

## **CAMBRIDGE SCHOLARS PROGRAM PARTICIPANT COMMENTS MICHAELMAS 2022**

### **Hannah Chen '23, Mathematics, Cambridge Michaelmas/St. John's College**

It feels like it's been but the blink of an eye and I'm already over halfway through my time at Cambridge. Here, I'm traversing a campus oozing with history and joining communities brimming with diverse cultures and personalities, all while adapting to an entirely new style of pedagogy (and precipitation).

In particular, lectures in algebraic topology, dynamical systems, fluid dynamics, and cosmology are supplementing material I'd previously only scratched the surface of at Caltech with improved physical intuition and mathematical rigor. The workload is roughly similar to what I'm used to, but the pacing is much different — rather than weekly graded sets, we have four example sheets per class to be discussed during supervisions every two weeks. Since collaboration is much less common/encouraged, the individual problems are perhaps less challenging than those at Caltech, but the sheer quantity more than makes up for the difference (my first topology sheet had 14 questions, many with multiple parts). There's not as much pressure to just get the right answer, however, as your supervisors will be there to help you fill in any gaps in your knowledge. I was a little nervous before my first supervision about being asked to prove a theorem off the top of my head or something, but the discussion was actually really helpful and not stressful at all. My supervisor (a Fellow at another college) helped me visualize concepts in ways I hadn't considered before, so a lot of the material I hadn't quite grasped from lecture finally started to click.

Unlike at Caltech, pure and applied mathematics (including statistics and theoretical physics) are taught in tandem, with many students sampling at least some classes from either side. There's also an informal lecture series on Ethics in Mathematics, which is led by a very enthusiastic professor who generously provides tea and biscuits afterward while we discuss the topic of the week. The Archimedeans, Cambridge's main mathematical society, also host talks by speakers from all over the world, including one of the 2022 Fields Medallists! Courses are held in the Centre for Mathematical Sciences, which houses today's leading minds in maths within several meeting rooms, the fluids laboratory, a library dedicated solely to STEM, and even its own café (with surprisingly good lattes for less than £2). The CMS is a short walk from my room at St. John's and is on the way to the University Sports Centre, so I'll often go to my morning lectures, grab a quick bite from the café, and then head to the gym for a nice afternoon fitness class.

Speaking of fitness, there are so many ways to get your physical activity in at Cambridge. Even without joining a college sports club like rowing or rugby (two of the largest groups at John's) or a university society like CUTAZZ Dance, the sheer walkability of the city means you'll easily get your daily steps in. But I would absolutely recommend joining at least one of these, even if you don't have any prior experience! Most are very beginner friendly, especially during the novice recruiting that happens

during Michaelmas, where the first few weeks are filled with (free!) taster sessions across different societies. I'm part of the Lady Margaret Boat Club, which not only gets me out onto the River Cam twice a week with my crew, but also holds several social events ranging from swaps with other colleges to the LMBC Bonfire Night on Guy Fawkes Day, complete with fireworks and lots of mulled wine. In general, Michaelmas is a great time to meet new friends and try new activities, since all the clubs are just getting started for the new academic year. And since there are so many freshers, you definitely won't be the only one getting lost on your way through town.

But even if you get lost, it's so much fun exploring the streets and discovering all the little gems around Cambridge. The stunning architecture makes everything feel so regal and historic, doubly so when you're decked out in your college gown for formal hall. The city centre is always a bustling hub of activity as well. There's a market with rows and rows of vendors selling everything from falafel wraps and bubble tea to traditional mince pies and cheese, including a stall with cakes and other baked goods that'll make any day a special occasion. I've spent entire afternoons working in a coffee shop built in a partially converted church, and let me just say, the vibes are immaculate. Homework simply hits different when you're doing it on a balcony atop a winding stone staircase, with vaulted ceilings and sunlight streaming in through stained-glass windows.

