

# WorthWEILL

**HAPPY 2019!** The Graduate Student Executive Council (GSEC) hopes that your holidays were restful and relaxing, and that 2019 brings you happiness and a great year full of success. We want to especially welcome the students who have joined our campus in the last six months, as well as the candidates who are currently interviewing with us! We are excited to meet you all, and wish you the very best of luck in your graduate studies and in your interview process.

**A**t the turn of the new year, we want to reflect together on the year we have just completed: Summer Party, World Cup Watch Parties, celebrations for graduations and thesis defenses, followed by a successful first-year Ph.D. orientation run by our outstanding Orientation Chairs—Anjana Krishnamurthy, Dylan Murphy, and Leona Nease. With every undertaking, GSEC and WCGS aspire to build a stronger community across our graduate programs. As such, we are extremely thrilled to have representation from the Healthcare Policy and Research Master's program. Another fantastic addition to the Graduate School is Aubrey Leukart, Ph.D., Manager of Career and Professional Development. Dr. Leukart is a great resource for all career planning purposes. She also offers programs and workshops to help graduate students prepare for their job search. Furthermore, we have added new clubs like the Photography Club and subcommittee liaison positions like a Diversity Representative to better support and represent the graduate student community.

**T**his past year, women's issues have taken center stage, so we decided to dedicate our annual holiday donation drive to Women in Need (Win), a non-profit agency and the largest provider of shelter for homeless women and children in New York City. Over the course of four weeks, GSEC collected three large boxes filled with toiletries, hygiene items, and warm winter clothing for adults and children. We are honored to have organized this successful drive and grateful to be a part of such a generous community.

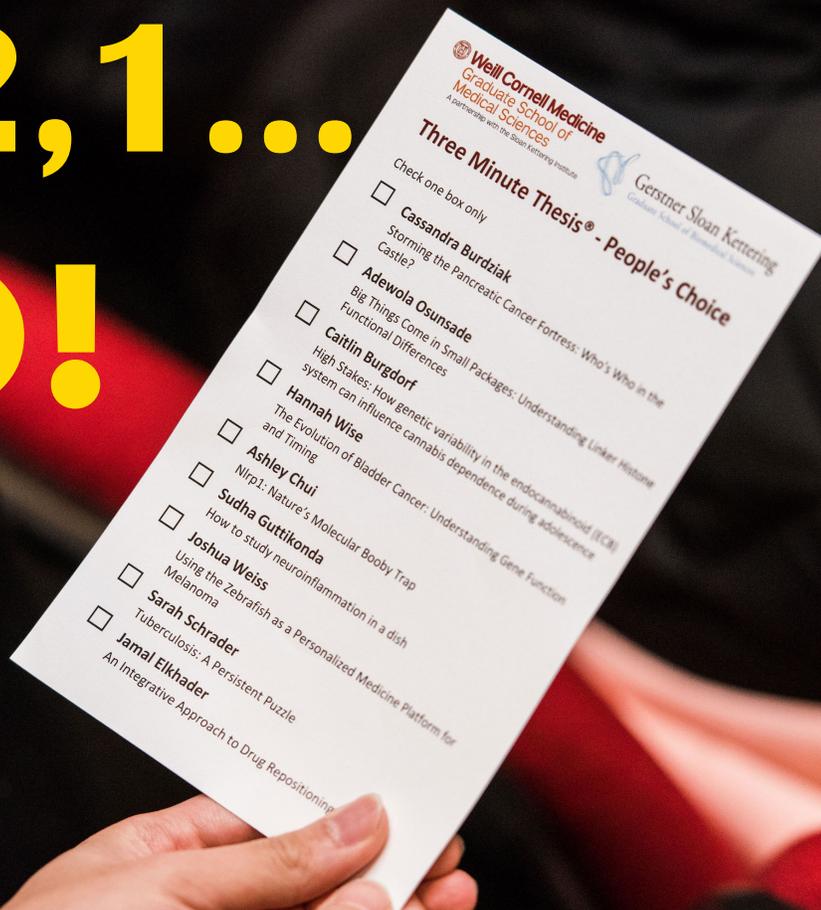
**G**SEC's fundamental objective is to support graduate students' academic, personal, and professional well-being and development. Hence, we have also worked closely with the Graduate School Leadership to expand wellness and mental health support at Weill Cornell, and to provide more options for financial support for conference travel. And we are eager to continue to grow and improve!

**A**s we turn our sights to 2019, and as scientists do, through examining the data we collect in our annual student survey, we continuously identify ideas and implement helpful changes along with the Graduate School leadership for incremental improvements. If you ever have any concerns, suggestions, or are having trouble finding resources, please reach out to us by email or stop by our monthly meeting.

We look forward to a bigger and better 2019 with your help and support!

Best,  
Kathryn Carnazza  
GSEC President

# 3,2,1... GO!



**T**he Weill Cornell Graduate School in partnership with the Gerstner Sloan Kettering Graduate School hosted its fourth annual Three Minute Thesis (3MT®) competition on November 12<sup>th</sup>, 2018. The event featured nine finalists from a diverse research background. Through the competition, participants not only have the opportunity to showcase their research to our network and partnering community, but also to provide students with skill-building and engaged learning opportunities, as well as to explore their capabilities.

3MT®, founded by the University of Queensland in 2008, is an academic research communication competition designed to challenge graduate students to concisely explain their research in layman's terms in three minute using only a single static slide. All winners, including the People's Choice award received \$500 each.

The Graduate School congratulates our Three Minute Thesis winners and all the finalists!



From Left: Jamal Elkhader, Ashley Chui, Hannah Wise, Sarah Schrader, Adewola Osunsade, Sudha Guttikonda, Cassandra Burdziak, Caitlin Burgdorf, Joshua Weiss



**Jamal Elkhader**

*"An Intergrative Approach to Drug Repositioning"*  
(Elemento Lab)

Tied for 1st Prize  
People's Choice Award

**Did you expect to win both the first prize and People's Choice award?**

I definitely didn't expect to win! My main goal was to make sure everyone was entertained while having a great time, so I was only trying to get the People's Choice award. I was thrilled to discover that I got both!

