

# 2023 Pathobiology Newsletter



## A MESSAGE FROM THE DIRECTOR

Dear Pathobiology students, faculty, staff, and alumni,

Happy holidays and new year to everyone!

I want to thank each of you for your commitment and dedication to our program and to research on diseases of global health importance. I see so many examples of this dedication on a daily basis, and it helps keep me energized about and committed to our program. What I have long admired about the Pathobiology program is the spirit of community and caring from faculty, staff, and students alike, in addition to the amazing science and dedication to improving global health. I am confident that we can keep this tradition going strong. It's great to feel part of such a strong and like-minded team!

As you'll see from our newsletter, we have a lot to celebrate and be thankful for, including fellowship awards, published manuscripts, new connections, new mentor-mentee pairings, and new family members. Our program continues to grow and evolve; this year we welcomed 7 new first-year students and 8 new faculty members!

Similar to last year, we have been doing our best to reinvigorate (as we "come back" from COVID) the sense of community that I have long admired within the Pathobiology program, and so I continue to welcome suggestions for how to increase our sense of community and connection. We are off to a great start with the return of our overnight retreat at Pack Forest, where we went in October 2023 and to which we will return next year in 2024! We also had the Pathobiology Bake-Off at the start of the autumn quarter, and will work to plan additional social events in the coming months. Finally, we would like to plan for a Pathobiology Day of Service in the new year to bring the community together – suggestions welcome!

Thank you again for all that you do, and I hope that this academic year brings new opportunities, connections, and discoveries for you all.

Jennifer Lund, PhD ([jlund@fredhutch.org](mailto:jlund@fredhutch.org))

# PROGRAM INFORMATION

Welcome to our new first-year PhD students!



Ashley Brauning



Sophia Chima



Catherine Gohar



Tonny Owalla



Annabelle Souza



Rebecca Villa



Riley Zielinski

## Congratulations to our 2023 graduates!

**Amy Lu, PhD** (mentor: Michael Gale)

**Felicia Watson, PhD** (mentor: Sean Murphy)

**Nicole Potchen, PhD** (mentors: Jim Kublin & Jenny Lund)

**Natasha Bourgeois, PhD** (mentor: Alexis Kaushansky)

**Joy Twentyman, PhD** (mentors: Molly Ohainle & Michael Emerman)

## Welcome to our new 2023 Pathobiology Training Faculty!

Jim Boonyaratanakornkit

Ben Gern

Heather Jaspan

Tristan Jordan

Nana Minkah

Ashley Vaughn

Sid Venkatesh

Lucia Vojtech

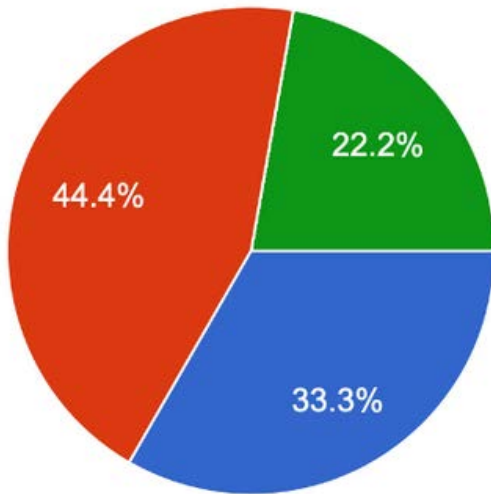
**31 current  
Pathobiology  
Students**

**80 total  
Pathobiology  
Training Faculty**

**UW Department of Global Health**

## Current student career interests

● Academic research ● Industry ● Government/Policy



## Sci Comm/Outreach opportunities

- Science outreach with HUSCI: <https://linktr.ee/husci>
- Association of Public Health Laboratories (APHL) Fellowship program. Link to application in the job information section below. (**Rebecca Villa**)
- Communicating Science to the Public Effectively course (CENV 500) (**Olivia Kern**)
- UW Graduate School "Scholar's Studio" and "3-minute thesis (3MT)" competition. (**Felicia Watson**)
- NWBAR science ambassador program (talk science to middle school students) (**Nika Hajari**)
- Business Development Fellows Program (**Nicole Potchen** or [fellows@fredhutch.org](mailto:fellows@fredhutch.org))

**Nucleate** is a completely student-run 501(c)(3) nonprofit organization that facilitates the formation of new life science ventures.

