

June Edition

June 4th, 2021

Volume 2, Issue 10

COVID-19

HUB AT HOPKINS

[JHU COVID RESOURCE CENTER](#)

[MARYLAND DEPT OF HEALTH](#)

[CENTERS FOR DISEASE CONTROL](#)

Johns Hopkins has moved to Phase 2 of reopening efforts, resuming medium-risk activities but still relying on distancing and mask-wearing in addition to providing online alternatives to in-person activities. COVID-19 safety measures remain unchanged on-campus for vaccinated individuals; CDC guidelines do not apply to JHU facilities. Help keep the Hopkins and Physiology community safe by respecting safety regulations!

Announcements

HELP WANTED FOR DEPT WEBSITE

The Physiology Department relies on the webpage to disseminate information to members of our department and the wider world. As the academic year ramps up, many updates are made to the site! If you have any skills in HTML, CSS, or any other web language, email Marsha Miller and help the department site stay up to date!

THE COOLEY CENTER IS REOPENING!

The Cooley Center will reopen under Phase 1 restrictions, M-F 6am-8pm. The School of Public Health gym remains closed. Fitness classes will be held outside or virtually. Please visit jhmifitness.com for more details, class schedules, and to sign up for classes and time slots up to one hour.

Upcoming Events

June 6: Journal Club at Noon

Alex Maya Romero and Alexa Wade
Paper: [*"Mitochondria Bound to Lipid Droplets Have Unique Bioenergetics, Composition, and Dynamics That Support Lipid Droplet Expansion \(nih.gov\)"*](#)

June 18: Journal Club at Noon

Jiachen Chu and Jessica Hernandez

June TBD: Cat McCann's Thesis Seminar

Welcome!

Incoming CMP Students

Please give a warm welcome to soon-to-be first-year Cellular and Molecular Physiology students **Katie Sullivan**, **Manuella Andrade**, and **Luoluo Chen**, who will be joining us in the fall semester to begin their graduate student journeys in Physiology.

New Postdoctoral Fellows

Three new postdocs have joined the department this month: **Dr. Hayden Hyatt** of the Claypool lab, **Dr. Ruiqi Cai** of the Qiu lab, and **Dr. Devi Kasinathan** of the Fu lab. It's a wonderful season in Baltimore to be joining a new lab!

Physiology Newsletter

CMP sees two students graduate in May Kelli Johnson moves on to postdoc at U. Michigan and PSam takes a position at Boston Consulting Group

"I loved my time here with CMP, I would make the same decision if I had to do it all over again. Mark was an amazing mentor and everyone in lab has been so supportive through my entire time here. Thank you Mark. Thank you Donowitz Lab. And thank you CMP!"

-Dr. Kelli Johnson, PhD



Photo courtesy of Kelli Johnson

New Lab Home:

Dr. Jason Spence, University of Michigan-Ann Arbor

The Spence laboratory uses human pluripotent stem cells to generate 3-dimensional tissues in the tissue culture incubator. For example, we generate intestinal tissue, called human intestinal organoids (HIOs) in order to study human intestine development, differentiation and disease.

"Kelli Johnson, Ph.D completed her studies in the Donowitz Laboratory and the JHUSOM Physiology Department, May 31, 2021. This was a very successful Ph.D with two papers (one published and the other nearing completion), multiple presentation and most importantly saw her mature into a critical thinking scientist. She is doing a post-doctoral fellowship in the laboratory of Jason Spence, Ph.D, one of the leading scientists in the world studying intestinal stem cell developmental biology at the University of Michigan. The Donowitz laboratory is proud to have taken part in Kelli's development as a scientist and wishes her the best in her next period and beyond."

-Dr. Mark Donowitz, MD

"Oh, that it is hard to leave home! It is unbelievably the end of my training at the Mitochondrial Phospholipid Research Center, aka, The Claypool Lab! I am truly grateful for how I have been shaped, not only by my friends and permanent advocate in the lab, but also by everyone-- truly everyone-- from the Physiology Department, the best from the nation (according to me!). It is a new season, and I am looking forward to joining the Boston Consulting Group to use my rigorous scientific training to help solve though clients' problems. Will miss y'all."

-Dr. Pingdewinde Sam (PSam), PhD

"In March 2019, PSam and I attended a GRC conference in Ventura CA. Being that my parents live only 2 hours north of Ventura, we flew into LA a day early, rented a car, and drove up the coast (stopping for a Freebirds burrito in Isla Vista, my old college town). To help PSam get a true Central CA Coast experience, my parents took us to Kynsi, a fantastic winery near their house. As you can see, PSam really enjoyed the wine. After a great dinner and a lot more wine, PSam and I hopped back in the car and drove to the meeting where a few days later, PSam won a poster award, gave a talk with only hours to prepare, and then left all inhibitions behind on the dance floor later that night. Great trip and wonderful memories with a truly remarkable person."

