MDPhDeets

Presented by UofT MD-PhD Student Council **June 2025**

Cover by Adina Borenstein

Pooling our Interests

Message from the Director:

Dr. Nicola Jones

We are in an exciting time for Clinician Scientist trainees at the Temerty Faculty of Medicine. Physician scientists are primed to tackle tomorrow's health challenges due to their dual role in research and clinical care. At Temerty Medicine, we remain steadfast in our commitment to nurturing the next generation of clinician-scientists through innovative, flexible, and supportive training pathways.

This past year has been one of remarkable growth and achievement across our Integrated Physician Scientist Training Programs (IPSTP). We proudly celebrated the graduation of ten outstanding MD/PhD trainees and welcomed nine new learners into our community. Our learners continue to distinguish themselves nationally, earning numerous Tri council Vanier, Doctoral and Masters Awards—testament to their excellence and the strength of our training environment.

Our programs continue to thrive with several key initiatives launched this year to enhance the training experience and support our learners: The Physician Scientist Mentorship Community of Support, a pilot program of the Mentorship Academy, brought together early career researchers and trainees in a group mentorship model. This initiative fostered community, skill development, and professional growth through workshops on feedback, coaching, wellness, and research independence. Parental Support Initiatives were launched to evaluate and address the unique needs of pregnant and parenting MD/PhD learners. This work will inform the development of comprehensive, evidence-based policies that promote equity and accessibility. The Accelerated Research Residency Pathway was introduced with the goal of integrating research time into residency, allowing for a more flexible and personalized approach while maintaining clinical engagement and reducing overall training duration. We continue to work with our clinical departments to develop this initiative.

As you read through this special graduation edition of MDPhDeets, I hope you are inspired by the stories, achievements, and aspirations of our trainees. They represent the future of healthcare—innovators, leaders, and compassionate clinicians who will shape the next era of medicine.

To our graduates: your journey is just beginning. We are immensely proud of all you have accomplished and excited to see the impact you will make in the years ahead.

Warmest congratulations,

Nicola L. Jones, MD, FRCPC, PhD
Director, Integrated Physician Scientist Training Program
University of Toronto Temerty Faculty of Medicine

Message from the Editors:

Anita and Jasmine

Dear MD/PhD community,

Happy MP Ceremony and congratulations on the successful completion of another academic year! As the year winds down, we reflect back on the incredible progress, achievements, and memories made in our community this year, and the honour we've had of chronicling some of these through the MD-PhDeets Newsletter.

We're thrilled to celebrate how our community continues to grow, innovate, and make positive impacts in the realms of science and medicine as well as in broader society. As challenging as the MD-PhD training journey can be at times, we're reminded of the strength we gain by leaning on our community, which you'll see through the stories we share in this edition.

With the summer months ahead, we hope you are able to take some time to rest and recharge. Thank you for your continued support and engagement with the Newsletter, and we wish you a fantastic summer!

Anita and Jasmine

Table of Contents

Graduate and MP Ceremony

Congratulations MD-PhD graduates!

Dr. Dr.
Bahar Behrouzi

Dr. Dr.
Robert D'Cruz

Dr. Dr.
Erik Friesen

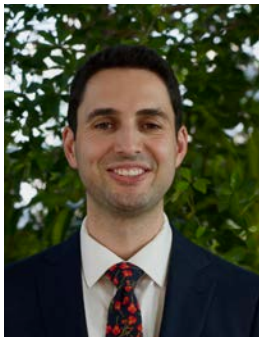
Dr. Dr.
Hannah Kozlowski

Dr. Dr.
Vinyas Harish

Dr. Dr.
Natalie Landon-Brace

Dr. Dr.
Ethan Malkin

Dr. Dr.
Christopher McFaul



Dr. Dr.
Felipe Morgado

Dr. Dr.
Prajay Shah

Congratulations Mid-Point students!

Olivia-Autumn Rennie

Angela Zhou

Gemma Postill

Julian Gilmore

Shahan Syed Haider

Erica Wennberg

Bryan Gascon

Ryan Karimi

Where Are They Now?

Interviewing the UofT MD-PhD Class of 2024

Conducted by **Safa Majeed** & **Erica Wennberg**

Sivakami Mylvaganam
PGY-1 Internal Medicine,
University of Toronto

Glenn Walpole
PGY-1 Diagnostic &
Molecular Pathology,
University of Toronto

Anum Rahman
PGY-1 Pediatrics,
University of Calgary

Kramay Patel
PGY-1 Neurosurgery,
University of Calgary

How has residency changed your viewpoint on your career or research? Have your interests changed?

Sivakami: I've been somewhat surprised by how much I genuinely enjoy clinical practice—not just the problem-solving aspect, but also the day-to-day interactions with patients and the sense of purpose that comes from being directly involved in their care. I can't really say that my career goals have changed but they have certainly evolved. Although it hasn't even been a year yet I have already encountered multiple clinical challenges that I can envisage trying to address in the future as a clinician-scientist. I've also met some really incredible mentors in residency so far who have helped me reflect and better understand what kind of a researcher I want to be.

Glenn: In pathology, research often harnesses data made readily available by the pipeline of rendering pathologic diagnoses. In addition to the clinical information, this can be the actual tissues from biopsies or resection, molecular analyses, cytogenetics, or digitally scanned slides of stained tissues. There is a wealth of information that informs a patient's care from a diagnostic perspective. Knowing the most important and best way to approach scientific question(s) with the data available is therefore key, and builds off of many principles learned in graduate school.