Our equity-free Activator program supports companies that tackle the biggest challenges in human health and sustainability. The program educates participants on the bio-entrepreneurial journey and connects scientific trainees and business oriented students with a world-class advisor network of startup founders, executives, venture investors, and renowned scientists.

Please be on the lookout for all our events!

## Nucleate Seattle

Student-led, student-focused. Bridging the gap between academia and biotech in the Pacific Northwest.

Join us in March 2024 for our Activator Final Pitch Showcase.



If you want to receive our monthly newsletter, get involved with the Nucleate Seattle Leadership team, or want to learn more about us, please contact us at [\*\*seattle@nucleate.xyz\*\*](mailto:seattle@nucleate.xyz).

You can also follow us on LinkedIn (**@NucleateSeattle**) to stay up to date with our activities!

# GRANTS, HONORS, PUBLICATIONS

## 2023 Grants, Awards, Honors, Achievements:

- **Kristina Edwards** was invited to give an oral presentation at the International Herpes Workshop in Missoula!
- **Caroline Duncombe** gave two talks at the annual ASTMH meeting in Chicago this year!
- **Guoyue Xu** received the Canadian Institute of Health Research Doctoral Foreign Study Award, a highly competitive 3-year doctoral fellowship awarded to Canadian graduate students abroad!
- **Aldo Trejos** was invited to give a talk at the upcoming Gordon Research Conference on Biology of Spirochetes (Section: Gordon Research Seminars) in January 2024 in Ventura, California, to present his work done with a *Treponema pallidum* mutant incapable of antigenic variation. He will also present a poster at the same conference!
- **Lakshmi Warriar** received the Viral Pathogenesis and Evolution T32!
- **Aldo Trejos** delivered a rapid fire talk titled "Rescuing the attenuated phenotype of a *Treponema pallidum* strain incapable of antigenic variation" on Dec.6th at the 2023 STI CRC meeting organized by the NIH on vaccines for STIs!
- **Rebecca Villa** received the ARCS Foundation Fellowship!
- **Rachael Parks** received the Norm Letvin Early Career Investigator Award!
- Pathobiology Retreat poster winners: **Kristine Tandoc**, **Guoyue Xu**, and **Austin Haynes**!

## 2023 Publications:

- **Ahmed, S.**, Chowdhury, S., Gomez, J., Hung, D. T., & **Parish, T.** (2023). Benzene Amide Ether Scaffold is Active against Non-replicating and Intracellular Mycobacterium tuberculosis. *ACS infectious diseases*, 9(10), 1981-1992. <https://doi.org/10.1021/acscinfecdis.3c00275>
- **Arkatkar, T., Davé, V., Cruz Talavera, I.**, Graham, J. B., Swarts, J. L., Hughes, S. M., Bell, T. A., Hock, P., Farrington, J., Shaw, G. D., Kirby, A., Fialkow, M., Huang, M. L., **Jerome, K. R.**, Ferris, M. T., Hladik, F., Schiffer, J. T., **Prlic, M., & Lund, J. M.** (2023). Memory T cells possess an innate-like function in local protection from mucosal infection. *The Journal of clinical investigation*, 133(10), e162800. <https://doi.org/10.1172/JCI162800>
- **Davé, V.**, Richert-Spuhler, L. E., **Arkatkar, T., Warriar, L.**, Pholsena, T., Johnston, C., Schiffer, J. T., **Prlic, M., & Lund, J. M.** (2023). Recurrent infection transiently expands human tissue T cells while maintaining long-term homeostasis. *The Journal of experimental medicine*, 220(9), e20210692. <https://doi.org/10.1084/jem.20210692>
- **Haynes, A. M.**, Konda, K. A., Romeis, E., Siebert, J., Vargas, S. K., Reyes Diaz, M., Phan, A., Caceres, C. F., **Giacani, L.**, & Klausner, J. D. (2023). Evaluation of a minimal array of *Treponema pallidum* antigens as biomarkers for syphilis diagnosis, infection staging, and response to treatment. *Microbiology spectrum*, e0346623. Advance online publication. <https://doi.org/10.1128/spectrum.03466-23>
- **Potchen NB**, Johnson AMF, Hager K, Graham JB, Van P, Lyn-Kew KH, **Warriar L, Cruz Talavera I, Lund JM, Kubin JG**. Oral tolerance to systemic vaccination remains intact without ROR $\gamma$  expression in regulatory T cells. *iScience*, 26, 108504. <https://doi.org/10.1016/j.isci.2023.108504>
- **Villa, R. D.**, Pentella, M. A., & Benfer, J. L. (2023). A Laboratory Developed Assay for Clade II Human Mpox Virus on the Panther Fusion Open Access System. *The Journal of infectious diseases*, jiad347. Advance online publication. <https://doi.org/10.1093/infdis/jiad347>