**How did you prepare for this competition and what was the biggest challenge?**

Trying to find the best metaphor for my work was definitely the hardest part. Simplifying scientific work down to avoid scientific jargon is a challenge, but I wanted to make sure the audience could relate to the story I wanted to tell. Once I found the perfect analogy, I knew I would be able to have fun with it.

**Reason(s) that you participated in the competition.**

I entered the competition because I saw it was a good opportunity to step outside my comfort zone and learn how to explain my research to other scientists outside my field.

**How are you planning to spend the money?**

Travelling is a passion of mine, and I look forward to using the money to travel somewhere I've never been. After I finish my Ph.D., of course!

**Any advice for future participants?**

Remember why you're doing your research, and convey that excitement to the audience. Relax and have fun with it!

**Did you expect to win the first prize?**

Not all all. In my section of the preliminary rounds about a week before the finals, I was the only one who made an obvious mistake, so I wasn't even expecting to make the finals. In the final round, I managed to avoid a major misstep, but I felt my delivery wasn't nearly as smooth as the other finalists'. It was quite a surprise to be named one of the winners.

**How did you prepare for this competition and what was the biggest challenge?**

I prepare mainly by practicing my presentation as many times as I could. First on my own until I had it memorized. Then, in front of several different audiences, including family members and lab colleagues. It's much easier to do multiple run-throughs of a three-minute talk than of a thirty-minute lab meeting! The biggest challenge was fitting everything into three minutes—framing the importance of the research, defining key concepts, and then explaining what my work aims to accomplish, all in a way that non-specialists could easily understand.

**Reason(s) that you participated in the competition.**

The ability to succinctly convey the purpose and significance of one's research is an important skill that every scientist should master, and this seemed like the perfect opportunity to gain valuable experience doing just that. I am also not a natural presenter. I tend to get nervous in front of even small crowds, so this was a chance for me to challenge myself as I work to overcome this nervous reflex and improve my speaking abilities. Finally, I really enjoy what I work on, and this was a wonderful avenue through which to share my enthusiasm for my project with a wider audience.

**How are you planning to spend the money?**

Coincidentally, the camera on my phone, which I use almost every day to take pictures of petri dishes in the lab stopped functioning the week before the competition. Since it is key to recording the results of many of my experiments, I had to get a new one right away. The cash prize definitely help!

**Any advice for future participants?**

Practicing in front of varied audiences was helpful for me to make sure people from different academic backgrounds could understand the presentation, and I got great feedback on how to better word certain portions and make my slide more visually-appealing. I also practiced using a laser pointer with my slide so the movements would be automatic during the real thing. Another piece of advice is to take advantage of the feedback offered after the preliminary session. I met with Dr. Aubrey Leukart from WCGS Career Services and she gave me useful advice on how to improve my slide, not to mention some much-needed encouragement.



**Sarah Schrader**

*"Tuberculosis: A Persistent Puzzle"*  
(Nathan & Vaubourgeix Labs)

Tied for 1st Prize



**Cassandra Burdziak**

*"Storming the Pancreatic  
Cancer Fortress: Who's Who  
in the Castle?"*

(Pe'er Lab)

3rd Prize

**Did you expect to win?**

It was very hard to say who would win since I think the playing field was pretty even—everyone was very creative and did an amazing job with their talks!

**How did you prepare for this competition and what was the biggest challenge?**

I'm used to leaving a lot of room for improvisation in my longer scientific talks, whereas the three minute thesis competition demands a more rehearsed performance which can fit within the time frame. That said, the biggest challenge for me in this competition was adapting to this new style of presentation—preparing dialogue to fit within the time frame, committing it to memory, and willing myself to stay on track during the talk itself.

**Reason(s) that you participated in the competition.**

I entered the competition because I thought it would be a fun challenge which would allow me to work on my scientific communication skills. I was also very excited to share my work with a broader community at Weill Cornell, which many students don't get the opportunity to do until their thesis defense.

**How are you planning to spend the money?**

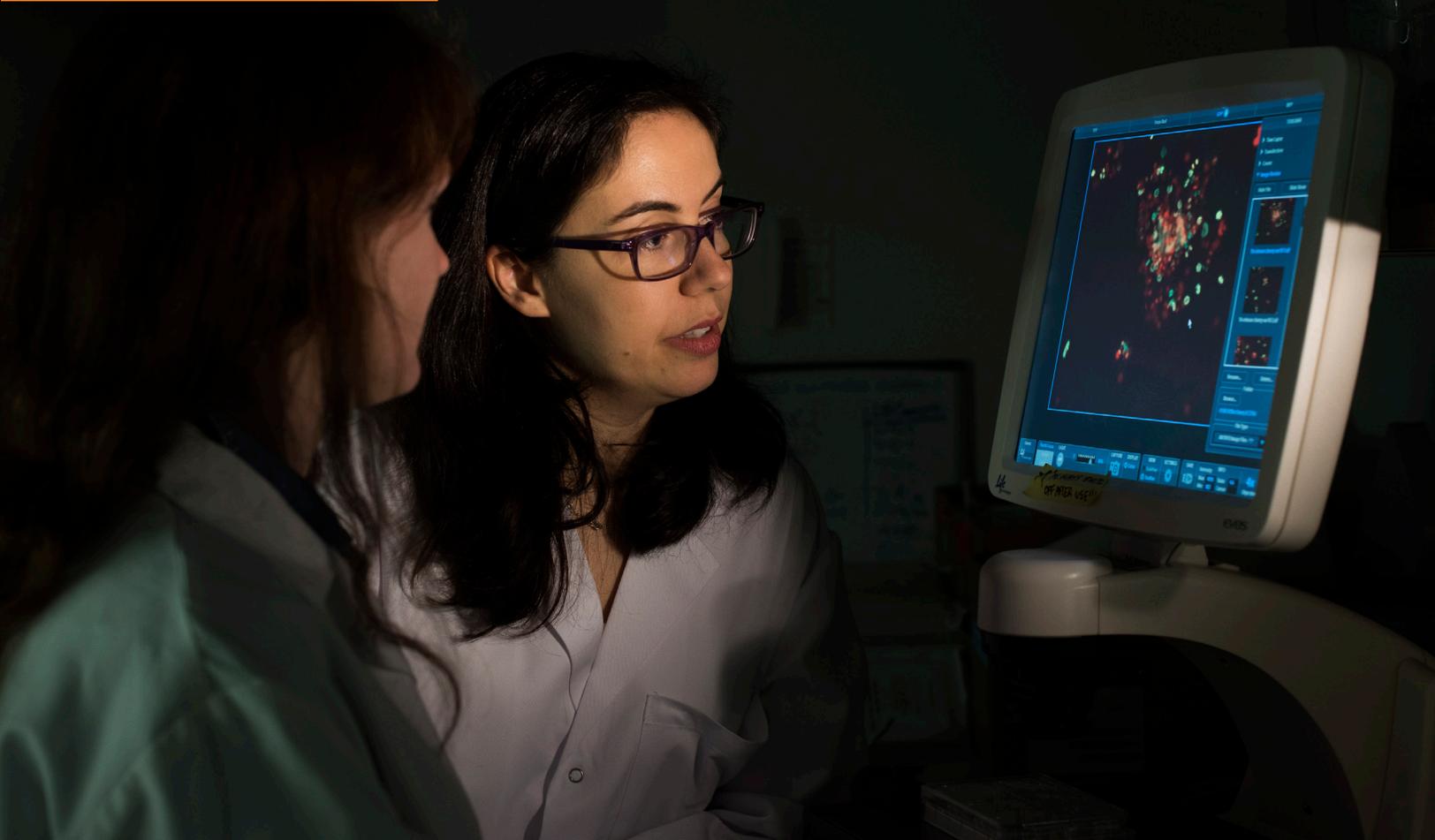
I think I'll use the money toward travel in the coming year.