Anum: Residency has made me even more passionate about the importance of fundamental research to improve patient outcomes and addressing gaps in knowledge and I hope to continue my career as a clinician-scientist in the future.

Kramay: Residency hasn't really changed my viewpoint on my career much. Towards the end of my PhD, I was already starting to transition towards translational and entrepreneurial work as I noticed that barriers to making an impact in the industry were much lower than those in academia. I think having gone through a year of residency, I still stand by that viewpoint. I will say that having an academic background does change your perspective on a life as a practicing clinician, because it gives you a unique lens on your day to day practice, and encourages you to question the norms more often than not, which is always exciting!

Have your interests (both medical and research) changed since graduation?

Glenn: I've really enjoyed the clinicopathologic correlation that pathologists utilize on a daily basis. When I was on clinical rotations in clerkship and PGY1, I often wondered what was occurring on a molecular or cellular level and I am fortunate that this is heavily emphasized in pathology teaching. When at the microscope, I continue to be fascinated by how

the immune system can protect or promote pathology in tissues. Lastly, from my graduate school days, I continue to have a soft spot in my heart for host-microbe interactions!

Anum: I started with Family Medicine residency at University of Calgary and was thinking about specializing in Addictions. However, as residency progressed, I realized that I was more interested in and passionate about Pediatrics, both from a clinical and "research gap" perspective. I found that in Pediatrics, there can be a lack of evidence behind clinical approaches, usually because of a lack of studies, certain diseases can be quite rare, or certain problems are considered difficult to study because of ethical considerations in studying Pediatric cohorts. These kinds of challenges make me excited about utilizing my MD-PhD training to address gaps in knowledge through innovative methods. I have recently transferred into the Pediatric Residency program at the University of Calgary and hope to specialize in either Pediatric Neonatology or Cardiology in the future.

Kramay: I guess similar to my previous answer, no significant change. To be honest, as a neurosurgery resident I haven't had much time to think about my long term interests just yet. I have just been focusing on staying afloat and being the best clinician I can be.

What has been the most surprising aspect of your life as a first year resident?

Sivakami: Residency can be hard and tiring at times but it's also been a lot of fun! There can be a real sense of community and camaraderie within many residency cohorts and it is totally possible to do fun things and enjoy life outside of it (when you're not on call haha)

Glenn: In September, I became a father which has held many surprises! Luckily, my son has my wife's personality and is quick to giggle and smile at us after a challenging day. We are so fortunate to have him and also to have had the support of my residency program to take time away to begin learning how to be a dad.

Anum: The most surprising aspect has been how much I am actually enjoying residency! Residency can be hard, especially for someone like me who enjoys their sleep. However, I find that as a first-year resident, I have been gradually gaining clinical competence and responsibility for my patients, and I always feel excited to learn and support my patients as best as I can. I also find that despite gruelling hours, I can find time to engage in activities outside of medicine that keep me happy, such as volleyball and trying out new restaurants/going on food adventures.

Kramay: The most surprising part is how quickly a year has gone by! Nothing really prepares you for transition to residency, but if you enjoy what you do and have good social support systems, it can be quite a lot of fun!

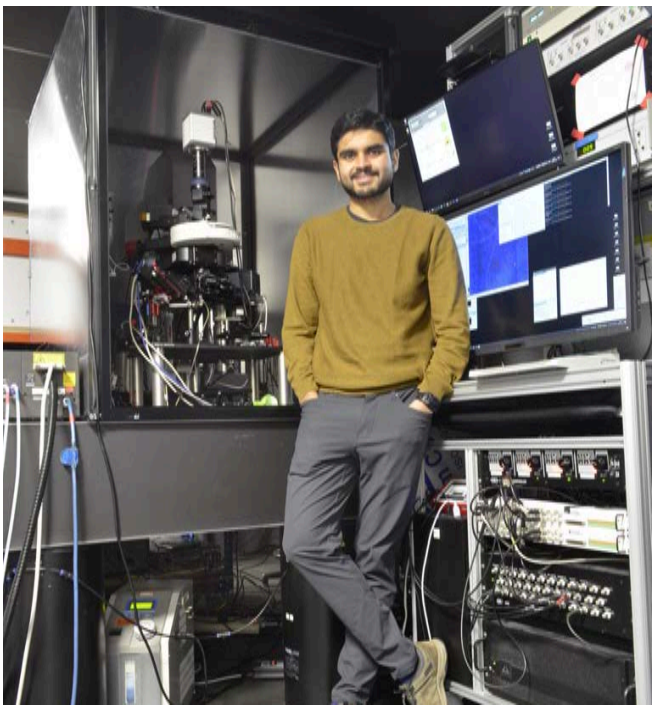
Wishing the alumni continued success in their futures!

Class of 2024 graduates at the 2024 MP Ceremony. Left to right: Sivakami, Glenn, Dr. Nicola Jones, Jillian Macklin, Kendra Hawke

Graduating Student Interview

featuring Prajay Shah

Conducted by **Jasmine Ryu Won Kang**



Could you describe your MD-PhD journey in a nutshell, and what research areas you explored in your PhD?

