MPB GSA NEWSLETTER

Spring 2021

The purpose of this newsletter is to serve as a resource for MPB students to get to know the department better.

Molecular Physiology & Biophysics

Graduate Student Association

A full year after the coronavirus pandemic officially led us into lockdown and an entirely new way of living and working, the MPB GSA hopes this newsletter still finds everyone in the department healthy, safe, and well! We are hopeful this section will once again contain "Upcoming Events" in the next iteration of the newsletter!

Spring Newsletter Highlights:

- Accomplishments in MPB
- What was new in MPB?
- Welcome to our new students!
- Post-doctoral spotlight: An Interview with Dr. Deborah Roby
- Congratulations to our newest graduates!
- Ways to Connect

Congratulations, MPB!

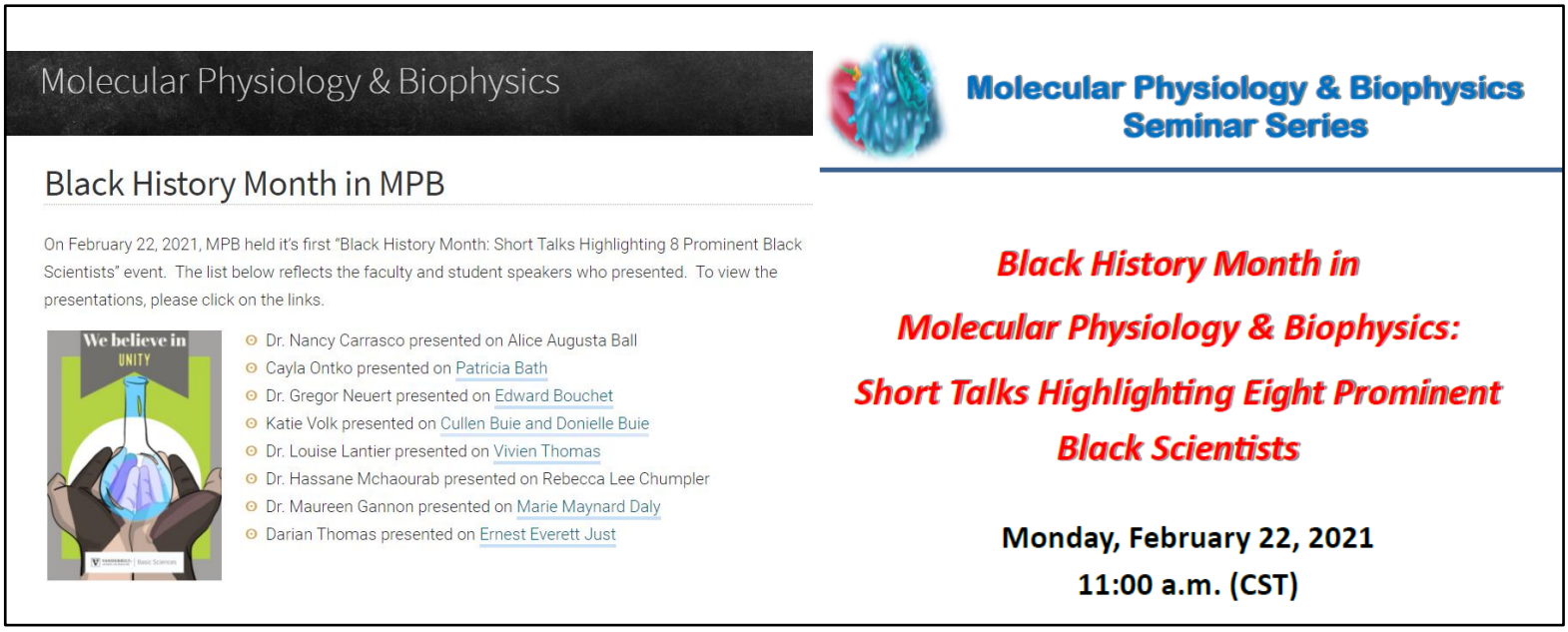
The people around us are incredibly talented… so the MPB GSA wanted to take the time to highlight some tremendous achievements by several members of our department! Congratulations to all the students and post-docs highlighted below for their exceptional work! We apologize to any individuals we may have missed. **Please let us know of recent grants, awards, and publications so we can feature it in the next newsletter.** «»