**Any advice for future participants?**

The best advice I can give is to spend the time developing a creative idea before diving into the slide or presentation itself. Use of creative or humorous analogies is one way to stand out in the competition, so try to think abstractly about your work and find relatable ways to communicate that information.



From Left: Dr. David Christini, Vice Dean; Jamal Elkhader (Tied 1st Prize & People's Choice Award); Cassandra Burdziak (3rd Prize); Sarah Schrader (Tied 1st Prize)



**F**or as long as she could remember, Effie Apostolou, Ph.D., has always enjoyed problem solving. “Math was my first passion,” says Dr. Apostolou. “But later on, I discovered biology, where problems are more complicated and solutions lead to new exciting problems in an ‘endless’ fun journey.”

**D**r. Apostolou, an Assistant Professor of Molecular Biology in Medicine, grew up in Naoussa, a small and beautiful island town in North Greece. She completed her undergraduate studies at the Aristotle University of Thessaloniki and everything changed at that point. “I realized that diving into the Eppendorf tubes or the cell nucleus during experiments made me really happy and I dreamt of spending days and nights in a lab or microscope,” reflects Dr. Apostolou, “which indeed happened for many of the following years.” Dr. Apostolou went on to obtain her Ph.D. from the National University of Athens in Greece under the tutelage of Dr. Dimitris Thanos, where she “fell in love with the beauty and complexity of gene regulation.”

**I**n 2009, Dr. Apostolou took the big step to move across Atlantic and joined Hochedlinger’s lab at the Massachusetts General Hospital (MGH) in Boston to study molecular mechanisms of somatic cell programming to induced pluripotent stem cells—a field in its infancy back then. Following a postdoctoral stint at MGH, Dr. Apostolou established her independent group here at Weill Cornell in 2014. She is the recipient of multiple prestigious grants such as the NIH Director’s New Innovator Award, Edward Jr Mallinckrodt Grant, as well as two Tri-Institutional Stem Cell Initiative Grants funded by the Starr Foundation.

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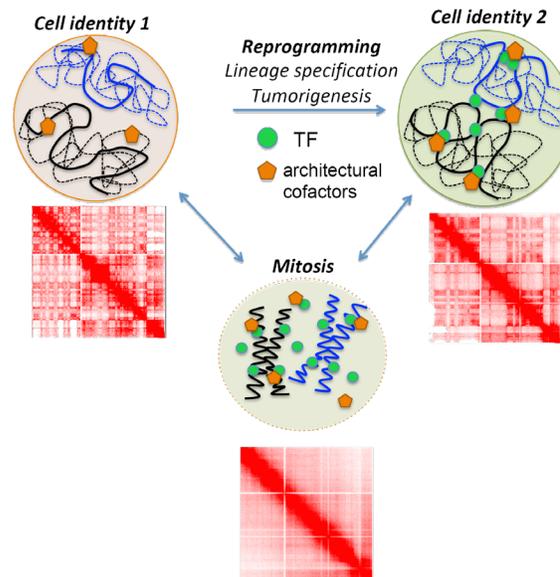
**My everyday inspiration and motivation come from my interactions with bright and enthusiastic young scientists.**

**My first postdoctoral years** were the longest “honeymoon” in my research experience being in a state of constant excitement about the questions I was addressing, the new methods that were developed and the brilliant mentors and colleagues that I interacted with. Yet I did not have a clear plan about my future. Although, research was clearly my thing, I had many dark moments that made me reconsider my path. It was only after my last years of postdoc that I made the conscious decision and a 10-year plan for a career in academia as an independent investigator.

**My lab investigates** the molecular mechanisms that control cell identity using stem cells and somatic cell reprogramming as model systems. Our main focus is to unravel how transcription factors reorganize the 3D chromatin landscape to either reprogram or propagate cellular identity. We employ next-generation sequencing technologies to track transcriptional, epigenetic and chromatin conformation changes and integrate all these datasets to draw conclusions on cause-and-effect relationships and their impact on cell identity. We also use advanced CRISPR-Cas9 genetic and epigenetic engineering approaches to test our hypotheses.

This research would not have been possible 10 years ago, since both the experimental system that we use and all of the molecular assays and genetic tools have been developed only during the last decade. In addition, the last years have seen an explosion of next-generation sequencing approaches, especially the ones that enable characterization of the 3D chromatin organization, that enable genome-wide and high-resolution mapping.

### Studying the principles and role of 3D chromatin organization in regulation of cell identity



**My research is motivated** by the need to understand how the same genome instructs different cellular programs and functions during development or disease. Destabilization or loss of cell identity is central to many disorders, including degenerative diseases and cancer. We know that structure and function are tightly linked in nature and especially biology. Our genome is packed into tiny nuclei in a way that should allow selective access and activation in a cell-type specific fashion. Thus, I hope to unravel the principles of 3D genomic architecture, its interplay with transcription factors and its importance in gene regulation.