Sunlight does become something of a rare commodity during Michaelmas, though. England is at least a little rainy all the time (be prepared to sorely miss SoCal weather), and once daylight savings ends around the middle of term, the town is blanketed in darkness as early as 4pm. But that doesn't make Cambridge in autumn any less enchanting — nothing beats watching the trees on your way to lecture gradually turn golden or seeing the brilliant red ivy winding its way across the buildings of St. John's. And chilly evenings create the perfect opportunity to indulge in some rich hot chocolate or a comforting bowl of soup (though the gelato at Jack's can be too good to pass up on even the coldest of nights). Thankfully, COVID and other illnesses like the flu have essentially been a non-issue despite the cold. Occasionally, professors or students will wear masks during lectures but it's entirely voluntary, and the college health services have many resources in place should you need to self-isolate.

Overall, my time here has been incredible, and I can't recommend studying abroad enough. Cambridge is still academically challenging, though, so you do have to manage your time well to balance your supervision work with making the most out of your short visit here. But the refreshing change of environment, exhilarating social scene, and eye-opening education really are well worth the effort, and it's an experience I think you'll look back on and remember for years to come.

## **Tanmay Gupta '24, Physics NatSci, Cambridge Michaelmas Term/Pembroke College**

Cambridge has become a home away from home very quickly. A big part of that has definitely been the people here at Pembroke College. Pembroke is known for its food, friendly people, and how close it is to the city center. I live in a single (like all rooms here) in Foundress, the newest building. Foundress is often frowned upon for its more modern, gray architecture but the rooms and facilities inside are top notch. In that sense it's like Bechtel, but with much larger rooms. Another nice thing about Foundress rooms is that they're warm so you'll be comfortable as the weather becomes cold in November (colder than Caltech's winter). Like most colleges at Cambridge, you'll get housekeeping once a week (vacuum, change trashcans, and sink cleaning). The porters, housekeepers, gardeners, master, dean, admin, etc are all very nice people and I'd recommend talking to them to learn some Pembroke/Cambridge secrets or tips.

Arriving at Pembroke was straightforward, you get your keys from the Porters and move into your room. Since we arrive a week before classes start, I got the option of participating in the Fresher's events (fresher = frosh). I decided it would be a good way to meet people and get oriented to the college and town, so I attended all the ones involving food. I made many fresher friends this way and several of them live in my hall. We hang out often and they're a great resource for learning about British culture and the best places to visit/see. For example, one of my friends is from Cornwall and before I went to visit, I got a rundown of the must-see places and how to get about from her.

Matriculating as part of the University and the college was a cool experience. You dress up in formal clothing and don a gown (borrow one from a friend you make), then you get to write your name in an ancient book using an old ink-well pen and indelible ink. That book, when full, will be stored in the college archives for centuries as previous ones are. You also take pictures and a large group picture, followed by your first formal hall. I was seated next to the master of the college, the Rt Hon Lord Chris Smith, who is a phenomenal conversation partner. Matriculating is an experience unique to Oxbridge and it's very cool to be a part of that history now. Pembroke is special in that it also has an "international students program" where about 40 students from other US universities (like Johns Hopkins, Princeton, Wellesley, UCLA etc) come to Pembroke for a term/year. So you'll run into other American school-goers (easiest to tell by accents) in case you're missing home. However, they all live on a street off college and don't matriculate so you get to enjoy a unique experience in Michaelmas as well, along with an alumni email id to keep.

I would highly recommend renting a cycle for your time at Cambridge. Attending the fresher's fair helped me find one of the few shops that do rent bikes here. Check out 'Kingsway Cycles' and you can rent a bike for term for only 60 pounds (about a dollar a day). Speaking of the fresher's fair (a huge club fair), I would highly recommend going and signing up for several mailing lists that you're interested in. Check out the (free)

taster sessions before committing to a few societies. There is a much, much larger selection of societies here than at Caltech. I've been acting, trying a gliding lesson, dancing, quizzing, and so much more. There's even an American Football club that you can join and try out no matter who you are or how small you are.