It's really hard to describe the eight years that I spent in this program in one summary, because I think there's so much that happens both personally and professionally. You go through a lot of really important life stages during this program and most of all, you're very well supported by your colleagues around you.

I think over time, in more recent years, I've started to really understand why I wanted to do both medicine and science. And I think that's been a really good realization, that I did pick the right journey for myself. Because I think that because these two things are so different, it's hard to sometimes put it together and see why you're doing both. It's very easy to get used to life in one or the other. But I think really, there are times when you see that both sides of your training are very relevant and contributing to each other too.

My research interests have kind of always centered around neuroscience in some way, shape or form. In my undergrad, I came from studying neuroscience. So it was really like stem cell biology, but in the brain. When I had to pick a PhD, I could have gone down the stem cell biology path and cancer biology field a little bit more. But I think the thing that I really just wanted to do, and I think that's ultimately why I chose it, was to learn more about neuroscience. I really lacked a lot of understanding of how the brain works in a real-time sense.

So that's why I ended up picking a more neuroscience-heavy project. The project was really fun because I got to deploy a lot of technologies that were very new. I'm a very visual person - I like doing live imaging, playing with microscopes, and we were using some really advanced microscopes. So I'm really glad that I was able to kind of catch neuroscience at this stage when it was shifting towards a lot more live imaging and microscopes. Coming back into clerkship and then doing more neurology - this is really when I started to see all those things kind of merge, like my interest in neuroscience and even stem cell biology really merging with my clinical interests as well. It's really the time where you get to see all these things come together.

What have been some of the most memorable moments of your time in the MD-PhD program?

I think the best moments that I had were those real "science moments" where you get data or you get results, after putting in so much work. I was truly doing experiments that had just never been done. So it was a lot of effort and perseverance to get the experiments to actually work. And then once they worked, that was an achievement in itself. We were studying the real-time propagation of seizure under these microscopes, doing live imaging and then also live optogenetics. So we were doing these two-way experiments while a mouse was having a seizure, through a window in the brain. And it gave us a really incredible insight into what's happening into those cells.

And I think the moment of just kind of realizing that seizures are so much more complex than we've always thought, and realizing what our data was telling us. That kind of cool moment where you realize we're the first people to really accomplish these experiments and, therefore, the first people to really understand seizures in this new perspective.

From clerkship, I think the biggest thing is just realizing how much we do for our patients in the hospital and in clinics, how far we go to really treat patients who are very sick. I was lucky to be part of the transplant team - I think this has to be the most memorable experience because I don't think I'll ever get to do it again. We were flying around Ontario at night, retrieving organs, and then bringing them home and implanting them into patients. Watching that whole journey happen, of an organ being transplanted, is just an incredible achievement.

I think memorable moments that I had in neurology were just, really understanding how much I really enjoyed talking to patients - meeting patients, seeing their presentations, and going through a very scientific approach of actually trying to understand what their disease process is. In a way, it parallels research in a lot of ways, where you sit down and you do your research, look at papers, look at guidelines, form your hypotheses of what the diagnosis might be, and then test it using investigations.

What advice or lessons would you want to impart on other students as you graduate from the program?

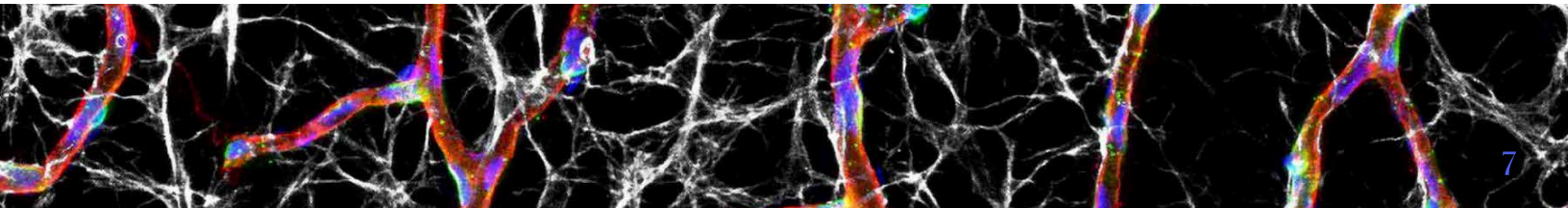
I think I'd say that right now when we do the MD-PhD, the kind of energy that we have, the exuberance, the opportunity that we have being in Toronto surrounded by really bright people are all really important and valuable and you should make the most of it. And what that really means is, put in the time and do really hard things. Don't shy away from doing hard things.

I picked a really difficult project to do and it actually took years and years, but we really saw the fruits of it when it was achieved. And so I think this is the time to do really hard things, take big swings, and take big risks. You always have a safety net being in a PhD or being in medical school. You know, you're not going to fail out of your PhD. You're not going to fail out of medical school. So it's a really good time to take risks, take really big swings. But I don't think that there's going to be times in the future, in later stages of your career where the stakes are a little bit higher if you do screw up, to be taking those kinds of big swings and risks. So really use the time and energy that you have right now to take big risks.

With all of the diverse experiences you've had throughout the program, what are some of the most valuable things you've learned?