Hence, understanding the mechanisms that control cell fate and identifying novel players will enable discovery of safe and efficient ways for rational manipulation of cell identity, ultimately leading to ground-breaking directions of therapeutic relevance.

**The major inspiration** for me to continue my research is the work of my mentors and senior scientists. However, my everyday inspiration and motivation come from my interactions with bright and enthusiastic young scientists. Additionally, passionate students inspire me to become a better scientist and keep looking for alternative paths when I feel that we hit a dead end. They remind me why I'm here and what I'm fighting for.

**Being a young independent researcher** is certainly hard in this highly competitive academic environment. You have to fight for funding and high-impact publications. I was fortunate enough early on to get a very prestigious and generous funding from NIH, which enabled me to enjoy couple of "worry-free" years and focus on my research.

I do not feel being a female scientist compromises my academic development by any means. I even have the advantage of being a minority in several committees and speaker lists. On the other hand, being a young mom and a PI has certain challenges. It is true that having to operate on a schedule makes you more focused and efficient, but also deprives you from moments of casual brainstorming in the hallway or over drinks. In this regard, prioritizing and sticking to the program becomes essential for survival, but it certainly kills some of the fun. Luckily, Weill Cornell is a supportive environment that believes in work-family balance and supports it with actions, such as a subsidized daycare center and special awards that target postdocs and faculty that are child care-givers.

**It has been more than 4 years since I joined Weill Cornell** and I am constantly reassured that it was a great decision. There is an excellent pool of scientists and clinicians that are easily approachable and willing to collaborate. Being able to share my unpublished work and my ideas, as well as getting input from top-tier colleagues has been critical for the sculpting of my research program.

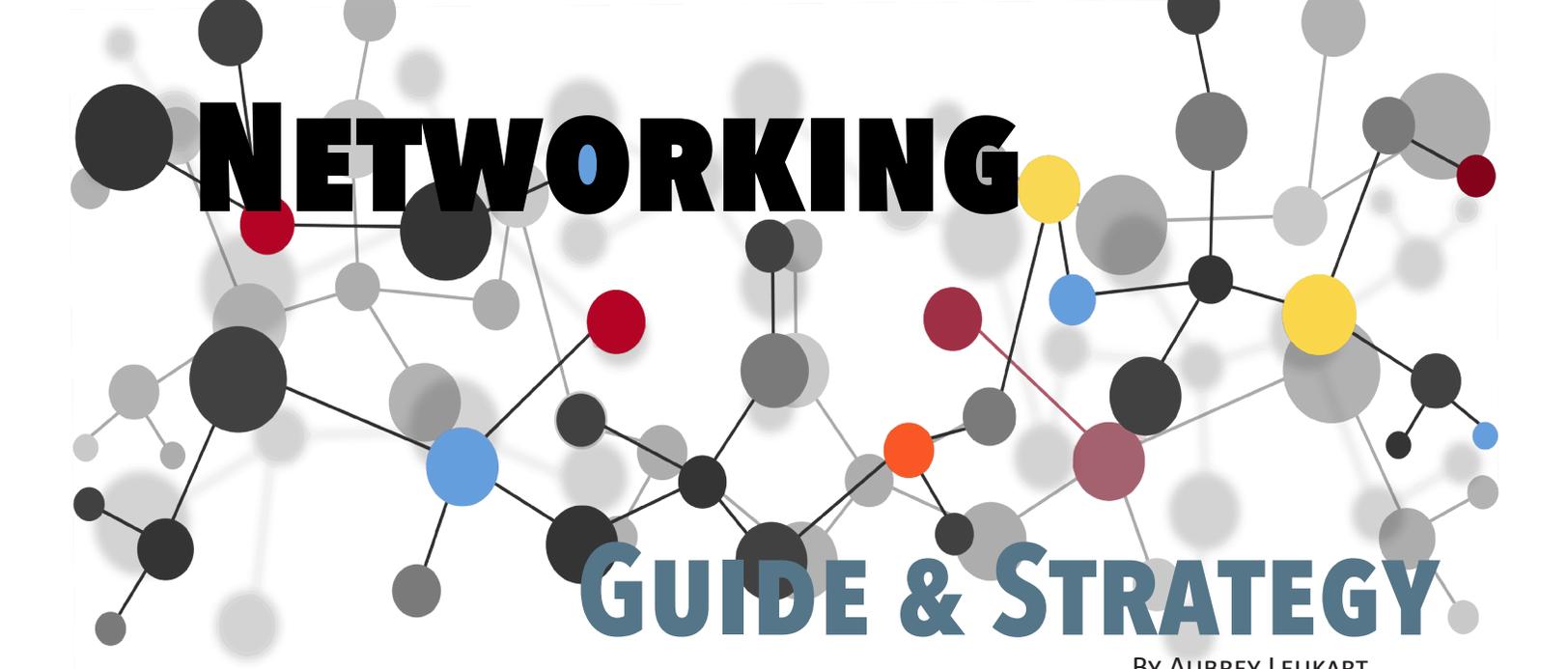
Another great value in Weill Cornell is the importance of mentoring. I have a formal mentoring committee that has been extremely helpful with strategic planning and lab management decisions. I have also participated in the FARM program, which organizes seminars for NIH grant writing and provides real-time input and support for first R01 applications.



**My advice for Ph.D. students:** "Get your hands dirty-keep your mind clean." Thinking and doing are equally important in science. Try to enjoy your experiments and don't take failure personally. Also, try to regularly zoom out and put your research into perspective. Share your excitement and frustration with your peers and find a mentor that both challenges you and supports you. Keep your mind open for other opportunities and don't forget that research is not for everyone.

**Spare time???** I just had my second baby, so I will have to forget that term for few more years. Following the advice of a great mentor, I have established a secured and holy 3 - 4 hour window of "creativity time" in my week—instead of "spare time," I read and think about current projects and new ideas. Once my babies get older, I hope to get back to tango and painting again!

