

Career Interview Questions:

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Job title & company: Site Coordinator, Amgen Biotech Experience at University of Toronto
Mississauga



Interview questions

1. What did you want to be when you were a teenager?

Chemical Engineer, or something along those lines - my parents were the first class to graduate university after the cultural revolution in China, and my maternal grandparents were one of the few graduates in their university class prior to that, with my grandmother being one of a handful of female graduates in their class. My mom put her foot down on that idea, citing that it's a boring and difficult experience.

2. What did you go into in university?

I loved both the arts and sciences (except Physics), and really wanted to dive into the squishy sciences without restricting myself to writing lab reports. When a family friend went into the McMaster program of Arts and Science, I thought I'd follow suit. It was a program that, at its core, is a liberal arts degree with smatterings of science - stats, bio, chem, calc, all the fun things. Offsetting that was the arts courses like Writer, Argumentation, Literature, Eastern Thought - I never thought that I'd been capable of reading the Iliad, Odyssey, Herodotus, and Thucydides one year, and casually analysing Crime and Punishment in between Shelley's Frankenstein and Kafka's Metamorphosis the next. If anyone's not sure of what to do in life and sort of interested in everything, ArtSci's the place to go!

3. Why did you opt out of your PhD? Any regrets?

To be entirely frank, I took a hard look at what came together as my thesis, and didn't really feel comfortable publishing it, as all theses become. It was one of several projects I had going on during my PhD, as with most graduate students, but the connection between all of my projects were tenuous at best. I was embarrassed at just how little ended up in my thesis, and realistically how little I could conclude about the project after nearly a decade in the program. Then my current job came up and I took the easy way out. I'm not super proud of what I did and definitely not how I did it, I certainly burned a few bridges doing so. I regretted burying my head in the sand and just assuming things will turn out, instead of taking the initiative and opening up dialogue earlier on with my supervisor of what isn't working, and perhaps coming to a mutual understanding that I just wasn't a good enough student, and that is fine.

4. Do you feel like your current job is fulfilling? Can you give us a short description?

I do! I have to say, the first thing I really noticed about having a job instead of being a student is being appreciated for having expertise and being responsible. I also have awesome bosses who are incredibly supportive of what I wanted to do to get the program running, and a university who loves the outreach aspect of the program to increase connection to the local schools.

As an elevator pitch, I am the Site Coordinator for the Amgen Biotech Program at the University of Toronto Mississauga. We're a high school biotech outreach program that trains teachers on a set of 6 core labs that teaches the central dogma, and subsequently supports teachers with equipment and reagents to perform these labs with their students at their home school. The labs introduce basic biotech pipetting skills, then takes students from manipulating red fluorescent protein DNA in plasmids, visualizing DNA using gel electrophoresis, transforming plasmids into bacteria, and finally purifying the red fluorescent protein from bacteria. We were planning to add a PCR lab where students can amplify red fluorescent protein DNA from bacteria as well before the pandemic, but I'm sure that'll be added once we're back up and running fully.

<https://twitter.com/ABEUTM1/status/1062783174110011392>

I also act as one of four Master Lab Technicians for the global ABE sites - ABE programs are in...I think we're 21 sites across 14 countries now. The Program Office in Boston realized that there needed to be some technical support for all sites, especially since most of the non-US sites were new, and had staff of various expertise and background knowledge. I also sit on a few different committees to help either develop curriculum or address equity and engagement both within the ABE site and with the community at large.

My PhD was in x-ray crystallography, which is essentially figuring out how to make a protein in decently large quantities, purify it, and then subjecting it to a variety of conditions to force it to form crystals of good enough quality that I can shoot x-rays at it to generate data to find out what its molecular structure looks like. Once that's done, there's usually rounds of more purification with small mutations in the protein to figure out how each of those affect its structure and its function - usually to see if changing one or a few amino acids affects how well the protein either recognizes another protein, or how well the protein carries out its enzyme function. A lot of that was years of NA manipulation, bacterial transformation, and

purification protocols, so the Program Office tapped me for the MLT role about a year after I started my job.

5. What is Day in the Life of Kristina Han like?

Well, currently a lot of my days are writing emails, zooming, and generating curriculum for the Program Office!