- **April 2021: Dr. Antentor ("AJ") Hinton** gave a talk at the virtual ASBMB Annual Meeting titled "Loss of OPA-1 in skeletal muscle increases mitochondrial endoplasmic reticulum contact formation" in the Mitochondria Interest Group.
- **April 2021: Payam Fathi** (Ayala lab) was awarded an NIH F31 fellowship titled "High fat diet-induced remodeling of preproglucagon neuronal control of feeding behavior."
- **April 2021: Dr. Michelle Bedenbaugh** (Simerly lab) co-authored a paper published in *Science Translational Medicine* titled, "The melanocortin-3 receptor is a pharmacological target for the regulation of anorexia." An image from her work done for this paper was also used as the cover image of this issue of *Science Translational Medicine* (*13*)!
- **April 2021: Jason Hughes** (Neuert lab) was awarded the Harold Stirling Vanderbilt award.
- **April 2021: Dr. Nathan Winn** (Hasty lab) was awarded an AHA post-doctoral fellowship grant for his project titled "Adipose-immunometabolic crosstalk by diet and exercise in obesity."
- **May 2021: Cayla Ontko** (Penn lab) published a first-author paper in *Nature Scientific Reports* titled "Cytochrome P450-Epoxygenated Fatty Acids Inhibit Müller Glial Inflammation."

1st Annual Black History Month Event

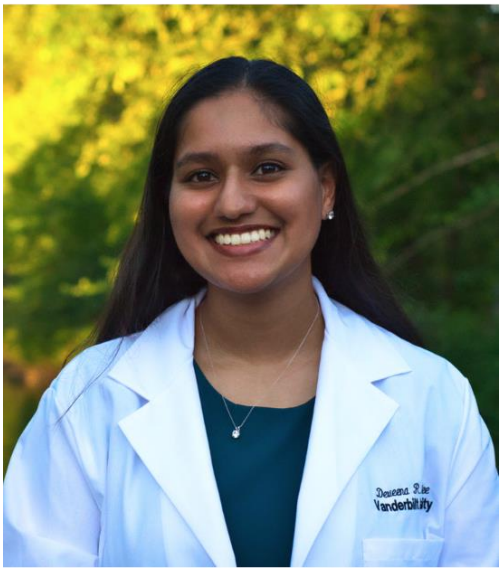
February 22, 2021

An idea originally driven by Dr. Hassane Mchaourab and coordinated by Director of Graduate Studies, Dr. Richard O'Brien and Department Chair Dr. Nancy Carrasco, MPB held an inaugural virtual Black History Month event to commemorate the achievements of several generations of Black scholars in the sciences. Four students and four faculty members in the department volunteered to present 5–6-minute vignettes highlighting several Black scientists throughout history. Presenters highlighted the significant scientific contributions made by each scientist, while also acknowledging and paying tribute to many of the hurdles and immense challenges faced by each individual during their scientific career. This event, while held on Zoom as many other events have been over the past year, was a huge success in its first iteration and prompted a lot of discussion amongst members in the department. It is a hope of the department's that this event continues for many years to come. Thank you to all who participated and who attended this special event! Among this year's student and faculty presenters were Dr. Nancy Carrasco, Cayla Ontko, Dr. Gregor Neuert, Katie Volk, Dr. Louise Lantier, Dr. Hassane Mchaourab, Dr. Maureen Gannon, and Darian Thomas. Each presentation is available for viewing on the MPB website, linked →
https://medschool.vanderbilt.edu/mpb/2021-black-history-month-in-mpb/. «»



Welcome to MPB!