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**Thinking and doing are equally important. Try to enjoy your experiments and don't take failure personally.**



# NETWORKING

## GUIDE & STRATEGY

BY AUBREY LEUKART

“**NETWORKING**” can feel like a loaded term; I meet with many students who cringe when they hear that word. When I ask what the word “networking” brings up, students often talk about it feeling fake, deceptive, or smarmy, that networking means you are “using” someone, or that thinking about networking makes them feel anxious. Many students—students who are great, and charismatic, lovely and smart, and very competent in social interactions—feel like they are “bad” at networking. I understand all of this—networking gets a bad rap. It doesn’t have to be this way.

Let’s break down networking a bit. According to Merriam-Webster, networking is “The exchange of information or services among individuals, groups, or institutions. Specifically: the cultivation of productive relationships for employment or business.” In other words, networking is just using your interpersonal skills—the ones you’ve been using since you were in preschool—to get to know people in your field. So, an example of networking might be getting to know a postdoc in your lab, and then asking that postdoc for advice on postdoc applications. Or, talking to the person next to you at a conference presentation and finding out they are in the industry you’re interested in entering post-graduation. If your interactions here feel really fake, or it feels like you’re “using” someone, then you’re probably doing it wrong.

Now that we understand what networking is, we should talk about why it is important. According to Business Insider, up to 80 percent of jobs are never publicly posted; this means that, for a large share of the job market, the only way to learn about open positions is by someone in the company informing you of an opening. Beyond these referrals, networking connections can also give you tips and tricks to strengthen your written application, provide recommendations for ways to prepare for your interview, let you know the typical salary range for a position so you’re better able to negotiate compensation, and so on. This level of insider information can help set you apart from other candidates in an application pool.

Networking often feels awkward, and that is okay; a little

awkwardness is humanizing, and can be endearing as well. That said, there are certainly ways to play to your strengths in building your network. If you’re an extrovert, you may feel comfortable attending things like happy hours and formal networking events at conferences—meetup.com, professional associations, and alumni newsletters are a great way to learn about this type of networking event. People who are more introverted may feel comfortable in a one-on-one scenario where they conduct an informational interview, or a coffee chat, where they have a structured conversation with a professional about that person’s job. In either case, keep the conversation focused on professional topics, ask open-ended questions, and make the person you’re talking with a subject-matter expert. You should also avoid controversial topics (politics, religion, and so on), and never ask someone for a job unless they know you well and can genuinely vouch for your work.

Finally, keeping organized and tracking your networking contacts will help you stay on top of all the great connections you’re making. At a basic level, maintaining a strong LinkedIn account can help to keep track of many contacts over time; setting up an account is easy, but you need to build credit in their system before you are permitted to do wide outreach on the site, so it is important to begin setting up your account and connecting with people you know early on. For those who are super organized, an Excel spreadsheet tracking the person’s name, contact information, some basic information about the person (you met in January 2018 at a conference, that they are a huge Red Sox fan, etc), and the dates you have contacted them will help you remember and prioritize contacts of key importance (and make sure these contacts do not fall through the cracks!). Happy Networking!

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**Aubrey Leukart, Ph.D.**  
**Manager, Career & Professional Development**

To learn more about networking, to further develop your strategy, or to discuss any other career related concerns, please email [AUL4001@med.cornell.edu](mailto:AUL4001@med.cornell.edu) to set up a time to meet.

**ROSA CHEN, Ph.D. Student**  
**Neuroscience Program**

**R**osa Chen has a long-standing interest in science and has been involved in research since before her senior year in high school. “I started working in a plant sciences lab that summer and I loved how it made me feel sort of like a mad scientist,” Chen says. As an undergraduate at the University of Pennsylvania, Chen worked on molecular targets for nicotine withdrawal using mouse models, which turned into her senior thesis. After earning a bachelor’s degree in neurobiology and music, Chen spent two years working in a Stress Neurobiology lab at Children’s Hospital of Philadelphia studying biomarkers for stress resilience and vulnerability. “From that experience, I was able to publish a first author manuscript on my work and also collaborate with NASA on a really cool project to investigate biomarkers that would predict resilience or vulnerability to stress in space flight,” Chen explains.

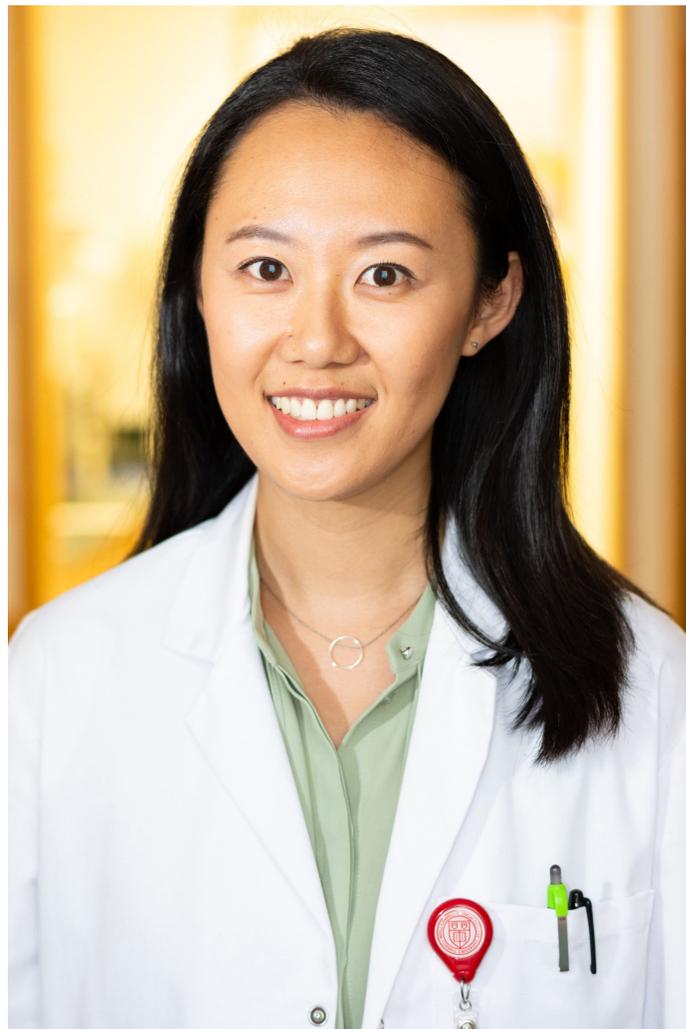
Chen began her doctoral study in August 2015.