Pre-pandemic though, a day in the life depends on where I am in the kit-booking cycle! All of our kits are booked in 2-3 week cycles, come back on Monday/Tuesday, and get sent out Thursday/Friday. I have about a 2-3 day period where the kit comes back, gets unpacked, checked for malfunction, cleaned, reset, repacked, and gets picked up by the next teacher. Depending on the size of the class and which labs teachers do, each kit is about 5-6 rubbermaid totes' worth of stuff. Those days are a mess of boxes and parts strewn across as much room as I have to work with, and I'm usually cross-checking between the equipment list of the kit that just came in, with the equipment list of what needs to go into the next kit so nothing is missing, and I'm writing down everything I've packed, with numbers and sets. Between those mad periods, I'm doing basically all the prep work for the consumables, and repairing any broken bits on the fly. There's a lot of aliquoting, pouring plates, and pouring gels that happen, and a good chunk of measuring out white powders for gels and for decontaminating bacterial waste! Sometimes I'm lucky and I'll have an assistant with me - my awesome bosses have made sure I had the support when I needed it so I don't go too insane! On the days I'm alone, you'll likely find me knee-deep in a box or drowning in coloured eppendorf tubes, with headphones on listening to podcasts or an audiobook.

<https://twitter.com/ABEUTM1/status/1101150022589136896>

6. What is the best part of your job?

The teaching and scheduling! I love human interaction and talking about science, as you probably gathered in our conversation before the LXC session, and teaching a group of teachers who are interested in learning about these labs is so much fun! I basically get to teach a group of super keeners, what's not to love! I also learn so much every time too, and I am always in awe of every teacher I've had the privilege to work with along the way!

<https://twitter.com/viafratescience/status/1169047634448912384>

I'm also a huge sucker for when things go according to plan, but I don't mind when they don't and we have to come up with plans on the fly! That's when it gets exciting!

I can't not mention my bosses again - they gave me the chance to work essentially on my own schedule, and I am so very grateful for that. I briefly mentioned that I'm a fencing referee - for about three years prior to the pandemic, I was working as a referee pretty much every other weekend, and not all locally. I essentially got in a car or a plane every Friday to travel somewhere, refereed Saturday/Sunday, and flew/drove back Sunday night or very early Monday morning. My contract was 80%, so I worked 4 days every week, and the fifth was either travelling to or from somewhere, or sleeping off the jet lag if I were coming back from London or Segovia or Copenhagen. I was also fortunate to travel with the Canadian

Military to the World Military Games in October of 2019 to, of all places, Wuhan, as the first Canadian Female referee representative to participate in the games. It was 3 weeks away from work, but both my bosses were incredibly supportive of it, and we scheduled the kits so everything was out for that three weeks I was away and in classes with experienced teachers. We had some hoops to jump through for technical support during that time, but all of our ABE teachers were also so accommodating and patient during that time! It meant a LOT of planning and cramming things into the days I was in the lab, but I don't know if I would have had it any other way!

<https://twitter.com/ABEUTM1/status/1190385653923667975>

7. What is the worst part of your job?

I'm honestly not sure, I think I'm still in the honeymoon phase of my job - it's never been boring or routine, something's always up in the air, and even if it's running like a well-oiled machine between cycles, I always have some project to think about or troubleshooting from another site. Is it bad to say that I don't really have one?

8. Any advice for students who would like to follow in your footsteps?

Don't be afraid to fail, and to look at something and say - okay I don't really want to do this anymore for legitimate reasons, and I have another good option. Listen to what your body is trying to tell you, and that your mental health is just as important as your physical health. I think the academic landscape is changing at least a little bit, but I look back and I was *not* happy where I was in my PhD, through a combination of different factors, a lot of which were definitely my inability to muster up the energy or care to finish my degree. I took this job on a whim, sent in a resume that was far from polished, but had the right connections, and went into the interview with a solid technical background. My refereeing experience helped me to present myself professionally, process information quickly, troubleshoot on the fly when I needed it, and be able to present the discussion and solution in a logical manner. So my advice on that front is, whenever possible, to engage in interpersonal and soft-skill development outside of the classroom - be it in sport, in a local organization, a part-time job, or anywhere else where you can learn how to manage your time, develop discipline, and analyze responsibilities to form realistic goals and timelines. I wish I'd told myself that during my PhD, that's for sure!