## PABIO T32 TRAINING GRANT

### Post-docs on the grant:

- Andrew Gustin, PhD; Michael Gale Lab
- Jay Lubow, PhD; Leslie Goo Lab
- Qing Yang, PhD; Daniel Blanco-Melo Lab

### Pabio PhD Students on the grant:

- Orlando Cervantes (Mentor: Kristina Adams-Waldorf)
- Olivia Kern (Mentor: Michael Gale)
- Aldo Trejos (Mentor: Lorenzo Giacani)



### Brittany Williams



- **Year you joined the program and permanent lab:** September 2019, Coler Lab.
- **Favorite part about grad school:** My favorite part of grad school so far has been witnessing my growth and gaining confidence in my role as a scientist. Transitioning directly from undergrad, I initially underestimated the extent of what I didn't know. Despite the challenges, I take pride in where I am now.
- **Favorite grad school memory:** My favorite grad school memory would be when I had the opportunity to travel to Brussels for a Keystone conference on SARS-CoV-2. It was my first international conference and it was amazing to hear all the cutting edge research occurring around the world.
- **Favorite grad school class:** I'm torn between the vaccines course led by Helen Chu and the global health course taught by S.O. Both classes emphasized the broader context of our research, serving as crucial reminders of the complexities within global infectious disease research. These courses helped reinforced the idea that as scientists, we should actively advocate for health equity and accessibility.
- **Recommended UW resources:** The counseling center at UW provides valuable support groups for students, with some specifically designed for graduate students. These resources are offered at no cost, and for me, participating in these groups was an invaluable source of support. Hearing from fellow grad students who were navigating similar experiences provided a sense of camaraderie and understanding.
- **If you did not go into research, what would you be doing?** I think something in design, like graphic design or interior design.
- **Favorite hobbies:** Long-distance running and cooking

## ALUMNA SPOTLIGHT

### Justine Levan



- **What year did you graduate:** 2018
- **Current position:** Bioinformatics Programmer at UC San Francisco
- **Favorite Pabio memory:** I'm sure there are many fantastic memories I'm just forgetting right now, but a favorite that sticks out is from my last retreat. During the social time the first night, I happened to spot Gael Kurath sitting at the piano, and was treated to a personal concert of her and Lee Ann Campbell duetting a hilarious, cheeky old song. I knew Gael had been in a band but was blown away her talent and their voices! It was so fun to see beyond the scientist.
- **Favorite grad school class:** Jais Lingappa's Grant Writing course was such a beautiful, succinct education on not only the structure of grants but also about writing for clarity. I still pull up those slides sometimes or send them to others to use!
- **Favorite part about grad school:** The community formed with other students was far and beyond my favorite part of grad school. From snack-filled study groups before each 551 class in my first year, to hanging out through running club or morning coffee meetups, to just the 10 minute chats during a Western blot incubation, I would not have made it through without that friendship and support.
- **If you did not pursue science, what would you be doing?** Graphic design and illustration
- **Favorite hobbies:** Many! Reading, sewing, snowboarding, going out for drinks and dinner with friends, and (if we're being quite honest) watching too much Love Island UK with my friends
- **Advice for current Pathobiology students:** No one's journey is the same. It's probably easier said than done but try not to compare yourself and your progress to other students. There are a thousand and one factors, many out of your control, for why things might look different and that's just fine. Remember that you are a student and the whole point of being in the program is to learn, so find people who support you as a learner and even more importantly, you as an individual.