**THE BIG PICTURE**

**C**hen’s interest in science and medicine was influenced by her family of many generations of physicians—she decided early on that she wanted to be a neurosurgeon. Although Chen is familiar with the complexity and challenges in healthcare, it wasn’t until college that Chen fathomed the importance of maintaining a healthy work-life balance. “I realized that balancing being a great neurosurgeon and having the family-oriented low-stress life I wanted would be really difficult,” Chen notes. “So, I gave up the medicine path because neurosurgery was the only specialty I had wanted to do, and looked into a research path that would allow me to still be surrounded by the science that I was excited about and that my family expected of me.”

**“The collaborative environment gave me confidence that I would thrive as a trainee here.”**

While scientific curiosity has played an important role in Chen’s decision to pursue a doctoral degree, a summer internship at Merck and the excitement to make her own discoveries had helped validate her commitment to scientific research. “I choose to continue in translational biomedical research because it’s very rewarding to frame the seemingly small questions I pursue every day in the context of improving health outcomes of people around me,” Chen says. “I’m really happy with the direction my life has taken and I’m 1000 percent sure my choice in Weill Cornell was the right one because of the friends I’ve made, the networks I’ve established, and because of all the academic and



scientific experiences I’ve had.”

“Along the way,” Chen reflects, “I’ve had the immense support of both my family and friends, and I never felt that I was barred from any opportunity that I wanted to go for.”

**RESEARCH**

**D**r. Miklos Toth’s lab studies predictive/adaptive programming, an evolutionarily developed mother-offspring link that allows maternal signals to promote offspring survival and fitness. Chen explains that in addition to nutrients, mothers provide biologically active substrates transplacentally to the fetus as well as through maternal milk to the neonate to optimize their development to the prevailing environment. “Disruptions in proper maternal signaling due to environmental conditions or maternal disease can lead to an increase in disease risk, such as neuropsychiatric conditions in the offspring,” Chen adds.

Chen’s research explores the effect of serotonin during pregnancy. The Toth Lab has found that maternal serotonin (5-HT) and its receptor (5-HT1AR) are essential to program a proper and adaptive level of emotional regulation and immunity because even a partial genetic reduction in maternal 5-HT1AR during gestation results in increased innate fear/anxiety and

an autoimmune-like phenotype in the genetically wild-type offspring. Her findings suggest that a deficiency in maternal peripheral 5-HT1AR leads to specific immune deficiencies during pregnancy. “5-HT1AR deficiency disrupts proper maternal signaling to the fetus and results in epigenetically encoded offspring anxiety,” Chen says. “This work reveals that in addition to its traditional neuromodulatory role in regulating anxiety, 5-HT1AR in the periphery functions as a novel immunoregulator to program anxiety intergenerationally.” Chen has also attended and presented first author posters at the annual Society for Neuroscience meeting multiple times during her graduate training.

### FINDING COMMUNITY AT WEILL CORNELL

“I’m a native Southern Californian, who left forever sunny L.A. in search of snow.”



Chen fell in love with the program during recruitment because of the ongoing research that matched her interests, as well as the students that made her feel “welcomed, excited and supported.” More than anything, Chen credits the collaborative environment and its proximity to other premier research institutes. “As Weill Cornell students, we have exclusive access to talks by invited speakers not only at Weill Cornell, but at Rockefeller, MSKCC, and HSS. And as scientists, we are able to easily foster collaborations with our colleagues at neighboring institutes, which further expands our own personal and professional networks,” Chen explains. “The collaborative environment gave me confidence that I would thrive as a trainee here.” Moreover, Chen notes that Weill Cornell is located in an exciting city full of scientific

discourse and opportunities for self and career development. “I’m proud of the life that I’ve made here at Weill Cornell and I’ve made lifelong friends who make me a better person,” she says. “Additionally, I’ve found a home in a lab with an effective mentor, a project that excites me and wonderful colleagues who all support but also challenge me to be a better scientist.”

At WCGS, Chen was active from the get-go. She has served on the Graduate Student Executive committee (GSEC) for three years—first year as the representative of entering class 2015, followed by two more years as Secretary. Chen was also a member of the Vincent du Vigneud planning committee, as well as GSEC Security Committee Liaison. “It is an honor and a privilege to represent students and to be a part of discussions that shape student experiences,” declares Chen. “Progress takes time but it’s been eye-opening to be able to see ideas from inception to execution on such a large scale.”

Chen’s involvement on campus doesn’t stop there, and she continues to learn through volunteerism. “I’m proud to be able to share my knowledge, time and talent with the greater New York community through outreach and volunteer events,” Chen says of her involvement in Music and Medicine, where she plays the flute and piano alongside other medical and graduate students for patients at NewYork-Presbyterian.

### FUTURE PLANS

Now in her fourth year of graduate training, Chen is excited by the fast-paced environment of the pharmaceutical industry. “I interned at Merck, where I enjoyed the research environment and the goal-oriented projects,” Chen says. “I would like to do an industry postdoctoral fellowship and then transition to a scientist position in industry.” In her leisure time, Chen loves attending live music and rock scrambling.



### FUN FACTS

“At any given time, I’m actively juggling at least five different podcasts,” says Chen. “I listen while I walk or perform benchwork.” Unlike others who have an intense love-hate relationship with snowfall, Chen loves it. And she loves it to the point that she’s happy to run your errands when it’s snowing—“Just hit me up!”

# DECONSTRUCTING A PH.D.

BY Ilana Kotliar



**“WHAT CAN YOU DO WITH A STEM COLLEGE DEGREE?”** I asked to a room full of bright NYC high schoolers. Many of them attend specialized high schools like Stuyvesant and Bronx High School of Science. However, even high schools that emphasize science, technology, engineering, and math (STEM) courses often do not offer insight into how learning biology and chemistry in the classroom can translate into an exciting career in research. The 7<sup>th</sup> Annual STEM Matters NYC Career Day, an event organized by the NYC Department of Education, aims to give curious students a first-hand look into the employment opportunities across a range of companies and industries in New York City. Through the efforts of the Tri-Institutional Outreach Committee, spearheaded by Jordana Thibado and Maria Sirenko, Weill Cornell Medicine welcomed about 50 students on November 6<sup>th</sup> for an inside look into one of the top medical research institutes.

