CAMB Student Newsletter

## In this issue

Letter from the Editors

Dear CAMB Students, Faculty, and Alumni,

Hello to all returning readers, and a warm welcome to those of you who have recently joined us! We are excited to share with you the August 2024 installment of the CAMB student Newsletter!

In this month's issue, we offer some advice to the first year students on choosing lab rotations and getting acquainted with delicious dining destinations around campus. We also catch up with CAMB MVP alumnus Dr. Nicholas Grams for a discussion about his current job as a Senior Scientist I at a startup biotech company in Philadelphia, and his advice for current CAMB students. Finally, we chat with Penn physician-scientist Dr. Defne Amado, who gives us a neat overview of her lab, shares her unique perspective on being a new PI at Penn, and offers advice for staying motivated and avoiding burnout during your PhD.

For additional articles, past publications, and to learn more about the CAMB Student Newsletter team, visit our blog at https://camb-newsletter.wixsite.com/blog or follow us on Twitter at @Camb-Newsletter. The CAMB Student Newsletter is always looking for new writers and editors to join our team. Current students interested in contributing to the CAMB Student Newsletter can reach out to James Gesualdi (jamesges@pennmedicine.upenn.edu), Kay Labella (klabella@ pennmedicine.upenn.edu), and/or Ariana Majer (majerar@pennmedicine.upenn.edu) to learn more! You can also check us out in person – our brainstorming issue for the November edition will be on Wednesday, September 11, at 1 PM. Join us in BRB 1403 to pitch ideas over lunch!

Sincerely,
James Gesualdi, Kay Labella, and Ariana Majer

Special Interest
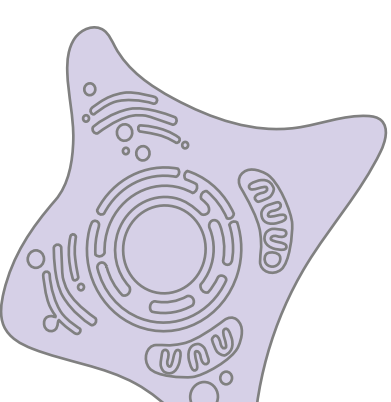
Lab Rotations: How To Choose Them and Make Them Great

Katey Stone

Peer Edited by Kay Labella

You've chosen a program for graduate school, you've made it here to Philadelphia, and now, the next big choice to make is your lab rotations. It can be overwhelming and stressful to narrow the 400+ labs available to us as CAMB students down to just the three that you'll experience firsthand via a rotation. Here are some tips for choosing rotations that will serve you best and for getting the most out of the experience.

Choosing rotation labs

Step 1: Figure out what you want
There are three main considerations when choosing labs for your rotations: scientific topic, lab environment, and PI mentorship. Each of these will be of different importance to different people, so spend some time reflecting on what you are hoping for in each of these areas to help you with your choices.

Scientific Topic: Some of you have come in with very specific scientific interests, so the topic of the lab's research is a priority and will be a main filter for which labs to consider. Others haven't yet landed on one specific area of study, and are open to studying lots of different questions. However, this leaves an overwhelmingly wide variety of labs from which to choose. Even if you do have a specific topic in mind, consider widening your search – lots of CAMB students end up researching topics they never would have expected.

> **Tip: You can rotate in any CAMB subgroup, at CHOP and Wistar, and even outside of CAMB! Talk to your program chair for details.**

Lab Environment and Culture: The size, pace, and expectations of the lab have a lot of influence over what it will be like to work there. Different labs have varied cultures regarding work-life balance, hours and time in the lab, and productivity. Of course, you can control this for yourself to some degree later, but the general nature of the lab will affect your experience. Labs also vary in composition, meaning the makeup of staff and researchers in the lab. This will affect who you might work with in a rotations and down the line as a potential graduate student. If the lab is large and PI is busy or away often, is it important to you that there are experienced postdoctoral researchers or staff scientists available to help you day-to-day? Would you enjoy having other graduate students in the lab with you?

> **Tip: You can find all CAMB students' rotations and thesis labs on the CAMB student directory! Find CAMB students that rotated with or joined the labs you're interested in, and ask them to chat about their experience over coffee, Zoom, or even just over email.**

PI mentorship: PIs employ many different styles of mentorship with their students and lab members, and it's important to consider what works for you when choosing lab rotations. Do you prefer a more hands-on mentor that comes by the lab to chat or check in on experiments? Would you like to have a little more independence but maintain regular one-on-one meetings for planning and guidance? Or are you cool with review meetings with your PI less regularly, relying on other lab members for day-to-day support? If you don't know, it is okay to experiment a bit with your rotation choices because rotations are a great opportunity to figure out what works and what doesn't work for you before committing to one lab for a long period of time.

Step 2: Make a list
Once you have an idea of what you're looking for, use the CAMB website to read about faculty and their labs, and create a list of labs that interest you. You can also add to this list based on faculty you've met throughout interviews or orientation, beginning-of-the-year chalk talks and poster sessions, and suggestions from students.

Step 3: Talk to students
When you have a list of labs you're interested in, it's really helpful to reach out to students who rotated in those labs to learn about their experiences. Ideally, you should talk to students in the lab as well as students that rotated but did not join the lab. Be sure to ask why they did or did not choose that lab for their thesis, though keep in mind that what everyone is looking for will be a little different.

> **Tip: A benefit to having so many lab options in CAMB is that you can usually wait until later to choose your second, third, or even fourth rotations if you want!**

Step 4: Meet with PIs
Once you've shortened your list, email the PIs and ask to meet to talk about a potential rotation. When you meet, come prepared with a list of questions you want to discuss. These might include:
- How many students are you open to taking on this year?
- What is the composition of the lab like? How many students, postdocs, and staff members? How do you manage this size of lab with lab meetings and one-on-one meetings?
- Who do graduate students in the lab work with, if anyone?
- Do you have preferences for schedules and hours of students/lab members?
- What projects are available for rotations?
- What makes a rotation successful to you?