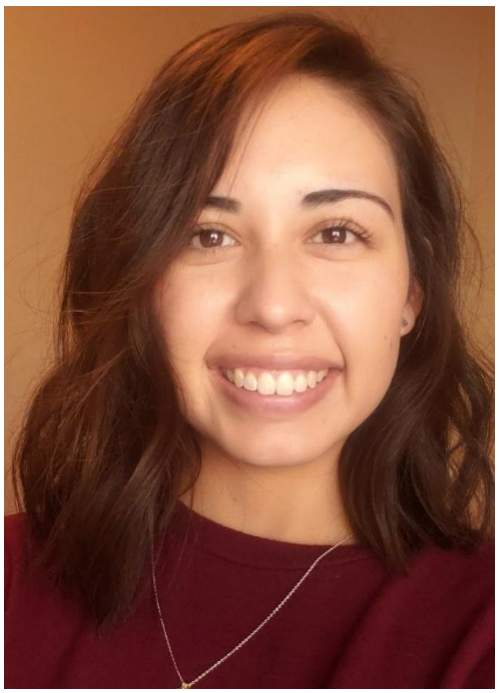
The department is excited to welcome five new graduate students this spring as these individuals officially settle into their new thesis labs!



Name: Deveena Banerjee
Lab joined: Dr. Jamey Young
Hometown: Sacramento, CA
Undergraduate: Bates College
Favorite movie: Clue

Name: Julie Burkett
Lab joined: Dr. Maureen Gannon
Hometown: Baltimore, MD
Undergraduate: The College of New Jersey
Favorite food: Dark chocolate!

Name: Miles Crockett
Lab joined: Dr. Jamey Young
Hometown: Cape Coral, FL
Undergraduate: Colby College
Favorite movie: Arrival



Name: Jordyn Dobson
Lab joined: Dr. David Jacobson
Hometown: Carlsbad, NM
Undergraduate: New Mexico State University
Favorite food: Anything chocolate!

Name: Jade McDaniel
Lab joined: Dr. Rafael Arrojo e Drigo
Hometown: Salina, KS
Undergraduate: University of Toledo
Favorite book: *When Breath Becomes Air* by Paul Kalanithi

Post-Doctoral Fellow Highlight

By Katie Volk

Dr. Deborah "Deb" Roby recently accepted a job in industry after a few years as a postdoctoral fellow in MPB… and the GSA sat down with Deb to hear what it was like to search for a job during a pandemic, what keeps her going in her scientific pursuits, and what she will miss most from her time in the department.

Dr. Deborah "Deb" Roby, Ph.D.

Hometown: St. Louis, Missouri

What has been the path of your academic career leading up to Vanderbilt? I graduated from Truman State University in 2010 and went into industry. I worked at Monsanto in the soybean/nematology and corn/entomology groups, then got a wild hair and decided to sell Aflac insurance. Sometimes we make poor life choices, but they drive us back to where we're supposed to be. Anyway, that was miserable and it drove me to achieve my goal of attaining my PhD, so I attended Saint Louis University in St. Louis, MO. I skipped around all sorts of different labs during my rotation period because I was interested in everything. I ended up settling in neuroscience, eventually focusing my project on Alzheimer's disease, circadian rhythm, and nuclear receptors. Now let it be known, I did NOT want to do a postdoc. I had been in industry, and I wanted to go back. However, a visiting professor of all people gave me a piece of her mind, and for some reason that got through to me. So I opened up the mindset that I would look for postdocs, too. Shortly after, call it providential, a professor I greatly admired said he had received an e-mail that the American Heart Association had these focused research groups and were actively searching for postdocs. Even though the topic wasn't at all in my wheelhouse, he said it would be good for me to branch out. I submitted my resume to Joey Barnett at Vanderbilt (who unbeknownst to me knew the old chair of my department at SLU), who forwarded it to David Wasserman. I defended my dissertation in 2016 and moved to Nashville to begin my postdoc in January 2019.