The Outreach Committee successfully hosted the event for the first time last year. For 2018, they decided to hold two sessions to double

the number of students that Weill Cornell could host. I served as a leader for one of the sessions in collaboration with a postdoctoral fellow to give a brief overview of my research—the types of work and collaborations that go on at Weill Cornell and MSK, and the possible career paths with a STEM degree. The students also had the opportunity to see a laboratory in the Zuckerman Research Center and ask questions to a panel of Ph.D. student volunteers.

**I**n response to my aforementioned question, many of the participating students were quick to point out M.D. as a potential career option. However, they didn’t know much about Ph.D.s and seemed surprised to learn about the possible paths one can take after getting a Ph.D., ranging from academia to the pharmaceutical industry, to government policy and even consulting. Interestingly, they had many questions about the MD-PhD option, and we did our best to explain why one would choose to pursue a dual degree and its potential pros and cons.

The high schoolers were wide-eyed and full of questions when we showed

them a research lab. “Why do you need to shake the bacterial cultures?” “What are the liquid nitrogen tanks for?” I remember a similar feeling of awe when I first joined a lab as an undergraduate. I wanted to learn about and use all the instruments and tools that help make research possible.

**“W**hat is a Ph.D.?” came up a few times during the session, both during the presentation and in the graduate student panel Q&A. A postdoctoral fellow said that a Ph.D. gives you the skills to sell yourself, to make your work sound exciting, as well as to communicate effectively to a range of audiences. A few graduate students offered the perspective that a Ph.D. is making a significant contribution to your field, mainly through learning by doing. The panel discussed how they constantly work on overcoming imposter syndrome, and why they decided to pursue graduate study. Everyone’s reason was different, which seemed to strike a chord with the high school students.

Maria Sirenko, who helped organize the event both in 2017 and 2018,

found the Q&A to be very memorable. She noted that it sent a powerful and reassuring message to the high schoolers:

“One of the graduate students shared that the most difficult thing for her during her Ph.D. is the feeling of imposter syndrome, where you are constantly doubting that you are qualified enough to be doing what you’re doing—and I think this is something that everyone feels at some point in their career, especially during the college application process that

the visiting students are going through right now. Even when you get to college, and pick a major, and then are thinking about what you want to do in your life, it’s easy to doubt that you are qualified enough for a Ph.D. or whatever your career choice. I think this conversation really resonated with the visiting students and they were both shocked and glad to hear that even cancer researchers and neuroscientists feel like imposters sometimes.”

**W**hile none of the graduate volunteers sugarcoated the hard work and perseverance required for a Ph.D., we hopefully inspired some of the high schoolers to pursue higher education and careers in STEM. Who knows, maybe some of them will wind up as part of the Weill Graduate School incoming class of 2026! In the meantime, we are looking forward to continuing and expanding the STEM Career Day event at WCM in the years to come. ♦



### **Tapojyoti Das**

Ph.D. candidate, BCMB program  
"The Hot Duck"



**S**tephanie Agbu, Ph.D. '16, was fascinated with science from a very young age—it was her favorite subject in elementary school. But according to Agbu, she didn't make the decision to become a scientist until college. "Nonetheless, I was already on that path," says Agbu. "I've loved genetics. Coupled with a desire to contribute to improvements in patient care, I was motivated to become a scientist who made discoveries to improve patient treatment regimens for a particular disease state. In addition, I was inspired by my dad, who had been a PhD-level agricultural scientist."

**P**rior moving to Ellicott City, Maryland, Agbu had lived in Alabama and Illinois. Her parents immigrated to the United States from Nigeria in the 1980s, and she still has many family members back in Nigeria. Agbu earned her bachelor's degree in Cell Biology and Molecular Genetics at the University of Maryland-College Park. During undergrad, Agbu completed an honors thesis in the lab of Caren Chang, where she mapped a gene that was important for ethylene signal transduction in *Arabidopsis thaliana*.

**A**fter college, Agbu moved to New York City and joined the Biochemistry and Structural Biology, Cell and Developmental Biology, and Molecular Biology (BCMB) Allied Program. She completed her dissertation in the lab of Kathryn Anderson, where she studied the roles of *Dync2li1* [cytoplasmic dynein 2 light intermediate chain 1] and *Rsg1* [REM2 and RAB-like small guanosine triphosphatase 1] during neuronal cell specification in the embryonic mouse neural tube. "The lab conducted forward genetic screens in mice to identify genes that were not previously known to be important for Sonic hedgehog (Shh) signaling and vertebrate embryonic development. *Rsg1* was identified in one of these screens, and I used cell biological and molecular genetic approaches to better understand how *Rsg1* facilitated Shh signaling during embryonic development," explains Agbu.

**T**he powerful intersection of science and writing have led Agbu to follow a non-traditional career path—a medical writer at Complete Medical Communications, a medical communications agency that is part of the McCann Health network.

“Weill Cornell is a world-class institution where I received exceptional scientific training, and I was given the opportunity to complete my research in a tri-institutional community.”

**Please tell me about your current position and what is a typical day for you?**

I am a medical writer at Complete Medical Communications, a medical communications agency that is part of the McCann Health network. A typical day for me involves drafting and revising congress abstracts, posters, manuscripts, and PowerPoint presentations (commonly called “slide decks”) for pharmaceutical clients.

**Why did you choose Weill Cornell Graduate School of Medical Sciences to do your Ph.D.?**

I chose to complete my Ph.D. at Weill Cornell because I felt something different there that I did not experience at the other graduate schools I considered. Weill Cornell is a world-class institution where I could receive exceptional scientific training, and I was given the opportunity to complete my research in a tri-institutional community that would provide many useful resources during my Ph.D.

**When you first started the Ph.D. program, did you know what you wanted to do after graduate school?**

When I started the program, my goal was to become a research scientist in the pharmaceutical industry after graduate school.

**How did your career plans or goals change by the time you were finishing your Ph.D.?**

During my Ph.D., I attended many career seminars and panels, which allowed me to learn more about the career path I was considering. In addition, my research opened my eyes to which aspects I liked and didn’t like about bench science so I could determine which career plans would be the best fit after graduation. Ultimately, I decided to leave bench research to use my writing and editing skills in medical communications.