I think the biggest thing that I've just learned from the program is to really understand what my own ambitions are. It's a bit of an amorphous thing to say, but really having gone through the process of finding out what are my research and clinical interests, you really start to understand what the reasons are for why you are putting in the effort and all the work to do what you want to do. I think my ambitions continue to be very aligned with the path of a clinical scientist or some sort of clinical innovator so that I can continue doing innovation and research and science in the future.

I truly think that that could only have been achieved through the MD-PhD pathway for me, because I know that you have to actually immerse yourself in both environments. And so I fully immersed myself in my PhD and then I fully immersed myself in clerkship and my clinical rotations as well. And obviously, those things were never fully aligned, but I think I've realized, now it's my job as I go forward in my career to try to align those things better.



Patient & Family Perspective

Terry Pirovolakis

Conducted by **Mathepan J. Mahendralingam** (MM)

After a two-year search for a diagnosis, Michael Pirovolakis finally got an answer. He was diagnosed with an ultra-rare disease called "spastic paraplegia type 50." It is so rare that Michael is the only child in Canada with it. Michael's parents were told that saving Michael was impossible. Despite this devastating news, Michael's father, Terry Pirovolakis (TP), refused to accept the doctor's word -- because to him, impossible was doing nothing. Within the next 3 years, The Pirovolakis' raised $3 million dollars, completed preclinical safety studies, and created the first gene therapy for SPG50 that Michael would receive in 2022 (Dowling et al, Nature Medicine). Below is an interview I had with Terry about his family's incredible journey to find a cure for their son's rare disease.

Terry (left) and Mathepan (right) after their café chat.

MM: Thank you for taking the time to talk to me. So, can you tell us how it all started.

TP: Michael was 6 months of age, but he wasn't like other kids. He wasn't hitting his milestones. I was working in Latin America a lot, and we thought he contracted Zika virus. Then we went on an 18-month diagnostic odyssey at SickKids. When Michael was diagnosed, that night, we just died. And then we met a family from Boston that was working on gene therapy, and I said if they could do this crazy stuff for a company, then why can't I for Michael? So that's where everything kind of started.

MM: How did your family react when they found out about Michael being the only one in Canada diagnosed with SPG50? Was it lonely?

TP: The crazy thing about the rare disease community is that if you find one of them, then you connect with the rest of them. And it was very isolating, but we were lucky that we got mentors like Drs. Emil Kakkis and Steven Gray. These people mentored us and supported us right. And then, we realized that we could make a gene therapy for Michael, but it would just take a lot of work. We were very lucky that it all worked out.

MM: It goes without saying that you wouldn't be able to do any of this without the support of your family, especially your wife. How she has been the backbone of the family?

TP: On Day 2 or 3, I went to my wife, and I said, "If we want to save Michael, I need to travel, read and research." But it's gonna take all of us right. We were a hundred percent. She took care of the family while I was focused on finding something for Michael.

MM: What I found very surprising about your journey was when you found that no company wanted to take on MELPIDA (the precision therapeutic for Michael). And you basically had to quit your job and start Elpida Therapeutics. How has it been running this nonprofit/startup business?

TP: We thought that if we made the drug, then someone would want it. If I treat Michael, then someone would want it. But there were too few indications for them. [And] how am I going to get this treatment to other kids? So, the next day I started Elpida Therapeutics.

MM: When I read about your story, the underlying theme was community. Could you tell me how you brought together your local community to help fundraise $3 million?

TP: We knew that we had to get people to help. We started telling our community, and [they] came together. They said, "We want to help you. You're not alone, we're here for you." And that started getting our name out and raising money. They raised almost $3 million.

MM: You have an incredible team of scientists and physicians in Canada and abroad. How

did you get them to be excited to work on a rare disease?

TP: On Day 2, Georgia, Michael, and I met with Dr. Ronnie (Ronald) Cohn. He said "Listen, Terry...what you want to do is very complex. We're not ready to do this at SickKids." But he said they'll seriously consider something if it is scientifically valid. When we worked with Dr. Steven Gray to develop the gene therapy, he said, "I don't do this for one child. This has to be for every child." Everybody has the best interest in politics, right? [And] a researcher that understands the cell biology [doesn't] necessarily contribute to translational medicine, right? So you have to choose the right people.

MM: I saw your talk on YouTube where you discussed drug screening, gene therapy, iPSC cells, mouse experiments. How did you learn all this science and medicine?

TP: When I was younger, my wife and I would go study at Robarts, and she would be reading books, and I would read technical documents in like an hour [and[read through a whole book following. When Michael was diagnosed, I just started reading everything...10,000 articles. I learned about gene therapies, drugs, antisense oligonucleotides, cell therapies, cerebral palsy, stem cell therapies. I learned everything.

MM: I'm assuming you didn't have a biology background until this point? Did you find that it was necessary to learn this language of science to talk to doctors?

TP: Well, I would say that they respected it. They're like, "Hey, this guy really took the time to understand the process. If he understands what we're doing, then he's not going to harass me and push me."

MM: You teach all of what you learned in your Gene 101 course for other families looking to make a gene therapy for their child. How has that process been?

TP: I probably have 5 calls a week, where I talk to families about what therapy could be done with their children...We make everything available online to help families get through the regulatory process.

MM: How would you change Canadian healthcare to better support rare diseases?