-Dr. Steven Claypool, PhD



Photo courtesy of Steven Claypool

As some trainees move on from Hopkins, these new postdocs joins the ranks of Physiology

Devi Kasinathan, Fu Lab Postdoctoral Fellow

Hi everyone! I am Devi Kasinathan. I was born and raised in India. I got my PhD at Alagappa University in the Tamil Nadu and started my research in molecular biology. I came to the U.S in 2019 as a postdoctoral fellow in Dr. Khalid Matrougui's lab at Eastern Virginia Medicinal School and did a second postdoctoral fellowship at University of Maryland. I had been working on mo-

lecular studies of cardiovascular disease and type 2 diabetes and its associated complications, in particular, cell signaling of resistance arteries and pro-inflammatory cytokine role to vascular smooth muscle cells in arteriogenesis and angiogenesis and to understanding the molecular mechanism of type 2 diabetes and its associated complications and obesity. I am a small artist (painting, drawing, quilling) and shuttlecock player and I am good at native cooking.



Photo courtesy of Devi Kasinathan



Photo courtesy of Hayden Hyatt

Hayden Hyatt, Claypool Lab Postdoctoral Fellow

Hello there! My name is Hayden and I have recently joined the Mitochondrial Phospholipid Research Center here at Hopkins with Dr. Steven Claypool. My background is in muscle physiology. I have spent the last four years at the University of Florida with Dr. Scott Powers (fantastic dude) studying diaphragm muscle wasting that occurs during mechanical ventilation. Since mitochondria serve as an important nexus for muscle wasting, I am excited to further my training in mitochondrial function! I am joined by my rockstar scientist fiancée, Kathleen, and our cat Yeti. Fun fact- Yeti is one of the first 100 survivors of a terminal illness known as feline infectious peritonitis, so he is also pretty cool. I love anything outdoors and try to bring positivity to any situation. I also recently put my degrees to work by completing a 140.6 mile Ironman triathlon. If you see me in the halls, be sure to stop and say hey!

First-Year Graduate Students Choose Their Thesis Labs

After an unprecedented year of challenging pandemic rotations, decisions about their new homes have been made. Yi (Henry) Cheng has joined the Qiu lab where he will contribute to the lab’s understanding of novel ion channels such as PAC and SWELL1. First-year BCMB graduate student Noel Getachew, who has already joined the Pluznick lab earlier this year, will be joined by Mackenzie Kui also having selected the Pluznick lab where they will both be looking into the roles of GPCRs in the kidney with other renal enthusiasts. Lastly, Jessica Hernandez has landed in the Kralli lab where she will be emersed in the study of the effects of exercise, PERM1 activity, and ERR signaling on metabolism in adipose and skeletal muscle. Congrats to all! We’re all very excited to watch your careers grow and know you’ll do great science!

Contact Us

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Physiology Feature

Cat McCann: artisan, cat-lover, and transgender scientist sets their sites on graduating during Pride Month

Erica Avery, Claypool Lab
5th-Year Graduate Student

Their hair styled in a blonde half-shaved sidecut and a few tattoos showing across wrists, calves, and upper-arms, Cat McCann (they/them) strolls into the Lustsenko lab space with a blue blazer they sewed themselves and knitting needles ready to be put to use during a lunch break.

McCann is a seventh-year Cellular and Molecular Physiology graduate student, a transgender scientist, and the only current out LGBTQ representation in Physiology. McCann is preparing to defend their thesis in June, which also happens to be LGBTQ Pride Month.

As a member of the Lutsenko lab, McCann’s work focuses on understanding copper transporters ATP7A and ATP7B, specifically looking into the novel regulators of copper homeostasis and how regulation can play a role in cellular processes such as neuronal differentiation.

McCann came out as transgender in December 2020 and this past May 26 they were a part of an event “Trans-lational Research: A Conversation About Being Trans in Academia.”

“In the pandemic I had a lot of time to sit at home and wonder about what parts of my presentation were for me and what parts were for other people,” they said during the event. “I could figure out what bothered me personally and what parts bother me about the way I’m perceived.”

Since the pandemic, McCann has begun hormone therapy and describes the experience as “going through second puberty.”

“Trans people can get physical dysphoria and social dysphoria about the way they’re perceived— I didn’t like my voice—my voice made me want to cry,” McCann continued. “I just thought everyone hates their voice and wants to cry about it. You don’t realize the things that make you miserable in small ways that build up over time. But having hormones and seeing these changes— every day I find a new thing to be happy about.”

To McCann, those small changes make a world of difference. However, they knew they were nonbinary back in 2014.

“I want to stress, I knew I wasn’t cis, but I didn’t have the words to describe what I was,” they said. “It’s not so binary— I knew I wasn’t a man and I knew I

wasn’t a woman. But I wasn’t ready to come out fully because it’s a new thing and people don’t really respect in-betweens.”