## Lucia Vojtech



- **How did you become interested in biomedical research?** My first job after graduating with a degree in biochemistry was as a technician in a biomedical research lab. Working there I realized I loved doing science with a clear pathway to potentially improving human health. I'm also fascinated with evolution and contemplating how biological systems, in particular the immune system, handles so many different competing demands.
- **What is your favorite part about working at UW?** UW is such a large and diverse place. I have collaborators in chemistry, lab medicine, and engineering departments. I love being able to work on projects with people from different backgrounds and approaches, it really enhances the science we can do.
- **What is your favorite part about working with trainees?** I love seeing people find their strengths and their own path. I think it's pretty hard to understand what a career in science is like without trying it out for a while. It's great to see people figure out for themselves what they want their scientific career to be even if it's not in the lab.
- **If you did not pursue science, what would you be doing now?** I spent half a year working to help certify organic coffee farms in Mexico, but I missed doing lab work. I'd probably be doing something in the international non-profit world if I wasn't a scientist.
- **Favorite hobbies:** Cyclocross bike racing, board games, hosting friends
- **Advice for current Pathobiology students:** Get comfortable with failure, learn from it, and keep going through the tough periods. Learn how to generate research questions that will yield a result even if your hypothesis is wrong.



## JOB INFORMATION

- Dr. Mary Prahl is looking for a post-doc interested in early childhood immunology and vaccine responses at UC San Francisco. <https://opportunities.ucsf.edu/content/ucsf-postdoctoral-position-dr-prahls-lab-study-early-childhood-sars-cov-2-immunology>
- Invent at Seattle Children's Postdoctoral Scholars Program: <https://www.seattlechildrens.org/research/research-institute/careers/invent-at-seattle-childrens/>
- For those interested in Science Policy, the Government Accountability Office is looking for volunteers and employees/interns: <https://www.usajobs.gov/Search/Results?l=Washington&a=LG00&p=1>
- Association of Public Health Laboratories: <https://www.aphl.org/Career-Pathways/fellowships/Pages/default.aspx>

## 2023 RETREAT PHOTOS





## 2024 EVENTS

- **Feb 5-6:** PABIO Open House Recruitment for Autumn 2024
- **Feb 9:** PABIO PhD Student Winter Quarter Symposium
- **April 26:** PABIO PhD Student Spring Quarter Symposium
- **May 31:** PABIO 1st Year PhD Student Talks
- **June 7:** DGH Graduation & Reception
  - Graduates/mentors should communicate directly with Ernie to coordinate and organize PABIO graduation event involvement
- **Oct 18-19:** PABIO overnight Retreat at Pack Forest



## SHOUT-OUTS!

- Anonymous shout-outs to any students, alumni, faculty, or staff that have been especially supportive, helpful, kind, etc. in 2023
- Thanks so much **Jenny** to all the work you put in Pathobiology to make it a great environment for students. We appreciate your hard work and continuous effort!
  - **Ernie** for assistance with the PABIO admissions. **Austin** for agreeing to be the student rep on Admissions this year.
  - Congratulations to **Nicole** on a fantastic dissertation defense! The whole lab will miss you.
  - Congratulations to **Lakshmi** on a tremendously successful general exam!
  - Thanks to **Ernie, Lorenzo, the PESC and the second year students** for planning an awesome program retreat!
  - Congrats **Guoyue** on passing your General Exam!
  - **Ernie Lefler!** I have sent multiple problems his way. He's always cheerfully helpful. We need to recognize Ernie as an anchor of the program.
  - Shout out to **Nhi** for being a great support and to the entire **2nd year cohort** who did a great job with the retreat.
  - Congrats to **Crystal** for passing her General Exam!
  - The Pabio bakeoff went really well! Thanks to **Brittany** for organizing that; it was very tasty!
  - **Pathobiology** is the best!!!! Now that I'm graduated, it's sad to leave the program and I will miss everyone a lot!