TP: No, it's a difficult thing. They started to do genetic screening of children at the hospital, and I never knew this. But it causes a lot of ethical problems, like parents [have] brought up the disease [for cases of] adoption or insurance, and they will just cut them off completely because of [the child's] pre-existing conditions. So I think that every child that is born should be genetically tested.

MM: What would you tell future medical learners like me so that we can better help kids like Michael?

TP: Understanding how difficult it is to take care of a child that is very sick. Waking up in the morning, dressing them, feeding them, taking them to school. How hard that process is! A child that can't walk or can't vocalize. It's so difficult. It's a difficult life.

MM: Michael has been through so much in his life. Can you tell us what type of kid he is, and what really motivated you to do this?

TP: Michael is a fighter. He was in therapy 10 times a week. He has a happy demeanour. He loves life. He doesn't know any better. He loves school and his school.

MM: The cure you created for Michael is called "MELPIDA," which in Greek translates to "Michael's Hope." How did you come up with that?

TP: I was trying to think of a name that would resonate. I was thinking of a name with Michael. I didn't want it to be like "EL-something."

MM: Are you going to name all the other drugs like this?

TP: Yeah, we're thinking of doing that for the others! For example, there [is] a therapy for a child named Talia. It was bouncing from one company to another, but we decided to take it on. We're going to call it Tal-PIDA.

MOments in Mentorship

How Chats Have Changed my Life

By: **Anita Hu**

Earlier this year, Dr. Dr. Jillian Macklin's invited awardee speech honoured our late peer, Mohammad Asadi-Lari, and his legacy in our MD-PhD community. Her heartwarming descriptions of chatting with Mo over coffee made me reflect on my own casual, often organic chats these past few years with peers, mentors, colleagues, and friends.

Each of the connections I have made in the MD-PhD program started from little conversations–on Zoom, over the phone, or over coffee or food. Whether I was asking people for specific advice or just catching up, these chats have grounded and guided me in many ways. I thought I would share some key reflections about the immense impact that mentors have had on me since starting this program.

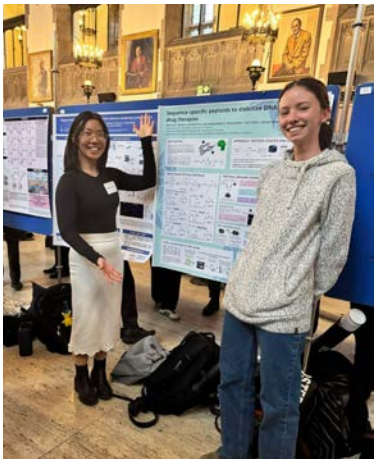
Photo from a café chat, taken by Anita.

Mentors help you see a different side to the story.
My chats with mentors often start off with sharing how our days are going. I recount my biggest life events since the last time we spoke, including my latest challenges. I never expect my mentors to provide me with solutions to my problems–rather, I share my concerns feeling grateful to have someone from a similar background who can hear me. Yet, my mentors have always provided unique insights that I would not have considered in my decision-making alone.

MD-PhD peers, Anita (left) and Alexander Bailey (right), catching up and discussing school and life over good food.

For example, when choosing a lab and supervisor for my PhD, Ryan Karimi gave me very helpful tips and thoughts. We bonded over our common research background in chemistry, and he helped me navigate my lab choices and identify potential challenges that could come with each lab, given his own research experiences and decisions. Being in my PhD now, I think back to the insights Ryan gave me and can see what he meant with each of his points.

One of the most powerful things that I realized mentors had the ability to do is recognize your strengths before you do. In my conversations with Hannah Kozlowski, especially while weighing big decisions, she helped me realize how my conscientious nature wasn't just a personality trait—it was a strength that could guide me through complex choices. I think about this trait of mine now and how I can leverage it to help others too. Although my chats with Hannah often end with me sharing my uncertainty of what lies ahead for the rest of my path, I am grateful for Hannah helping me see how my current skills can pave the way to future success, even if that path isn't totally clear to me yet.



Anita (left) and PhD mentor, Abbey Clapperton (right) at Medical Student Research Day 2025.

Mentors have your back, even when you don't have your own.
Being in this program still feels surreal sometimes. I remember the anticipation but also the fear and self-doubt I felt during the summer before starting: am I capable of doing this? Will I succeed? I was grateful

to chat with Natalie Landon-Brace and Hannah that summer through our student-run mentorship program. They were such knowledgeable and senior MD-PhD students who seemed invincible. Our chats made me see that we were all humans at the end of the day. My mentors shared their own challenges faced in the program–not to make me scared to start, but rather to normalize that, although things may not be perfect all the time, you have support from the MD-PhD community to persevere and excel in your own way. Hannah, Natalie, Mathepan Mahendralingam (who called me when I first received the acceptance), Abigail (Abbey) Clapperton (who welcomed me to my PhD lab), and so many others have continued to show support for me, and I hope I can also give back to my future mentees in the same way.

Mentors are your phone-a-friends. Let them be a resource.

The MD-PhD journey isn't a game show, but sometimes it can feel like one. You're up against a timer (initially set for 8 years), multiple-choice trivia in front of you (not unlike our ME questions), and the world is watching you live (supervisors, preceptors, peers). But when you reach that tough, million-dollar question, you might struggle to come up with an answer by yourself! Luckily, you don't have to do it alone. You have people you can call.