After you've met with some PIs, it's time to choose one for your first rotation. Consider choosing a lab that you feel excited about the project and you feel like will be a good place for you to adjust to graduate school.

Making your rotations great

Okay, you've picked your first rotation, and you're getting started. What are you supposed to be doing? The main focus of a rotation should be to determine if the lab is a good place for you. The goal is not to finish a project or to get lots of data – there is plenty of time for that after you join. Throughout your rotation, try assessing the lab in the three categories you considered for your initial rotation list: scientific topic, lab culture and envi-

ronment, and PI mentorship. Here are some tips:

1. Meet everyone. During your rotation, try to meet as many lab members as you can and learn about what they do. Express genuine interest in their projects, ask questions, and even see if you can observe an experiment or technique with them.
2. Meet with your PI. Try to set up at least a few one-on-one meetings with your PI throughout the rotation to discuss how things are going, share any data you may have, and learn how you and the PI get along.
3. Interact with your department. Go to departmental events and experience the larger environment that the lab exists within.
4. Work how you plan to work later on. Some people are tempted to work "extra hard" in a rotation to make a good impression, but this may not be advisable. Since a rotation should really be like a trial run, it's best to work in the lab how you'd like to work throughout your thesis. That means respecting your own work-life boundaries and workload preferences. Remember that the rotation is just as much about determining if the lab is a good fit for YOU as it is to determine if you are a good fit for the lab.
5. Learn. Try to learn skills, techniques, and strategies for things like organization, time management, and project planning that you can take with you even if you don't join that lab. Every lab has a unique way of doing things, and rotations are a cool opportunity to sample that.
6. Take notes and reflect. Write down how the rotation is going throughout. By the time you are choosing a lab, this will be very handy to look back on to remember everything about each rotation.

Keep in mind that lab rotations are a tool to adjust to graduate-level lab work while getting to know what environment is best for your thesis and for you. Although the choice can be stressful, it's really just a series of trial runs, and you have the chance to learn from each one as you go.

Good luck with your rotations, new CAMB students!

Special Interest
Philly Restaurants

Kay Labella

Peer Edited by James Gesualdi and Lauren Lee

As a new graduate student, finding delicious dining destinations can end up being a bit of an overwhelming chore, especially in a city as big and full of good grub as Philly. But never fear, foodies, the CAMB Newsletter has your back! We reached out to the CAMB student body for recommendations of favorite local eateries around campus. Next time you're in a pickle (or hungry for one), check out these neat, sweet places to eat!

University City

1. Dottie's Donuts $
Laid-back bakery & cafe known for its many vegan donut flavors & bagels along with coffee & tea drinks.
Location: 4529 Springfield Ave, Philadelphia, PA 19143 and 509 S 6th St, Philadelphia, PA 19147
Nominator's favorite dish: Boston creme, Dunkaroos, espresso buttercream, caramel delight
What CAMB students love about this restaurant: "The donuts are some of the best I've ever had. Their menu changes daily, so there's always something new and fun to try, and it all turns out amazing."

2. Food Trucks $
Scattered all around campus, these easy-to-find eateries provide all manner of cuisine for a quick-and-easy meal on the go.
Location: Locust Street, Civic Center Boulevard, 38th Street, Spruce Street, etc.
Nominator's favorite dish: "Too many to pick, but probably any of the Halal dishes from the cart on Locust."
What CAMB students love about this restaurant: "Food carts around campus are the best option for a quick lunch mid-work day! Not a single truck disappoints around campus – plus, they are very cheap. Highly recommend exploring

them!" (Tip: bring cash, most places charge an extra $1 for venmo/card transactions)

3. Lil Pop Shop $
Store supplying inventive, small-batch ice pops made with seasonal, locally-sourced ingredients.
Location: 265 S 44th St, Philadelphia, PA 19104
Nominator's favorite dish: Strawberry elderflower or raspberry lime pops
What CAMB students love about this restaurant: "They also have great ice cream in amazing flavors like honey lavender shortbread."

4. Clarkville Pizza $$
This corner bar serves delicious and innovative pizza with wines & beers on tap.
Location: 4301 Baltimore Ave, Philadelphia, PA 19104
Nominator's favorite dish: Honey Pie
What CAMB students love about this restaurant: "Solid option when you're in the Clark Park area and crave splitting a good fresh pizza pie. Pair with a crisp salad and a cold beer or drink to really hit the spot."