What work do you do here now at Vanderbilt/what are you currently studying?

I am currently in David Wasserman's lab with a few different projects. I'm studying the effects of TNFα inhibitors on insulin resistance in diet-induced obese mice. I'm also studying the conditional knockout of the integrin-b1 receptor from endothelial cells and the effects on microvasculature. A side project is working with collaborators to develop 3D modeling of muscle capillaries.

So, we've heard of this new job you've gotten…?! I recently took a position with Latham BioPharm Group (LBG), a consulting company that assists pharma companies in applications for

government and NGO funding. I knew I wanted to move away from the bench but still keep my ADD science mind active, and this is the perfect opportunity. Each project is a little different, so hearkening back to the woman who couldn't decide on a lab because it all sounded neat, it will be the perfect fit for me.

What was it like for you searching for a job and trying to do science in the past year? I networked. I tried searching for a job during my PhD and it was haphazard and fruitless because I didn't know anyone in the positions I was applying to and I didn't really know what I wanted. The BRET office at Vanderbilt has wonderful resources, though, and one of their talks on informational interviewing really struck home. I just started talking to people outside of academia about what they did. I could talk to a wall, so this was easier for me than a lot of people, though. When I did start applying, I was very focused and applied to jobs that I knew I liked what they did, I knew people who worked there and could speak for me, and then let the chips fall where they may.

We are so excited for you! What are you most excited about with your next steps then? As I said, the bench has never been my forte, but I am 1000% glad I made myself struggle through because I learned so much. I have had excellent, excellent people surround me during my entire duration in academic, and I wouldn't have it any other way. I'm looking forward to what LBG does because it's closer to the application of the research we spend our time doing in academia. We all want to know that our work makes a difference, and my new position is helping companies on the cusp of bettering human health. It's very pragmatic, which I appreciate.

That all sounds wonderful… but we will definitely miss you! What will you miss most about doing work in MPB? Am I allowed to name names? I will definitely miss my lab mates. They are wonderful, fun, supremely intelligent people who challenge me in work and in life. I keep a quote list from some of our conversations just so I can laugh maniacally at how funny they are. They are such wonderful people, these are friendships I intend to keep. Also, when you spend so much time in lab, you get REALLY good at random lab tasks that will never serve you anywhere else in the world, so I'll miss the small amount of pride I take in that. It's not like you can put "I can get a mL of blood from a mouse heart in one try" on a dating app. You might attract the wrong crowd.

Our department will miss your humor that is so characteristic of you! Any other fun facts or last tidbits of who you are, things you like to do, etc. that you'd share with us? I took up yodeling during the pandemic. Just kidding, but I actually tried a bunch of different hobbies during the pandemic, from baking to guitar… Baking is an easy [hobby], and I just make my roommate eat half of whatever I make (which she is very glad to do). [As far as interests go], I'm kind of a jack of all trades. I'm mainly passionate about my faith, though, and I try to let that inform how I act in the rest of my life. All people are made in God's image, and the more I understand that, the more I want to be compassionate with people's everyday struggles. It's so important to surround yourself with people who think differently than you do and learn from them. Some other random things that fill my time: I sing in the choir at my church (Christ Presbyterian), I can muddle my way through a sign language conversation, I love hiking, I have the coolest cat in the world named Tristan, and I can quote way too much media, from *Monty Python* to *Princess Bride.*

Thank you for your time with us, Deb! Any last word you'd like to leave with us? This is my favorite quote I had at the end of my dissertation defense in 2018. It's the reason I kept researching even when I didn't want to: "*Through [his own work], a [man of science] … is*

devoted entirely to understanding something of that mysterious language that God has written in nature… he renders to the Absolute the most pleasing and acceptable homage – studying His prodigious handiwork so as to know, admire, and revere [God] through it." – Santiago Ramón y Cajal, from *Advice for a Young Investigator*.

Congratulations on a successful thesis defense!