This has especially been the case since starting my PhD. Navigating risky research projects, adjusting to a new lab with a new supervisor and labmates, all while juggling life outside of lab come with a rollercoaster of emotions and personal battles to overcome. Fortunately, my struggles seem to be common experiences for MD and PhD students.

Although I was initially intimidated to reach out to my senior peers and mentors for advice, I realized that they were once in my early position too. I look up to my mentors now, but I also hear their own stories of how they started out, eventually reaching the heights they're at now thanks to the help of their own supports. Thus, I turned to my lab mentor, Abbey, for a range of advice on grad school, lab techniques, work-life balance, and more. She has been a fundamental support thus far and a valuable lifeline in lab. Natalie has helped me navigate PhD challenges parallel to some of her own. These conversations realigned my goals and perspective. By using my phone-a-friends, I was able to accomplish so much more than I imagined I could in my first year of the PhD, saying yes to different projects, advocating for myself and my goals, becoming a better team player, and in my eyes, winning the million-dollar gameshow prize of the supportive community around me.

It's funny to think that all of my takeaways came from simple conversations at a café or on a call. I am thankful for the people I have met along the way who've taken the time to listen, believe in me, and offer their valuable input. I hope that each one of us get to experience the care, warmth, and magic of life-changing chats during our time in this program.

MD-PhD peers catching up at a summer social. Left to right: Safa Majeed, Erica Wennberg, Jonathan Monteiro, Adam McMahon

MD-PhD 2024 first-year social. Left to right: Julia, Braeden, Kaitlin, Ava, Martin, Oluwatobi, Alex F., Mathepan, Armaan, Yashar, Alex B., Adina, Anita, Diana, Jonathan

MD-PhD class council meeting in the sun. Clockwise from top left: Natalie, Angela, Anglin, Jonathan, Matthaeus, Anita, Richard, Erica

Seminar Spotlight

featuring Olivia Rennie (Autumn Sky)

Arranged by **Adina Borenstein**

Olivia-Autumn Rennie (right) speaking to an actor (left) on set of her film, Becoming the Butterfly, capturing patients' experiences in brain injury.

In a world where media shapes how knowledge is created and shared, how might medicine benefit from embracing alternative forms of communication? Collaborative filmmaking as a research-creation methodology offers a powerful alternative, positioning artistic practice as a rigorous means of generating and disseminating knowledge. This approach reimagines how research is conducted, centering individuals with lived experience as co-creators rather than passive subjects. By integrating research-creation within the filmmaking process, this method challenges conventional academic and medical frameworks, advocating for narrative and embodied experience as valid forms of evidence.

To develop this methodology, the horror genre and disability studies serve as a testing ground for experimentation. Horror, with its longstanding history of misrepresenting disability, presents an opportunity to interrogate and reframe dominant narratives. Horror's speculative and transgressive nature allows for the reimagining of alternative futures, where disability is not a site of fear but a space for empowerment, adaptation, and justice. Through co-creative filmmaking, this research critiques ableist tropes while foregrounding the contributions of disabled artists and storytellers in shaping cinematic representation.

Bridging the humanities, disability studies, and medicine, this work contributes to broader discussions on epistemic justice and inclusive knowledge production. It calls for a shift in how academia and medicine define expertise, urging the recognition of co-creation as a transformative tool for research and knowledge translation.

What is your favourite part of your project?

The ability to bring filmmaking into medicine! I get to build this collaborative methodology where patients or caregivers, healthcare providers, or whatever the voice of the film is, we get to work directly together. It is very inspiring and eye-opening, and often you'll think that you know about a certain aspect of medicine, or you can research it all you want, but until you're actually working with people who have that lived experience, you haven't even scratched the surface, and I get to learn about those experiences with them. It's so eye-opening, and a lot of hard work, but the way I've seen myself grow as a human being, by having the privilege of being able to share these stories and become a witness to them is the most amazing part of the project I'm doing.

What advice do you have for other students?

- Take the time to understand what your passions are and not be afraid to think outside the box about what those passions might be
- Go pursue what you're passionate about, even if it's something that no one else has done before
- Don't see failure as a bad thing – if you put yourself out there and tried something new, that is a bigger success than if you didn't try at all

Website: iamautumnsky.com

Film Production Company: exuviumproductions.com

Autumn's Film: The Feast (2023)

Autumn's Film: Becoming the Butterfly (2025)

Advocacy for the Future of Canadian Clinician-Scientists

By: **Robert Lao**

In 2024, I had the immense privilege of serving as President of the Clinician Investigator Trainee Association of Canada (CITAC) – the national student-led organization that represents trainees in Canadian MD+ programs. A key mission during my term was to strengthen national advocacy and elevate the voice of clinician-scientist trainees—voices that are often lost within the existing frameworks of medical and scientific training. This year presented an opportunity for a real shift, catalyzed to two pivotal national events.

Elevating the Conversation at ICAM

Beginning in the summer of 2024, I served on an advisory committee for the Association of Faculties of Medicine of Canada (AFMC) to help shape programming for the International Congress on Academic Medicine (ICAM). ICAM is a relatively new annual Canadian conference spotlighting innovation in medical education and health research. One of the most significant developments at ICAM 2025 in Halifax was the AFMC Dean's Invitational Board Meeting, which for the first time focused on the future of clinician-scientists in Canada. Our advisory group was tasked with designing this landmark session.