5. Don Barriga $$
Mexican grill with a casual and friendly vibe.
Location: 4443 Spruce St, Philadelphia, PA 19104
Nominator's favorite dish: Chicken enchiladas in green sauce, birria quesadillas, horchata, and tres leches cake
What CAMB students love about this restaurant: "You absolutely can't go wrong with anything on their menu, and their portion sizes are extremely generous."
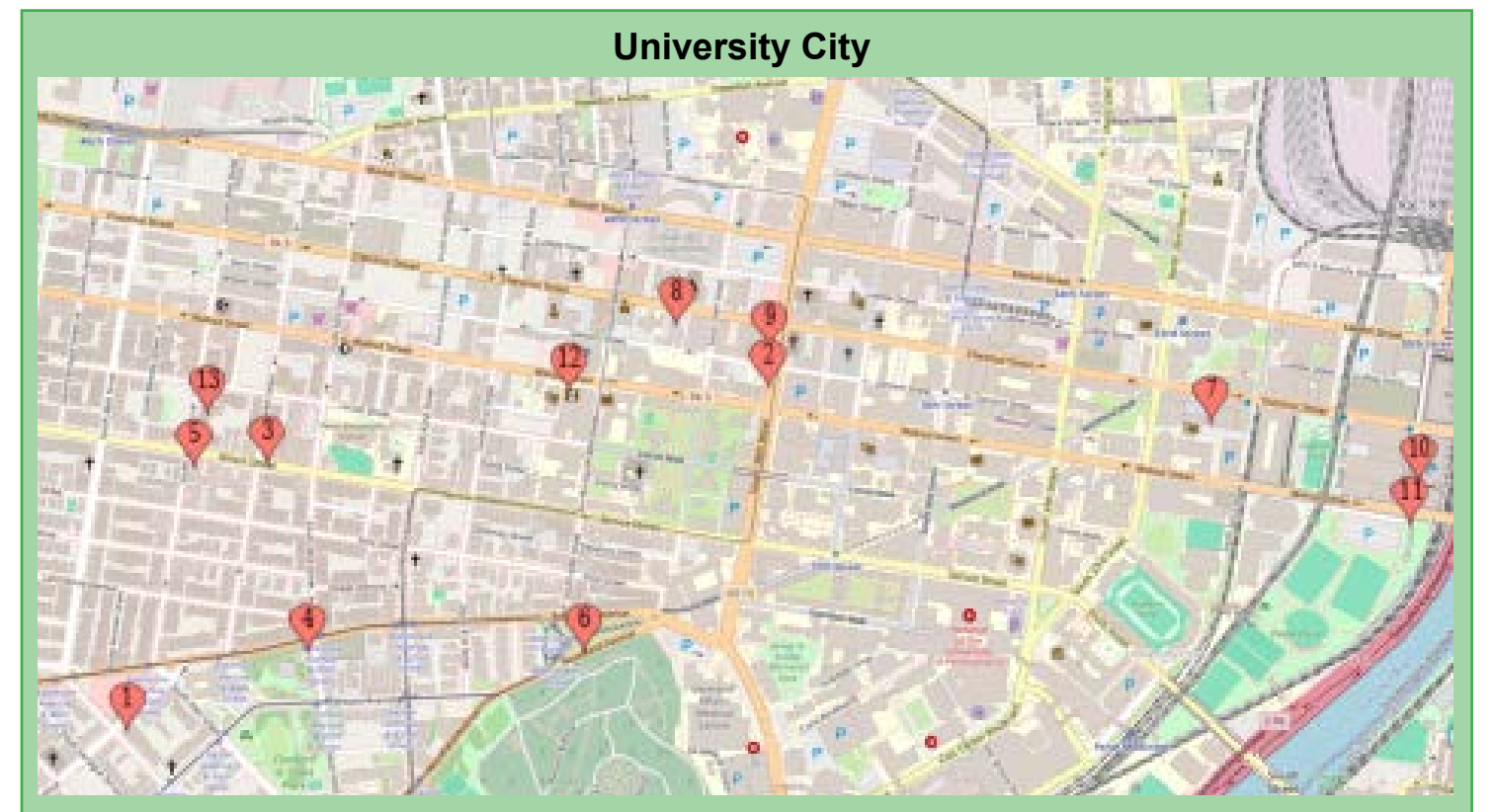
6. Renata's Kitchen $$
Buzzy spot serving a Mediterranean menu of light fare alongside homemade desserts & gourmet coffees. An ideal spot for a lab outing!
Location: 3940 Baltimore Ave, Philadelphia, PA 19104
Nominator's favorite dish: Shakshuka or lemon-poppyseed pancakes
What CAMB students love about this restaurant: "Great for brunch! This West Philly classic recently moved to the current location with a nice patio. Renata's draws some crowds during the school year, but it's worth checking out!"

University City

7. The Board and Brew $$
Coffee, cocktails, dinner, and desserts all await at this large and well-stocked board game café and restaurant.
Location: 3200 Chestnut St., Philadelphia, PA 19104
Nominator's favorite dish: Crispy brussel sprouts with chili vinaigrette, the Brew burger
What CAMB students love about this restaurant: "The food is spectacular, and their games library is more than extensive – you'll always have something new to pick from, and there's plenty of space to spread out and play while you enjoy your meal or beverage."

8. Dim Sum House $$
Atmospheric hangout with pool table and full bar serving Cantonese- and Shanghai-inspired dim sum.
Location: 3939 Chestnut St, 2nd Floor, Philadelphia, PA 19104
Nominator's favorite dish: Pork soup dumplings
What CAMB students love about this restaurant: "Dim Sum House is close to campus, and is a great spot to grab food with friends or your lab. They have a large menu that is perfect for sharing and trying different types of noodles and dumplings. They also have a weekly happy hour!"

9. Surreal Creamery $
Sweet spot for soft-serve ice cream and bubble tea.
Location: 3818 Chestnut St, Philadelphia, PA 19104
Nominator's favorite dish: Nom Nom Cookie mason jar soft serve or the taro bubble tea with matcha and taro swirled ice cream.
What CAMB students love about this restaurant: "You get so much ice cream! Definitely enough to share, or save some for later, and it tastes amazing."
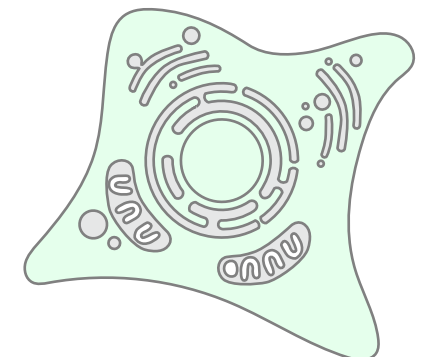
10. Sunset Social at Cira Green $
Urban green space featuring grassy spots, skyline vistas, a burger joint & outdoor activities.
Location: 129 S 30th St, Philadelphia, PA 19104
Nominator's favorite dish: Burgers, breaded chicken sandwich, great cocktails
What CAMB students love about this restaurant: "Great rooftop bar with a view!"

11. Walnut Street Café $$

All-day New American fare, cafe with pastry counter & cocktail bar in Cira Centre South.