Two take-aways from the event’s conversation were that trans people are all around us, we might just not know that they’ve come out as trans people as well as that there is a toxic culture of “gatekeeping” on what “qualifies as trans” and what boxes you have to check to get your needs met as a trans individual.

“I didn’t know where to go for support,” McCann said. “I think what I was feeling— and what a lot of trans people struggle with— is not being trans ‘enough’— that they don’t deserve the support because other people have it worse... I waited so long to pursue hormones because I thought I wasn’t convincing enough.”

During the discussion, McCann also cited meeting another trans scientist as a moving experience along their journey.

“I went to an [American Society for Cell Biology] conference before the pandemic and there was a seminar about being queer in STEM and the keynote speaker was a trans woman who came out in her 50s,” they said. “She has a lab and she was the first trans person significantly older than me I had met in real life and as soon as I walked up to her I burst into tears.”

McCann’s curiosity about how the fundamentals of cells and their pathways play a role in larger biological processes translates to their crafting hobby as well.

“If I could distill my interests down, it’s really cool to build something from the ground up— the idea that you could take wool from a sheep and dye it and make it into a yarn and weave into a fabric that you can cut and sew into a garment,” they said outside of the event.

McCann started knitting after the 2016 election as a stress reliever and from there described spinning yarn, sewing, cross stitch, mending clothes etc as a rabbit hole they might as well delve into.

“If you make something you have a relationship with it and because you have that relationship you want to keep it and make sure it stays whole instead of buying something from a store and you don’t have that relationship,” they said. “When you put your hands into something and contribute to part of it, it’s so much more meaningful— that’s why people appreciate home cooked meals and baking... there’s emotion put into it.”



McCann’s feline companion Ruby models the rainbow bandana crafted by her human. -Photo courtesy of Cat McCann

Having something attention focusing McCann can do with their hands is an added benefit.

“Scarves and basic hats are good for [focus],” they said. “...If I’m not doing something with my hands, I’m thinking about what my hands could be doing.”

Unlike our science however, research journals about crafts are not commonplace. Instead, crafts have traditionally been an art passed down from mothers to daughters.

“That’s how we have this knowledge today because we learn about it from knowledge that’s passed down,” they said. “Crafts are so devalued as an art form but they’re so essential to life.”

McCann pointed out at least sculptures or paintings have always been in museums, but another aspect of gender issues and misogyny is how traditionally feminine art forms are diminished.

Of course the artisan and cat lover has also crafted a stylish bandana for their cat Ruby as well.

“[Cats] are perfect animals and I struggle with anxiety and Ruby knows when I’m having a panic attack— they just know,” they said.

From scientist to cat lover, crafter to member of the trans community, one thing McCann can teach us is that there is always more to learn about ourselves and who we are.

“It’s always good to examine our identities,” they said. “Either nothing changes and you strengthen who you are, or something doesn’t fit and you change accordingly.”

Awards and Accomplishments

Claypool lab postdoc Nanami Senoo was awarded an American Heart Association postdoctoral fellowship, funded in-part by the Barth Syndrome Foundation. She was also awarded a 2021 MD Stem Cell Research Fund postdoctoral fellowship, which she declined due to the funded AHA award. Read more [here](#)!

Alexa Wade of the Kralli lab was awarded a predoctoral fellowship also from the American Heart Association, bringing the number of Physiology trainees who were awarded AHA fellowships this cycle to two. Well done, ladies!

Nathan Zaidman, postdoc in the Pluznick Lab, received a Johns Hopkins Postdoctoral Research Accelerator Award. Congratulations!

Publications

Blogs and Media

[A HUB article published in May](#) recognized five Hopkins students inducted into the Bouchet Society, including our own Anna Moyer, who is committed to supporting individuals with disabilities through her research and advocacy. The Edward Alexander Bouchet Graduate Honor Society recognizes outstanding academic achievement and commitment to diversity.

Alex Maya Romero, postbac in the Claypool lab, recently had a [blog published for the American Society for Cell Biology \(ASCB\) about choosing the right PI](#).

Manuscripts

A new paper from the Anderson lab, [CaMKII oxidation is a critical performance/disease trade-off acquired at the dawn of vertebrate evolution](#), was recently published in Nature Communications. Based on their investigations of CaMKII, they report that increased sensitivity to reactive oxygen species in diseases and aging is likely a trade-off for beneficial traits that fueled the early evolutionary success of vertebrates.

The newsletter needs YOU!

Interested in submitting a clip to the newsletter? Have a knack for writing? Got an idea you want to share? Any news you think we should highlight? Looking to beef up your CV? Or just have an announcement you want included? We're looking for ***your*** contributions to the newsletter! Contact the newsletter team so you can be featured.