We developed a hybrid-format event combining keynote presentations with a structured World Café discussion to address four longstanding challenges in clinician-scientist training. Our aim was to set the tone through guiding presentations while allowing space for collaborative ideation. To ensure a productive dialogue, we intentionally brought together a diverse and representative group including the full AFMC Board of Directors, the AFMC Graduate Student & Postdoctoral Committee, deans of medicine, vice-deans of research, government stakeholders, program directors, funders from multiple sectors, and, most importantly, trainees from all stages along the clinician-scientist pathway.

The session began with four speakers offering diverse perspectives:

- **Dr. Shayne Taback** presented data from a national survey of Deans of Medicine on the current state of clinician-scientist training across Canada.
- **Dr. Carole Jabet** discussed funding structures from the Fonds de Recherche du Québec (FRQ) and shared insights from the Québec model.
- **Dr. Jasmine Mah**, a CIP resident at Dalhousie, reflected on the strengths & challenges of training within the CIP framework and why CIP is an invaluable asset in the clinician-scientist training landscape
- **Myself**, representing the national trainee voice through CITAC where I spoke on my personal WHY for doing an MD-PhD training program, why MD-PhD programs need to exist, the "secret sauce" (which I will openly admit that I stole this phrase from our beloved program director Dr. Nicola Jones) to a successful program, and an urgent a call to action on clinician-scientists becoming an endangered species.

Robert presenting during the AFMC Dean's Invitational Board Meeting at ICAM 2025 in Halifax, NS.

Behind the scenes, even though I was on the advisory committee this came to be as a surprise. I had no idea I would be asked to speak at this event. And honestly, even though this was a request that I could not turn down, I was terrified. How should I best navigate my talk? There was way too much I wanted to say and not enough time, and I did not want to let down my community when serving as the "voice" of Canadian MD-PhD trainees at this event. Thankfully I was able to find support and guidance in crafting my presentations from friends in the program both present and past. I believe that Dr. Mah and I, by sharing our personal stories of why we would willingly decide to pursue this lengthy and frankly unavoidably treacherous path to becoming a clinician-scientist, really helped set the tone that underscored the importance of this event.

Following the presentations, attendees participated in breakout discussions to generate actionable solutions to the following critical questions:

- **What are the opportunities and challenges for funding clinician-scientist training salaries in Canada? How can we make clinician-scientist training pathways in Canada more attractive to funders?**
- **What clinician-scientist training models should we be looking to (e.g., within Canada, US, international)?**
- **How can we better work together with residency programs to streamline clinician-scientist training across the medical schools? How can we improve uncoordinated advanced fellowship training and faculty hiring?**
- **How can we better balance clinical pressures on physician-scientist time? What are some opportunities for funding clinician-scientist incomes?**

The event concluded with a powerful summary of what we have accomplished so far, and call to action from **Canadian Senator Stan Kutcher**. A final report summarizing these discussions is currently in preparation. I am hopeful that the insights generated at ICAM will lead to actionable progress. There has never been a more urgent time to invest in the future of medicine and research. Canada is rich in talent and potential. Now is the moment to ensure that our clinician-scientist trainee community receives the support they need to thrive.

Showcasing Science and Advancing Community at AJM

Simultaneously, CITAC was organizing our own annual event: the Annual Joint Meeting (AJM), held in collaboration with the Canadian Society for Clinical Investigation (CSCI). For the first time since 2018, this meeting returned to Toronto and was co-hosted with the University of Toronto's Integrated Physician-Scientist Training Programs. Our goal was to create a truly special experience for the community. Behind the scenes serving as one of the co-chairs on the planning committee, putting together an AJM is not without bumps in the road. From scratching our heads on what programming makes the cut into this 1.5-day conference, to unexpected last-minute changes in speaker arrangements, to eleventh-hour sponsorships, organizing an AJM is a rollercoaster ride similar to navigating the ups and downs of a PhD. But eventually, our team did it.

This began with our keynote speaker: **Terry Pirovolakis**, a father who became a force for rare disease research after his son's diagnosis with SPG50. Terry founded Elpida Therapeutics—a social-purpose corporation focused on ultra-rare, non-commercially viable gene therapies. Within the planning committee this was a strategic and important decision to set the tone of the AJM. Terry was the first keynote in the history of our meeting to tell a first-hand patient story, and a speaker who did not have formal medical or scientific training. His story is an inspirational herculean tale of translational research in action and exemplified what clinician-scientists strive for: creating innovations that solve clinical problems and bringing these ideas to clinical reality.

The AJM program featured a trainee science showcase competition (poster session and with top ranked abstracts invited for oral presentations), and competency development workshops on the hidden curriculum, patient engagement, presentation skills, and AI in medicine. We also celebrated excellence through national awards:

- CSCI Joe Doupe Award: **Dr. Deborah Siegal** [Hematology Clinician-Scientist at the University of Ottawa]
- CSCI Distinguished Scientist Award: **Dr. Jean-Claude Tardif** [Cardiology Clinician-Scientist at the Université de Montréal]
- CITAC Outstanding Trainee Awards: **Dr. Adom Bondzi-Simpson** [CIP General Surgery Resident at UofT] and **Mimosa Luigi** [MD-PhD Student at McGill]

Personally, one of my favorite parts when I go to an AJM is the opportunity to connect with old friends and make new ones from across the country during the meeting and the socials. When and where else will I be at a conference where everyone in the room truly understands the duality of the joys and struggles that I have going through the MD-PhD program? The answer, never. The AJM is unique because everyone at this conference is going through this pathway in some form or another. The CITAC-hosted trainee social at Track & Field was filled with vibrant conversations amongst peers and the forging of future collaborators as clinician-scientist colleagues.