Location: 2929 Walnut St, Philadelphia, PA 19104

Nominator's favorite dish: "For brunch -- steak and eggs and fig cake! Dinner -- the brussel sprouts."

What CAMB students love about restaurant: "The restaurant is so cozy indoors, and there's often music playing. The patio outside is also super lovely on a cool night. And the menu changes seasonally, so there's always something new to try!"

12. Metropolitan Bakery $$

Polished bakery known for its housemade granola and artisanal bread, plus standard café fare.

Location: 4013 Walnut St, Philadelphia, PA 19104

Nominator's favorite dish: "The Wharton breakfast sandwich (2 eggs, prosciutto, shaved parmesan, tomato, spinach, house-made herb butter, on a toasted baguette) and an iced honey lavender latte. Also, their fennel sourdough pretzels are amazing."

What CAMB students love about this restaurant: "You can't go wrong with any of their beverages, and they have a fantastic assortment of pastries and fresh bread!"

13. Green Line Cafe $$

Homey outfit serving hot and cold drinks, pastries, and a constantly changing menu with vegan options.

Location: 4426 Locust St, Philadelphia, PA 19104 and 4239 Baltimore Ave, Philadelphia, PA 19104

Nominator's favorite dish: "Their lattes and their cookies!"

What CAMB students love about this restaurant: "The Locust Street café is the perfect spot to grab a seat, grab a beverage, and settle in for a day of reading or writing!"

Graduate Hospital

14. Jeni's Splendid Ice Cream $

Scooping creative flavors of ice cream & frozen yogurt made from local ingredients

Location: 1901 Chestnut St, Philadelphia, PA 19103

Nominator's favorite dish: Honey vanilla bean in a waffle cone

What CAMB students love about this restaurant: "Jenni's offers a wide variety of unique ice cream flavors to choose from, all of which are awesome. They are conveniently located near Rittenhouse Square, so it's very easy to pick up ice cream and enjoy it in the park with some friends!"

15. Rowhome Coffee $

Celebrating the unique local comfort food of Philadelphia and serving it with some of the best coffee from around the world.

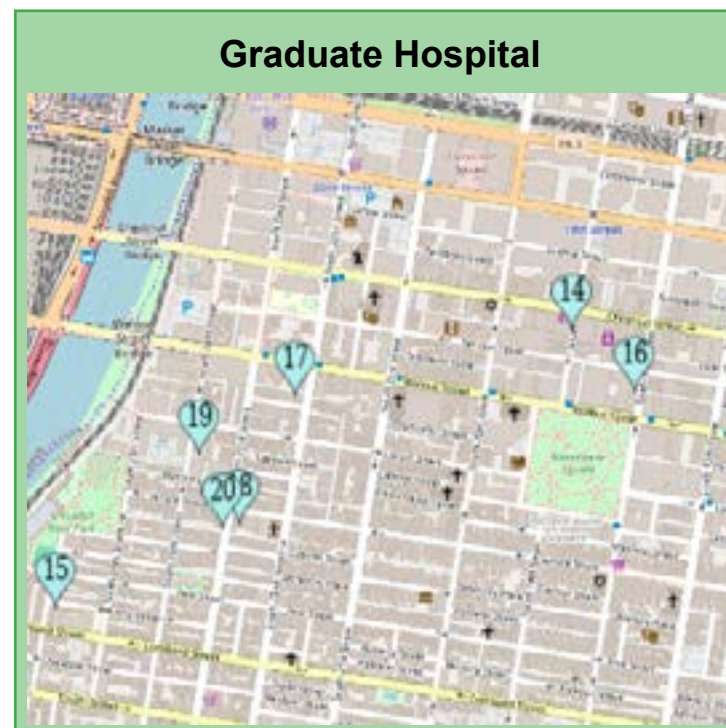**Location**: 2536 Pine St, Philadelphia, PA 19103 and 2152 N Front St, Philadelphia, PA 19122

Nominator's favorite dish: Deli Pretzel Sandwich

What CAMB students love about this restaurant: "Rowhome Coffee is a quaint coffee shop within the Graduate Hospital area! They offer a variety of great breakfast and coffee options, as well as fun morning conversations with friends in a cute area. It's also located near two parks (Schuylkill River Park and Fitler Square Park), which is great for pre- or post-breakfast activities!"

16. The Dandelion $$

This spot serves craft beers & modern takes on British cuisine in a pubby setting.

Location: 124 S 18th St, Philadelphia, PA 19103

Nominator's favorite dish: The Dandy Burger

What CAMB students love about this restaurant:

Graduate Hospital

"The Dandelion is a British-themed pub in downtown Center City! This restaurant offers amazing food for a reasonable price, as well as offering a fun night out in a great location. If you look upwards from the front entrance of The Dandelion, you'll get a spectacular viewpoint of One Liberty Plaza!"

17. Rosy's Taco Bar $$

Casual, contemporary venue for tacos, quesadillas & Mexican spirits, plus a happy hour.

Location: 2220 Walnut St, Philadelphia, PA 19103

Nominator's favorite dish: Chicken burrito with a passion fruit margarita

What CAMB students love about this restaurant: "Rosy's is great because they offer an awesome happy hour special: reasonably priced drinks and appetizers from 3 p.m. – 5 p.m. The food is delicious and considered a staple within the Graduate Hospital area. The restaurant is also a short walk to downtown Center City!"

18. SALLY $$

Casual, snug eatery specializing in pizzas, small plates & desserts, plus a large wine list.

Location: 2229 Spruce St, Philadelphia, PA **19103**

Nominator's favorite dish: "Their menu rotates, but I loved their sausage and onion pizza!"

What CAMB students love about this restaurant: "Delicious food, great outdoor dining, and friendly neighborhood vibe!"

19. Ambrosia BYOB $$$

Casual option providing homemade pasta & classiczItalian dishes in a convivial atmosphere.