**How did you transition into medical writing, which is not a traditional career path for Ph.D. students?**

I transitioned into medical writing by first attending seminars to learn what the career path involved. After I determined that the aspects I enjoyed about my research were compatible with a medical writing career, I conducted informational interviews with alumni to determine the best ways to build relevant

experience for this role. I then participated in activities around the Tri-Institutional community that helped improve my writing, editing, and presentation skills.

**Share with us some of the challenges you’re facing.**

The pace of work at my job is much faster than that during my time in the lab, so it is an adjustment for me to demonstrate excellent attention to detail while completing projects under very tight deadlines.

**What’s the best thing about your job? Do you miss anything about bench work?**

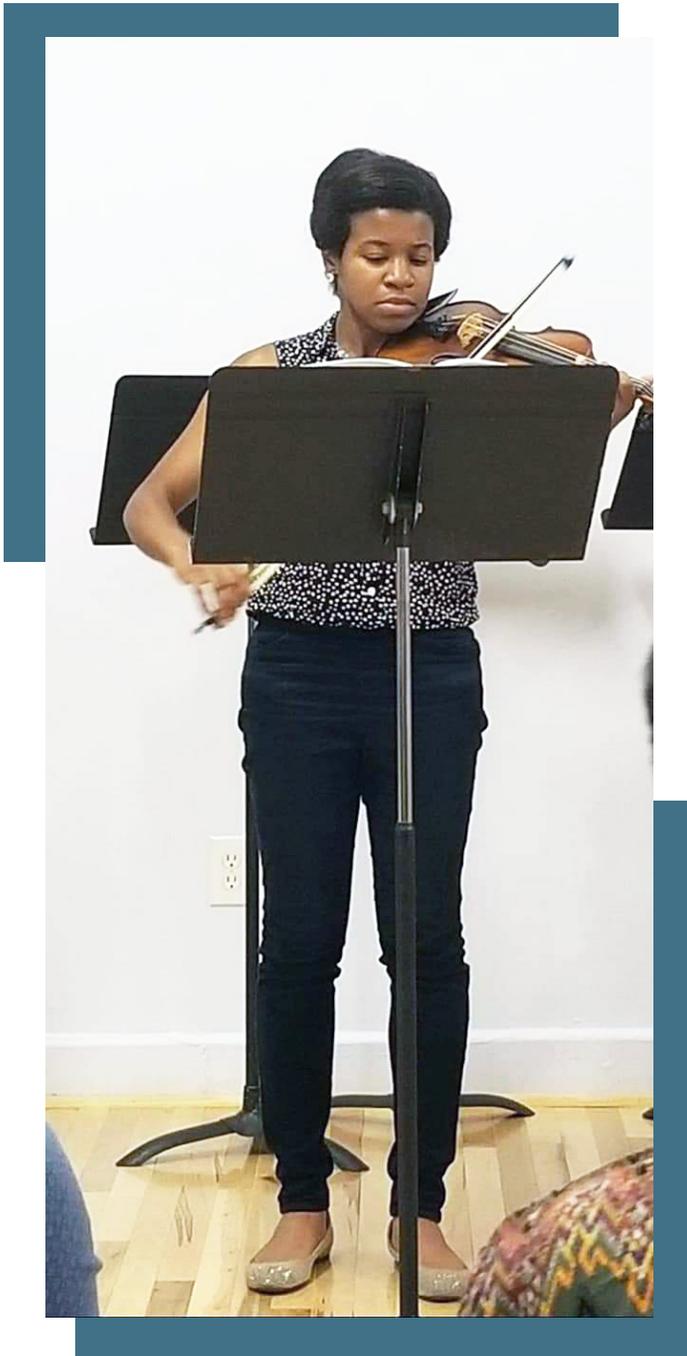
I really enjoy comparing mechanisms of action for different drugs that are currently on the market, and it is exciting to see pharmaceutical clients benefit from my work through press releases and new Food and Drug Administration-approved indications. No two days are the same at my job, so I never get bored and am always kept on my toes. I do miss that bench work allowed me to walk around much more. My job involves a lot of sitting, so I have to be cognizant about taking time to move around each day.

**Were you involved in any organizations or activities while in grad school that helped lead you to where you are now?**

Yes, I was a publishing director for the Weill Cornell Biotech Club, a representative for the Graduate School Executive Council, committee member for the annual du Vigneaud Symposium, co-chair for the BCMB Annual Retreat, and an after-school education fellow for the New York Academy of Sciences. I also authored my own science blog and wrote a blog post for The Incubator, Rockefeller University’s science blog.

**Of the skills you developed as a grad student, which are most useful to you in your current position?**

Attention to detail, critical thinking, and excellent writing and presentation skills are most useful to me in my current position. Expectations are that we deliver scientifically sound publications to our clients, so the experience I developed with abstracts, posters, and manuscripts during my graduate training has been critical.



### **In your opinion, what are the main skill sets do you need?**

One important skill that I didn't have much experience with during graduate school was working within teams. I did not collaborate frequently with other scientists for my research projects, but the collaborative experiences I gained through extracurricular activities aided me greatly.

### **Knowing what you know now, would you still go into your current job?**

Yes, I would still choose my current job.

“  
**During my Ph.D., I attended many career seminars and panels, which allowed me to learn about the career path I was considering.**  
”

### **Where do you see yourself going from here?**

I would like to continue building expertise with pharmaceutical publications and gaining experience with different disease states.

### **What advice would you offer to others interested in medical writing?**

I would advise those interested in medical writing to learn as much as they can about the profession through the web, informational interviews, and career panels. In addition, building a network with tools such as LinkedIn and gaining writing and presentation experience through science blogs and science outreach opportunities will be very helpful during the job search. Keeping up with current trends in the pharmaceutical industry through sites such as FiercePharma is also important for understanding how the industry is constantly changing.

### **What do you like to do in your spare time?**

I enjoy sampling different brunch spots around New York City with friends, playing my violin, watching films, and exploring many of the city's parks. In addition, I love to travel domestically and internationally, and my goal is to visit at least one new international destination each year.

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Editor-in-Chief: Chrissie Kong

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