All physics lectures are held at the Cavendish Laboratory (new Cavendish II), which is a 30 min walk or a 12-minute cycle ride away. The nice thing is all lectures are in the same lecture theatre, so you get to stay in one place while the lecturers come in and out. Lectures are much larger than at Caltech. They were about the size of frosh classes (~150 people). Some profs like questions in the middle of lecture, while others prefer them at the end. I took four Part II physics courses that translated back to Caltech credit and kept me on track for graduation. Lectures are typically one hour with 15 min breaks in between. There are vending machines for snacks, food, and coffee/tea right outside in case you need a pick-me-up. The Cavendish is part of the West Cambridge site, where many CompSci (CS) lectures are. Along with many places to eat and work (west hub library).

I have to say, Cambridge has a much better work-life balance than Caltech. The social scene is far more alive and accessible. Being only 2 to 5 mins walk from any of the 5 major clubs in town makes it really easy to go out with friends if that's your scene. I'd recommend trying clubbing here at least once before you decide if it's for you or not. Choose a themed night like "2010s throwback" or "honoring ABBA." Much like Caltech, there's varying levels of sociability but Cambridge has a wider range. There are many phenomenal productions to go and see. The theatre scene at Cambridge is phenomenal and I'd recommend getting involved even if you've never done it before. Having four classes with problem sheets that are due (for us) in time for supervisions (every other week), allows you to spend time learning the material and retaining it. Rather than the all too common short-term learn and forget model we can fall into Caltech. Also, it lets you spend time outside of work to socialize and explore new places and activities.

You've probably heard about and seen pictures of Cambridge's beautiful architecture. It's even better in person. The town just feels cozy (except for the weather) and inspiring. Every now and then I take a moment to breathe and remember that I'm in a historic town where visionaries have walked and studied. There's many museums and town secrets to explore (check out the dinky doors). You'll learn a lot as yourself and grow as a person when you study abroad. Cambridge is no doubt one of the best places to do that.

## **Rupa Kurinchi-Vendhan '24, Computer Science, Michaelmas Term/St. Catharine's College**

I'm currently in my fifth week of the Cambridge Michaelmas term, and I've loved every minute of my time here! I wasn't sure what to expect when I started the program, but I'm constantly surprised by how much I've learned and accomplished in such a short time. I've come to Cambridge with a steadfast "Say yes" mindset, open to new experiences, and it's definitely served me well.

I'm living in St. Catharine's College (Catz), in a two-floor en-suite single. My living conditions have been incredibly convenient, and definitely better than what you typically experience at Caltech. Because I'm on the top floor of Gostlin (one of the newer buildings on campus) with one window looking onto the Catz Main Court and another looking onto King's College Chapel, I'm lucky enough to consistently have great views. In general, getting around Cambridge is relatively easy—Catz is right in the middle of the City Centre. This means that getting to most restaurants, shops, museums, grocery stores, and pharmacies takes at most 10 minutes by walk. As a computer science student, my classes are in the Computer Laboratory in West Cambridge. This is a little further away, since it takes roughly 30 minutes by walk, 10 minutes by bike, and 20 minutes by bus. I highly recommend investing in a bike (there are several rental locations in the area), since it will be most cost efficient if you plan on commuting to class (among other places) everyday.

As a junior, I'm taking classes in the Computer Science Tripos with Parts IB and II. The courses that I am taking here will primarily fulfill the Advanced CS and Breadth requirements at Caltech. The courses here emphasize a similar level of fundamentals and theory that you've typically seen at Caltech, but with different areas of focus. For example, I'm taking Semantics of Programming, which contributes to an understanding of how languages are developed, and Principles of Communications, which focuses on how different types of networking systems are built. When you are selecting your courses, make sure to pay attention to what requirements you will be filling, and how that fits into your larger course plan for meeting Caltech requirements. Also, it's important to know that because you are limited to taking courses within your Tripos, it'll be difficult to get any HSS credit (but not entirely impossible).

If you are considering applying to Cambridge's study abroad program, I would definitely recommend prioritizing the Michaelmas term! Because it's the beginning of the year and there are plenty of incoming freshers, it makes it incredibly easy to integrate within your college (and the wider Cambridge) community. At the start of the term, you'll have plenty of opportunities to participate in Fresher's Week events to get to know other people in your college, and there will be the Fresher's Fair where you can learn about and sign up for the societies that pique your interest.