Location: 231 S 24th St, Philadelphia, PA 19103

Nominator's favorite dish: Crispy gnocchi

What CAMB students love about this restaurant: "Everything is so delicious. They have specials, which are dishes that the chef seems to be trying out, that are really good. I've been there three times with my boyfriend (and I usually don't go to the same restaurant more than once unless I love it). It's tucked away in a residential part of the city, right by the Schuylkill, so there isn't much traffic and bustle nearby. The outdoor space is delightful!"

Elsewhere

20. Mr. Rabbit Coffee $

Newly-opened dine-in coffee shop with great coffee and pastries

Location: 2301 Spruce St, Philadelphia, PA 19103

Nominator's favorite dish: Lavender matcha latte, cold brew with pandan cold foam, apricot cream cheese pastry

What CAMB students love about this restaurant: "This café is what dreams are made of. Spacious, with a few tables to get work done, and the coffee and pastries were great!"

Elsewhere:

21. Giorgio On Pine $$

Classic Italian eats & gluten-free options are offered at this unfussy, bring-your-own-wine hangout.

Location: 1328 Pine St, Philadelphia, PA 19107

Nominator's favorite dish: Prosciutto platter and the gnocchi

What CAMB students love about this restaurant: "Small and homey, and the fresh pasta is absolutely delicious!"

22. Lucha Cartel $$

Offbeat cantina with beer & tequila.

Location: 207 Chestnut St, Philadelphia, PA 19106

Nominator's favorite dish: Ceviche, crispy fish tacos, elotes

What CAMB students love about this restaurant: "Great vibe, delicious food, and fancy margaritas!

And the dance floor is open after 10pm!"

"Lucha Cartel offers a $5 happy hour menu every day from 3pm - 6pm, which includes margarita, taco, empanada, and quesadilla options. Not only is the food spectacular, but they also have a dance floor if you're looking for a fun night out with friends!"

23. A La Mousse $$

Modern, cozy dessert shop serving house-made treats like matcha cake, plus tea & coffee.

Location: 1622 South St, Philadelphia, PA 19146 and 145 N 11th St, Philadelphia, PA 19107

**Nominator's favorite dish**: Matcha crepe cake, earl grey cyclone

What CAMB students love about this restaurant: "A La Mousse is a great place to satisfy your sweet tooth. They also have a new location (Maison Sweet by A La Mousse) in University City!"

24. Mom-Mom's Kitchen $$

Window-serve nook specializing in homemade pierogi, cabbage rolls, kielbasa & other Polish classics.

Location: 1505 South St, Philadelphia, PA 19146

Nominator's favorite dish: Potato pierogies
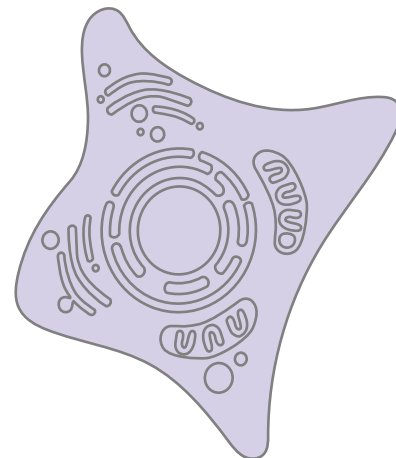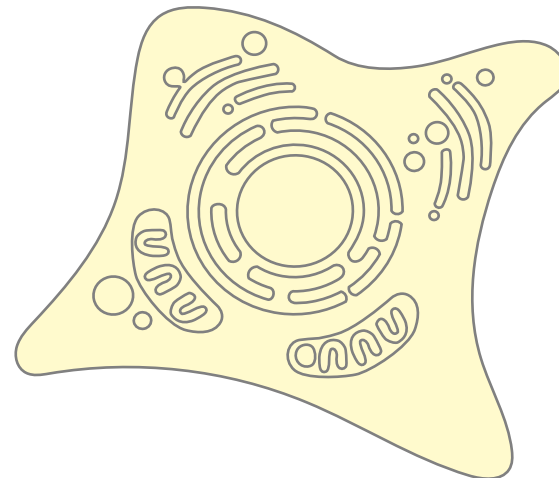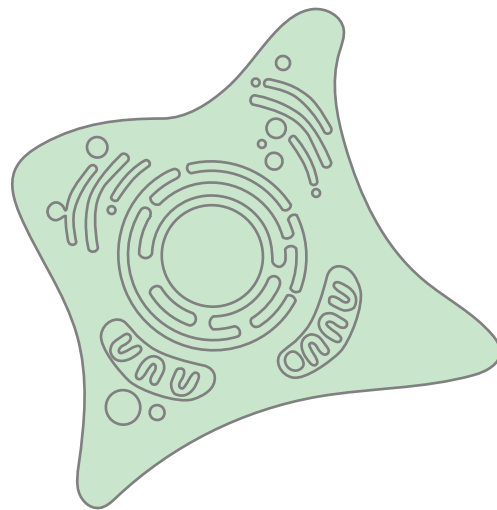
Alumni Spotlight
Dr. Nicholas Grams

Amber Abbott
Peer Edited by Erin DeNardo

Have you found yourself considering a career in industry after graduate school? Not sure exactly how to prepare yourself for the switch away from academia? Read on to hear from CAMB alumnus Dr. Nicholas Grams, who graduated in spring 2024 from the MVP program after completing his doctoral work in the lab of Dr. Matthew Weitzman. Dr. Grams started working for a startup biotech company in Philadelphia shortly after graduation and was kind enough to share his insight on the job search and interview process, perspectives on the similarities and differences between industry and academia, and some advice for current students.

What were your considerations when looking for jobs? Did you always want to pursue industry?

Throughout my PhD I exclusively looked for Research Scientist positions because I knew I wanted to continue doing bench science in the foreseeable future. I considered becoming a bench scientist in several industries, such as biotechnology and big pharmaceutical companies, as well as working for US government-funded research organizations. In the end I decided that biotechnology was the best fit for me in terms of career.

