2. Ask a question
3. Predict the answer
4. Test your prediction
5. Think about your results
6. Ask a new question!



Brought to you by S.C.O.P.E. at CU Boulder



If you have an outreach opportunity you're excited about, please [let us know](#) so we can share it in the next newsletter.

Department Spotlight

This is the section where we brag about something cool one of our fellow biochemists is doing outside of their research. Each month, we draw the name of one of our departmental colleagues at random to feature.



This month we're featuring Autumn Matthews!

My name is Autumn Matthews and I am a second year in the Alex Whiteley Lab. I am currently studying the retroelement-derived protein, PEG10, and how it changes gene expression. In my lab, I have been working primarily on fluorescence microscopy techniques! Outside of lab, I love playing kickball, baking, scrapbooking, and going on hikes with our new puppy!

Resources and Involvement Opportunities

Consolidated list of resources from the Office of Financial Aid

This comprehensive [list of crisis resources](#) provides free tools for dealing with

wellness, health, financial hardship, and other challenges.

Incident Reporting Resources

Follow this [link for resources and support](#) in reporting concerns or incidents that you are aware of.

Center for Teaching and Learning (formally GTP)

To learn about CTL, visit their [website](#) or contact the department CTL lead [Chelsea Toner](#).

Counseling & Psychiatric Services (CAPS)

[CAPS](#) offers confidential, on-campus mental health and psychiatric services for a variety of concerns such as academics, anxiety, body image, depression, relationships, substance use and more. CAPS is available for in person and telehealth (virtual) appointments from 9 a.m. to 5 p.m. Monday through Friday. All services will be held virtually through telehealth.

Services offered include counseling, psychiatry, workshops, process therapy groups, skill-based therapy groups, informal consultations, suicide prevention, eating concerns, ADHD treatment, addressing substance use, canine-assisted therapy, and virtual reality therapy.

oSTEM (Out in Science, Technology, Engineering, and Math)

To learn more about oSTEM, visit their [website](#) or attend their [weekly meetings](#) on Mondays at 6:00 pm.

Buff Pantry

CU Boulder students can pick up food from Buff Pantry on a weekly basis. Visit their [website](#) for details.



United Campus Workers

To join or get more involved in UCW, visit their [website](#).



CU Café

To learn more or get involved in CU Café, visit their [website](#).

Women in Science and Engineering (WiSE)

To join or get more involved with WiSE, visit their [website](#) or contact [Katelyn Long](#).