As for how things have changed while the COVID pandemic has progressed, there is definitely a culture shock coming from Caltech. Because there aren't any masking requirements or mandated biweekly testing, students are much more relaxed about social activities. It hasn't significantly impacted my experience here, but it was definitely uncomfortable at times to be the only person in the room wearing a mask.

You're only here at Cambridge for a short amount of time, and it's important to make the most of it! Make sure to plan any day trips or weekend trips ahead of time (this will also make it easier to schedule supervisions). Since I've been here, I've visited London and Oxford, and am planning to go to Edinburgh and Cornwall. Again, because the Michaelmas term is short, it's important to be available on some weekends to be able to participate in any social activities happening at Cambridge itself. Everyone has their own interests and schedules, so it's incredibly easy to make solo trips if your peers aren't available!

Ultimately, Cambridge is what you make it of, and if you plan ahead (in terms of academics and social life) and pinpoint exactly what you want to do and see, you'll be sure to have what I would truly consider to be the experience of a lifetime.

### **Alexandra Lai '23, Engineering, Cambridge Michaelmas/Corpus Christi College**

Studying abroad in Cambridge feels like living a dream I'm afraid I'll wake up from. It feels surreal to live in a beautiful, castle-like college with over 650 years of history where tourists take photos as you walk through New Court every morning. The past five weeks have passed in the blink of an eye, and I already know I'll miss this wonderful college town when it comes time to leave.

Although I was originally scheduled to come during Lent Term, I'm incredibly grateful that I'm here during Michaelmas. During the first week, the JCR team puts together special activities for the Freshers, and as a visiting student, you're invited to all of them. On the college and university level, there are sports fairs and societies fairs – since the school is so large, the fairs are several times the size of the club fairs at Caltech, and there are societies for anything you can think of. During the first two weeks, most societies run "taster" sessions, where you essentially get a free trial before committing to the activity. I joined the Corpus Christi College Boat Club (Corpus Christi's rowing society), the Cambridge University Polo Club, the Law Society, and Women in Business. Everyone has been super welcoming, and you'll find that most societies are open to taking in complete beginners. The structure of the first weeks of Michaelmas term makes it easy to meet other people, especially from other colleges, and I feel that during Michaelmas term, most other students are more open to meeting others, as they have also just arrived in Cambridge.

I live in a single right above the college Pelican bar and right across from the Corpus Library in Kwee Court. The layouts of the college buildings are quite interesting, where rooms are divided into staircases instead of floors, and each ground floor entry door only gives access to a particular set of rooms going up vertically instead of horizontally like our buildings at Caltech. Formal halls are on Friday and Sunday nights each week, and they're great opportunities to embrace your inner Harry Potter, as everyone dresses up in formal wear with a long black gown and eats at long tables in the hall lit by candles and chandeliers. You'll also find that there are fun little traditions like if a coin is thrown into your wine glass, you have to finish it because 'the queen can't drown'.

Corpus Christi College is located right in the city center, and a quick two-minute walk will get you to M&S, a grocery store, and an open market that always has a variety of different goods. Overall, Cambridge is a very much a pedestrian's and cyclist's city, and anything you could want is within walking distance. Sometimes I find myself just standing there on the side of the street taking in the beautiful scenery and just being thankful I'm here. If you want to take a day trip, there are also many places worth visiting within an hour of Cambridge, and the train system is extremely convenient.

On the academic side, I study in the Engineering tripos, and my classes are conveniently located in the Engineering buildings about an eight-minute walk away from Corpus. The courses I'm taking are a mix of management-type courses and STEM ones, and while it is true that there is much less collaboration on sets (they call them examples papers), I find the work is more doable on your own than the work at Caltech is. I generally have three to four supervision per course, where the supervisor goes over the examples paper, and you ask questions about what you didn't understand. One thing I was surprised about was that at the end of most of my classes, the students give a round of applause to the lecturer, and I have a lecturer who likes to take a dramatic bow before dismissing the class. The lecturers and professors here really seem to love what they do, and they're passionate about teaching their subjects. While there are no office hours for most courses, they are always open to answering questions before and after class.