Navigating the job search while preparing for your defense and writing your thesis must have been difficult – can you tell us a bit about what the process/timeline was like?

It was very stressful. I didn't start preparing to graduate until after I received confirmation of publication for my first author paper in January of 2024, because I didn't want any loose ends to get in the way of a graduation. After I knew I had secured a publication, I immediately began writing my thesis, even without committee and advisor permission. I did this because I knew it would not be possible to do everything at once, and I wanted to focus on job searching and networking most of the time. I received permission to graduate from my advisor and committee in February of 2024, at which point my entire thesis was finished. I sat on my thesis and presentation for 3 months while I looked exclusively for jobs and got my final lab affairs in order. I secured a job in large part due to this effort in April of 2024, and graduated in May of 2024.

How did you find out about your current position?

I found out about my current position through networking with other Penn alumni, browsing LinkedIn daily, and generally asking around. For various reasons, I restricted my job search to the east coast (Boston, New York City, Philadelphia, and Washington D.C.), with my highest preference to stay in the greater Philadelphia area. I really wanted to join a biotechnology company affiliated with Penn or spun out of a Penn lab. However, it's not super easy to identify these companies. For that, I recommend looking at the Penn Center for Innovation's Startup Portfolio, which has a list of all the biotech companies spun out

of Penn and a description of what they do. You can find it here: https://pci.upenn.edu/entrepreneurs/pci-startup-portfolio/. All universities have a similar list put out by their patent offices, and you should be able to find start ups easily that way.

Can you tell us about the interview process at your company and how you prepared for it?

The interview process at my company was 4 rounds. I applied and received a phone interview with HR. I then advanced to a Zoom interview with my department head followed by another zoom interview with C suite executives, culminating in a 4-hour in-person interview on site where I met basically the entire company. This type of interview process is very typical for smaller biotech companies, where the higher ups are still involved heavily in hiring. After the on-site interview, I received an official offer, signed it, and was hired.

The way you prepare for each interview stage is very different. In the initial HR interview, you are likely speaking with someone who is not focused on science, but is trying to validate your resume/CV and get a feel for your personality. You should be very familiar with your own experience, show interest in the company, and be very engaging.

The way you prepare for the next interview stages will depend on who is interviewing you, which the company should tell you ahead of time when scheduling. After learning who would be interviewing me, it became clear that I needed to confirm that I was a subject matter expert and did extensive reading into my own field, as well as into the technology being utilized by the company. I intended to show them that "I know my stuff, and I am interested in and can easily learn your stuff."

For the on-site interview, I was notified that I would be meeting with many people throughout the company. At this point, it was impossible to prepare for each of them individually, since it was like 40 people. I went in with confidence, already knowing that they liked me enough to bring me on site, and the interview turned out to be more about how you interact with everyone in the workplace. Basically, at that point they want to observe how you interact with everyone in person and decide if they want to work with you in the office every day.

How was your transition from graduate school to a role outside of academia? Do you have any regrets about leaving research?

While I can't speak to how the transition from graduate school to a role in a different industry would be, I can speak to moving from graduate school to a biotech company. This transition is hyped up as being potentially jarring, but I found it pretty seamless. Part of that is because I was hired into a role where I could use the expertise I gained directly as a PhD student, and part of that is because biotech research really isn't that different from academic research. When you join a small biotech, they are doing discovery Research and Development in the same way that many academic labs are. The only difference is that the biotech company is solely focused on one or multiple products, while academic labs have the freedom to really do whatever they find interesting. Everyone in the biotech company is working together to solve a limited set of problems; therefore it's a real team effort, while academia can sometimes feel like every man for themselves, so to speak. Personally, I have found it very gratifying to feel like I joined a company-wide team, where we all contribute to the same large goal. Obviously, biotechnology is more volatile than academic positions, so one can never say how long a specific position will last, but I can say I absolutely have no regrets about leaving academia, and I will never return.

Is there anything you wish you did differently during graduate school to prepare for your current role and the job search in general?

I wish I would have gone to more networking events or signed up for more internship experiences as a younger graduate student. It is very easy to feel stressed about your own research and classes, wanting to be in your lab all the time, but I think looking back I would have tried to branch out more. I did feel under-prepared and had a lack of knowledge regarding the biotech landscape in January 2024, and I had to learn a lot in just a few months to become prepared. It would have been much easier to learn all that gradually.

Can you describe your current role at your new position? What does your day-to-day look like?

I am currently a Senior Scientist I at my company. I plan my own schedule every day and manage a direct report, a Scientist I with a master's degree. We work as a team and have complete freedom to do pretty much whatever we want as long as I have previously justified it to our manager and have clearly demonstrated how it will advance the company's goals. I arrive in the morning, and usually have a mix of bench experiments, meetings, and data analysis / documentation to do for the day. I would say 50% of my time is doing experiments, 20% is taken up by team or company-wide meetings, and another 20% is taken up by data analysis and documentation. Documentation is very rigorous and must be kept up to date for the FDA and potential industry partnerships. This is non-negotiable, your lab notebook cannot be out of date. The other 10% I usually use to plan experiments farther into the future, brainstorm cool ideas, or talk science with other members of the company, very much like if you were just hanging out in lab talking about grand ideas and "wouldn't it be cool if we could make X work?".

What are the key benefits or perks of your current position?

I would say the key benefits of my current position fall into two categories, financial and non-financial. In the financial category, I finally have a 401K plan to contribute to retirement, with a generous company match. I make enough money to have a surplus to save now, and the company covers my gym membership and phone plan. I have great health insurance, covered by the company, and at the end of each year I will receive a performance bonus.