Celebrating the new 2021 graduates:

Name: Sarah Graff
Hometown: I am originally from Miami, Florida but my family moved to Greenville, KY when I was 12 years old.
Where you were at before Vanderbilt: I went to the University of Kentucky where I got a B.S. in Biology.
Year you started at Vanderbilt: August 2015
Lab: Dr. David Jacobson
Thesis Title: "Identifying the role of TALK-1 channels in islet hormone secretion, mitochondrial function, and the ER stress response."
Why you chose your thesis lab: I loved the people in the lab and I enjoyed learning how to do electrophysiology.
Favorite moment/memory from your time with your lab: Traveling to Barcelona to give a talk!
A challenge you faced or something you learned during your time in lab: I learned that in science you have to be persistent. When your experiments aren't going well, just keep at it. It is all worth it when you discover something new!
Favorite memory with the MPB Department: The relay races and Halloween parties!
Favorite thing(s) to do in Nashville: Brunch and hiking 😊
Where you will be next: I have started a faculty position at Belmont University.
Any advice to younger students: Science can be hard, but don't let the difficult days get you down! You can do this!
One word to describe your experience at Vanderbilt: Memorable.

Name: Jack Walker
Hometown: Kansas City, KS
Where you were at before Vanderbilt: Washington University in St. Louis
Year you came to Vanderbilt: 2014 at Vanderbilt and 2016 in MPB
Lab: Dr. Al Powers and Dr. Marcela Brissova
Thesis Title: "New Insights into the Molecular Mechanisms of Islet Dysfunction in Human Diabetes"
Why you chose your lab: I chose my thesis lab for the opportunity to work directly with human tissue samples and the wide variety of techniques and approaches that we use to decipher human islet biology.
Favorite moment/memory from your time with your lab: I always enjoyed attending the annual meeting for the Human Islet Research Network (HIRN). We would send a large portion of the lab often and the lab was full of experts in human islet biology across the world but relatively small so you could still meet and interact with many people.
A challenge you faced or something you learned during your time in lab: Your support system is critical. During my graduate training, we lost our home to the Nashville Tornados and the community at Vanderbilt in my lab and in the MSTP were crucial in keeping to move forward.
Favorite memory with the MPB Department: The variety of speakers and topics at seminar! I remember hearing a talk by a graduate student from the Winder lab that used a technology in brain biology that we were able to apply to islets and that was really fun.
Favorite thing(s) to do in Nashville: Try all the amazing new restaurants. I can't keep up with all of them!
Where you will be next: Heading back to medical school for my final year before going to residency.
Any advice to younger students: Research is hard and there will be setbacks scientifically, but it's important to not let those define you. Instead, your broader relationships and community should be your focus.
One word to describe your experience at Vanderbilt: Community.

Connect with us!

Our website can be found at: https://medschool.vanderbilt.edu/mpb/the-mpb-graduate-program/mpb-graduate-student-association/

Keep up with us on Twitter: @VanderbiltMPB

Find us on Slack: @vumpbgraduatestudents.slack.com

Join our Facebook group for updates! @Vanderbilt MPB Graduate Student Association

We want to hear from you!

MPB students know how to get things done! **Let us know of recent grants, awards and publications so we can feature it in future newsletters.** Also, if you would like to contribute to the newsletter, please let us know! It's a great way to improve your writing skills and would look great on your CV! Comments and suggestions are encouraged as well.

Calling all students of MPB!!
GSA Officer Elections for 2021-22 are rapidly approaching… This is a great way to get involved in the department and add a highlight to your CV!
Please submit your nominations for each officer position to julia.pinette@vanderbilt.edu by June 4

2020-21 MPB GSA Officers

President: Julia Pinette
Vice President: Tiffany Richardson
Secretary: Slavi Goleva
Treasurer: Shannon Townsend
Seminar Chair: Cayla Ontko
Newsletter/New Student Chair: Katie Volk
Social Media Chair: Serena Sweet