Living here in Cambridge, it's easy to forget that Covid exists at all. Masks are rarely seen, and all activities are in-person and running as usual. There are no restrictions or required testing, so Covid hasn't affected my experience at all.

I'm loving the studying abroad experience here in Cambridge, and I absolutely would choose to do it again. If you're on the fence about applying, it's a once-in-a-lifetime experience that's so different from Caltech, and I would highly recommend it to anyone.

### **Laura Lewis '23, Mathematics, Michaelmas Term/St. John's College**

The past month at Cambridge has been a great experience and interesting change of pace from Caltech. I found it relatively easy to integrate in as a student here, especially due to my choice to study abroad during Michaelmas term. St. John's had a whole week of orientation events, which allowed me to get to know the college and education system here. I also was able to meet some freshers (frosh) through the events they held, and it was interesting discussing the differences between Caltech and Cambridge. Some of the orientation events were a bit repetitive, as they were similar to orientation from frosh year. However, others, such as the matriculation dinner, are certainly unique to Cambridge. The matriculation dinner is the first formal halls you get to attend while wearing your college gown, and (at least at St. John's) you sit with your tutor with some fellows intermixed, which is different from a usual formal hall. There is also a matriculation photograph beforehand with the entire first-year class in your college, which you can purchase later if you want. St. John's also has a matriculation chapel service before the dinner, which includes a performance by their choir and was definitely a highlight of my time here.

In addition to orientation, I was also matched with a college family. Although I think I was older than my college parents, it was helpful to have a current Cambridge student to contact in the early weeks of term for help with finding my way around and adjusting to the new environment. Michaelmas term also has Freshers' Fair and Sports Fair, which made it very easy to join societies (clubs). I joined the Cambridge University Bowmen (archery society), which was a lot of fun and a good way to get to know other people. I also attended multiple talks by the math/physics societies (even one given by a Fields Medalist!). I am also participating in a language exchange, which I would recommend to anyone learning another language who wants to practice speaking. Most of my societies are at the university level, but the colleges also have their own specific societies (mainly sports).

As for my courses, I am taking all Part II math courses. One nice part about the math department is that, even though Cambridge only allows you to take courses in your tripos (subject), there are many theoretical physics courses that you can take as well. I am taking advantage of this with one of my courses in quantum mechanics. I found that my courses at Cambridge are easier than at Caltech, perhaps due to the expectation that all work here is done individually instead of with collaboration. At first, it took me some time to adjust to a new work schedule, as all classes have example sheets which are effectively biweekly sets. Every other week (often starting from the third week), you turn in the example sheet to your supervisor (a graduate student or lecturer in the department), who marks and discusses it with you during the supervision. The closest thing the US has to supervisions is office hours, but this is still not very accurate. In math, supervisions are done in pairs with another student (sometimes from another college) in the same course. If you or your partner did not understand or fully answer a problem on the sheet, the supervisor will either (depending on their style) explain the solution or help lead you through it by providing



hints. Supervisions are a unique part of the Cambridge experience and are quite helpful to obtain a deeper understanding of the subject.

Studying math at St. John's is also a huge plus, since there are plenty of mathmos (math majors) to meet, and the college is relatively close to the Center for Mathematical Sciences where classes are held (only 10-15 minutes away). My walk to class is also very scenic, as I can go out the "backs" (large grass fields) and through gardens and playing fields. Moreover, St. John's is also close to the city center, where there are restaurants and grocery stores nearby. The accommodation here is also extremely nice, where I get a two-story room with an ensuite bathroom. In addition, the food both at hall and the buttery (cafeteria) is subsidized, making eating in college very affordable.

Covid-19 has not been an issue at all during my time at Cambridge. The restrictions here are effectively non-existent, which is nice to see after the long pandemic. One nice remnant of Covid-19 is that lectures are still recorded at Cambridge and are high quality at that.

Overall, studying abroad has been a new and exciting experience, and I am glad that I had the opportunity to go to Cambridge. I highly recommend studying abroad at Cambridge, especially during Michaelmas due to the wide range of welcoming activities to make adjustment easier.