In the non-financial category, the work-life balance is much better. Everyone in the company appreciates you working hard, but only between working hours of 8am-5pm. Obviously, you have the option to work more hours, and some do, including myself, but all the higher ups are very clear that this is not required and are respectful of your

personal time. To this point, we receive unlimited PTO and have the option to take advantage of generous parental leave. The company is also heavily invested in your individual career development, offering dedicated services you can take advantage of to help you meet your future career goals.

What have been the biggest differences you've noticed between working in an academic and industry setting?

I don't feel like there are too many differences, to be honest. I would say, as I mentioned previously, the documentation requirement is much more rigorous, requires more time, and is actually enforced. Additionally, I have more meetings of many different types. In academia, all I would have were data meetings. Now, I am in meetings discussing internal team data, cross-functional data from different teams, product strategy, tech transfer, business development, individual development, financial, regulatory, etc. In a small company, you need to be able to contribute to every team and understand each part of the company. This isn't really necessary in academia, insofar as you don't have to know what each person in your academic lab is doing because you might have to step in for them suddenly. It has really been a crash course in how to run a company, develop a product, test it, produce it at scale, and get it regulated successfully.

How did your time in graduate school help set you up for your current position?

I was unprepared to immediately understand the business side of running a company, but in terms of the actual skills to fill my role, it prepared me really well. I got hired in a role where 100% of my bench experience was relevant, so that was great, but I have still learned many new skills in a short time. I think the PhD also prepared me to function as a high-level scientist and thinker, and that allows me to contribute as an independent scientist to the company without much supervision.

Do you have any advice for current students in the early years of their PhD, and/or for those who are in the later years and want to pursue a career in industry research like you?

For students in their early years, I would take advantage of all the career and networking opportunities you can instead of putting them off. You don't have to engage super seriously if you are a 2nd or 3rd year - for example, it is more about understanding the landscape and what is available to you career-wise both inside and outside of academia. Doing this will allow you to tailor your PhD training experience and develop yourself into someone that adds value to your desired industry.

For students in their later years, I would say see above and definitely do that too, if you haven't started already. I would also say get ahead of your writing, you don't want to be looking for a job and writing at the same time. YOU DON'T NEED PERMISSION TO WRITE, JUST DO IT. Additionally, I would say it is worthwhile to develop the skill of "selling yourself." You don't have as much time to develop new skills, so work with the ones you already have. Even though I accepted a position where much of my PhD experience was relevant, I had lots of success in getting interviews for positions where it was less relevant, even not

relevant at all. This was because I was able to understand the skills I had and effectively convey to managers at several companies how I would be able to use those skills developed in one field of study to effectively benefit another. For example, I gained several wet lab skills using techniques that were designed to look at viral genome replication specifically during my PhD. I applied for a job at a cell therapy company in Boston where the role was focused on monitoring the genomes of cell therapy products for stability. I was asked by the person who would have been my direct manager, "You have a lot of experience working with viral genomes, how does any of this apply to cell genomes though?". I gave him a really nice and in-depth answer about how viruses must use cellular machinery extensively to replicate themselves, thus most of the techniques would be applicable, and I was really excited to get to try them on cells instead of viruses if given the opportunity. He saw the utility in that answer and advanced me to the next round.

If you're interested in a similar career path or have additional questions for Dr. Grams, feel free to connect with him via email at gramsn@pennmedicine.upenn.edu.

Faculty Spotlight
Dr. Defne Amado

Mara Davis
Peer Edited by Kay Labella

As the summer winds down, the CAMB Newsletter staff are excited to share our interview with faculty member Dr. Defne Amado. Dr. Amado completed her MD and PhD in Neuroscience at the University of Pennsylvania and completed postdoctoral fellowships with both Dr. Alice Chen-Plotkin and Dr. Beverly Davidson before becoming an assistant professor of neurology in 2021. Dr. Amado is a practicing physician-scientist seeing ALS patients at Penn with a lab based in CHOP where Dr. Amado and her lab work closely with the Davidson lab studying neuro focused gene therapy. Read on to get a deep dive into Dr. Amado's research, hear her insight into surviving and thriving in academia, and learn her outlook on being a professor in academia.

What are the questions your lab hopes to answer, and how do you aim to go about answering these questions?

The overarching questions we hope to answer center on the causes and treatment of neurodegenerative disease, with a particular focus on amyotrophic lateral sclerosis (ALS). We are interested in using gene therapy approaches to a) understand and b) treat ALS and related disorders, both genetic and sporadic.

Questions we ask in our lab include: What causes motor neurons to die in ALS, and why only those cells? What parts of that pathway can we target therapeutically, either by delivering something or by knocking something down? Can we aid in the discovery process of new targets when

current ones fail or are not feasible? For parts of the ALS pathway that we CAN target, what are the best therapeutic strategies (gene delivery, RNA interference, CRISPR)? What are the best models to test those therapeutics (mouse models, patient-derived stem cell models, other)? How can we most effectively target the parts of the central nervous system we are interested in (novel AAV capsids, other strategies) while minimizing off-target effects, and maximize our translational potential?

What do you find most interesting about the questions your lab aims to answer?

An important focus of our lab is on shared downstream pathway elements common to 97% of ALS cases. Usually, gene therapies are developed to target a specific genetic cause of disease, but only 20% of ALS patients will have an identifiable genetic cause and there are dozens of causal genes. Our goal is to target downstream pathology that affects nearly all ALS patients. This approach is unique in using a focused therapeutic strategy to treat a broad range of pathology with a common endpoint; additionally, this pathology is seen in other diseases including some dementias and some ataxias, broadening its potential impact.

More globally, a therapeutic approach that makes our lab unique is that we focus on two important arms of therapeutic innovation: 1. Identifying the right target and therapeutic strategy; and 2. Delivering that therapeutic to the right places at adequate doses to have meaningful impact. As a physician who cares for people living with ALS, my eye is always on what we can effectively translate to the clinic; if either arm fails, the therapy will not be successful. We therefore place great emphasis on the targeting aspect of our treatments.

One intriguing mechanistic question we are asking is how a single gene we are studying can cause 3 completely different neurodegenerative diseases depending on the specific length of its repeat expansion and whether or not that repeat has interruptions. That's just wild to me, and I think cracking that code will answer a lot of questions about the regional specificity and clinical manifestations of neurodegeneration in general.
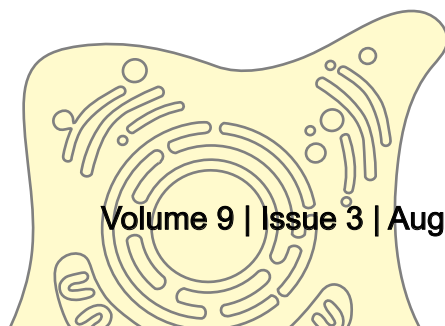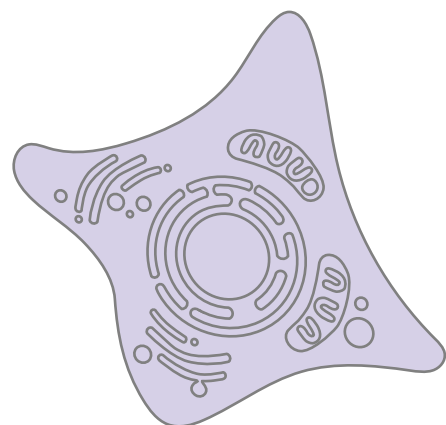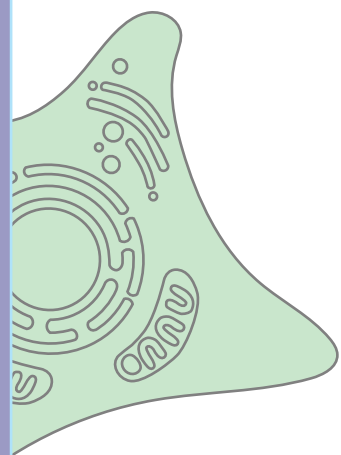
Are you looking for rotation students?

I am very open to having rotation students in my lab! We have a really creative, collaborative, kind, diverse, and fun group that supports one another deeply.

What would you like interested CAMB students to know about your lab environment and research?

I believe strongly in the capacity of each individual, whether an undergrad, a technician, a grad student, or a postdoc, to do impactful science; accordingly, I STRONGLY encourage input from lab members on one another's projects (and on my grants and manuscripts, for that matter!) because we are stronger together and can advance our projects so much more quickly (and funly! Is that a word?) when we utilize one another's skills and expertise.

What advice would you like most to impart to Ph.D. students, both those who are just starting out and those farther along?

1) Have a lot of pots on the stove, and 2) bring your thickest skin to the game. Science is about failure > 90% of the time, which means that surviving a PhD involves building a tremendous store of resilience that you can deploy when needed to move your science forward. There are several ways to survive the hardships that come your way: One is to have more than one project going, so your entire life does not feel like it consists of failure. Another is that when (not if!) you fail, pay attention to what the science is trying to tell you in that moment – maybe it's technical and you need to try again, but maybe the biology lies elsewhere and you need to tune your ears to listen to it and be open to making a new discovery.

Any suggestions on how to complete a Ph.D. (battling burnout, finding out what you want your career path to look like)?

Never forget that a smooth sea never made a skilled sailor. **YOU, as the trainee and sailor, are the end-product of all this, not your project – it is a training program whose goal is to generate a good scientist!** When everything works the first time, that's lovely – but you are not as well-trained or resilient at the end of that road. It is hard to see this in, Year 4 of your PhD when things aren't working, but if you are able to zoom out to look at that time, you will see that you are a much stronger scientist now than you were even last year, and you and your growing expertise are positioned so that when things start working, they likely will do so quickly and effectively.

Also, to combat burnout, personal life/outside interests/loved ones are paramount – but you know that and I won't dwell on it other than to say that in our lab we support these aspects of life fully. Within the lab, a good trick to avoiding burnout is having additional projects to turn to when you literally can't stand what you're working on in that moment. This will give you the mental and physical energy you need to see things through.

What's your favorite part about being a PI at Penn? How did you decide where to start your lab?

The people are hands-down my favorite part about being a PI at Penn. I love this community of scientists and physicians: people here collaborate and eagerly help one another. I have yet to have the experience of asking someone for help and not enthusiastically receiving what I asked for and more. My lab itself is at CHOP to maintain my proximity to CHOP's Center for Cellular and Molecular Therapeutics (CCMT) and my postdoctoral mentor Beverly Davidson, with whom I continue to collaborate closely.

What factors influenced your decision to become a professor? When did you know it was the right path for you?

This path is hard. But I chose it and love it for several reasons: 1. I am, it turns out, a control freak when it comes to how I spend my time and where I direct my energy. In the lab, I choose what to work on, which direction to pursue, what has value, and when it's time to bail. Additionally, I have autonomy over things like moving meetings, experiments, or even patients if I need to be at my kids' Halloween parade, etc. 2. This career path has helped me to utilize every bit of my skill set that I value and enjoy. I am perpetually learning, I am always challenged, I never stop growing, and I bring the full force of my creativity to each problem. 3. I have purpose. I never feel like how I spent my day was a waste of time and I can't think of a more important target to set my sights to than the things I work on. 4. I LOVE team efforts and I value diversity. I know of no environment that emphasizes, values, and benefits from those things more than a good lab – and the better and more diverse the team, the better the science, the sense of purpose and the morale.

To contact Defne Amado, reach out at defne@pennmedicine.upenn.edu

> **"YOU, as the trainee and sailor, are the end-product of all this, not your project."**

Thank you for reading.

For any questions, comments, concerns, or if you're interested in joining our team, please feel free to contact us at:

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Check out our blog and twitter page!

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