### **Shenyi Li '23, Computer Science, Cambridge Michaelmas/Corpus Christi College**

My experience at Cambridge during Michaelmas has been a very rewarding new experience for me. Corpus Christi College is in the heart of Cambridge with quick and easy access to a multitude of shops and other colleges. I have grown to appreciate the bustle of Trumpington Street out of my window, with the occasional singing coming from the Eagle Pub nearby. I would say Cambridge is actually a mix of the modern and ancient, which was a pleasant surprise, since coming to Cambridge I had thought it would only have old architecture. My time so far at Cambridge has been very enjoyable and there are definitely more things to do here than at Caltech. And thankfully, COVID-19 is not an issue at all here, so everything is just the same as pre-pandemic.

Not as close as the shops is the Computer Science building at West Cambridge, but I actually really enjoy the 30-minute walk to and from West Cambridge. It is very scenic and peaceful and good for exercise! I do take the bus in the morning as to not have to wake up too early and I walk back. Bus fare is only 1 pound for Cambridge students. While lectures are very similar to Caltech, the supervision system is vastly different and worth experiencing when coming to Cambridge. In all honesty, since I am so used to turning a set and being done, it took a while to get accustomed to supervisions. For Computer Science, you usually get a supervision partner, but you can request to have

1-on-1 supervisions which I prefer and actually have been doing since it is more tailored to your own knowledge and understanding.

In terms of food, Cambridge has great food! The hall food has reduced prices, subsidized by the College, and has great variety and is well-cooked. Corpus Christi especially has an excellent salad bar with 6-7 different varieties of salads which costs about 75 pence per side bowl (mix and match!) – a great deal if you ask me for all the nutrients you obtain after ingestion. There are great afternoon tea places nearby as well, which I have gone to for the authentic English experience. For formal halls, it is an exceptional experience to dress up in gowns of your college and eat a hearty three course meal in a very Hogwarts-esque hall. The only difference is that the portraits on the walls unfortunately are immobile. I also got a chance to sit at the high table during matriculation formal, which I was very lucky to be randomly placed there and will never sit there again. A very frequented place by everyone is Jack's Gelato which offers new flavors everyday and college members get discount codes. Jack's Gelato is so phenomenal that it does not deter people from getting it in cold weather conditions, judging by the consistent long line in front of the store every day and night.

There are many activities worth doing at Cambridge. One of the most iconic one is punting on the River Cam. There are punts for visitors in which you can just sit in the boat and be punted by an experienced professional. These usually come with certain commentary/tour from the punters about the colleges you pass by along the River Cam. And most colleges have their own private punts including Corpus in which you can try punting yourself. I have tried punting once so far and I would say it is definitely harder than it looks. Unfortunately, I lost the punt stick because of a very low bridge, which I had to then wait for another boat to retrieve for me otherwise I would have been forever stranded in the middle of the river. Another great, all-British experience is rowing. You can go to a taster session of rowing to experience both basic rowing and coxing and then join your college's novice team. I row about 2-3 times every week and it is both great for exercise and for discipline because you have to wake up early. You also get an aesthetic view of the northeastern side of Cambridge from the River Cam while rowing, which you otherwise wouldn't have gotten a chance to see.

Due to the vast size of Cambridge, there are many colleges to visit, each with its own unique characteristics. Although I don't plan on visiting all 31 of them, I do plan on visiting the more accessible/well-known ones. So far, I have been to Queen's, King's, St. John's, Fitzwilliam, Lucy Cavendish, Newnham, Jesus, Darwin, St. Catharine's, and of course, Corpus Christi. For day trips, the town of Ely is very close – a 15 minute train ride as a matter of fact. The Ely Cathedral is very outstanding and you can also visit Oliver Cromwell's house. When I went, they were actually filming a major film there, which I believe is supposedly the Bradley Cooper-directed Maestro about the conductor Leonard Bernstein. I have yet to go somewhere else because I have been busy with activities and work lately, but Cambridge travel is pretty easily accessible.

Overall, Cambridge has definitely been a perfect experience for the start of my senior year and something that I will cherish when I reflect back on.