The Future is Bright

Since its inception nearly 20 years ago, CITAC has remained committed to advocating for clinician-investigator trainees across Canada. Our mission has remained the same – to provide a national voice for clinician-investigator trainees across Canada and connect, support, and advocate for trainee membership as they pursue their vocational goals in research and medicine.

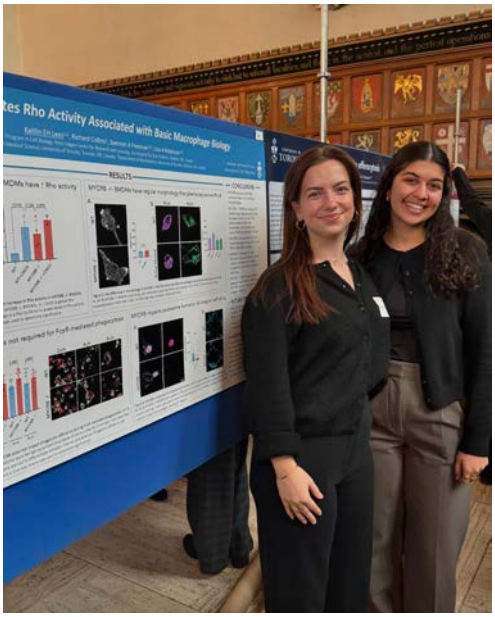
My work with CITAC has been one of the most fulfilling parts of my professional development. It has been a privilege to advocate on behalf of clinician-scientist trainees across the nation and help shape the future of our community. These events like ICAM and AJM are not endpoints, but rather continued opportunities in what I hope will be a long-lasting movement fighting to champion the future of clinician-scientist training in Canada.

UofT MD-PhD students at the CSCI-CITAC AJM 2025 in Toronto, ON. Left to right; front row: Alex D., Mathepan, Gemma, Adina, Lia, Safa; 2nd row: Saim, Anita, Robert, Andrew McLeod, Dr. Nicola Jones, Kaitlin, Ava, Anglin, Bryan; 3rd row: Julia, Prajay, Oluwatobi, Adam, Diana, Jonathan, Erica; 4th row: Emerson, Richard, Braeden, Andrew Mazzanti, Yashar.

Social Updates

Mathepan, Gemma, and Angela at the CITAC social at Track and Field Bar!

Val Pals event organized by Erica and Allysia!



Ava and Kaitlin at the 2025 Medical Students Research Day (MSRD)!

Bowling social at Danforth Bowl! (from left to right: Tobi, Adina, Andrew M., Erica, Allysia, Yashar, Armaan, Anglin, Adam, Alex, Safa)

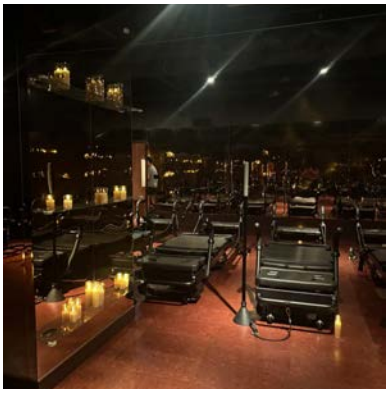
Hometown Tourist:

How to Slay Summer in Toronto

By: **Ava Kavianpour**

After a long (and what seems to be never-ending) winter, everyone in the city is ready to make the most of summer. Toronto truly comes alive in the warmer months, and this is how I like to enjoy it. Whether you're lounging on the Islands or sipping iced matcha after a workout class, here's your build-your-own itinerary for the ultimate summer in the city.

Pick your perfect Toronto day, morning to night



Jaybird's serene pilates studio.

Morning Movement & Matcha

If you feel like starting the morning with a workout—whether you're a regular or just testing the waters—these spots are well worth a visit. One of my favourite ways to kick off the day is at **Sweat and Tonic**. They offer spin, HIIT, yoga, and pilates, so there's definitely something for every vibe.

If you're in the mood for something more restorative, book a class at **Jaybird**. Their candlelit, heated yoga and pilates classes feel relaxing even though it's a work out class. My favourite is *The Burn* (less scary than it sounds, I promise).

Post-workout—or if you're simply in the mood for a spa moment, **Othership** is a go-to for hot/cold therapy. Choose from guided classes or a free-flow session between the sauna and cold plunge. ***Pro tip:*** Book classes using **Classpass**, it's cheaper and if you use a referral code you'll get more credits you can use for a longer trial period (here's one if you need it https://classpass.com/refer/93C870EC29)

QR code for 20 extra Classpass credits from Ava!

If movement isn't on your morning agenda, no worries—grab an iced drink or a snack at one of the city's many cute cafés. Some of my favourites are **Lobby at the Ace Hotel** and **Butter & Blue**. You can't go wrong with any drink, but as the title gives away, my favourites here are the iced matcha.

And if you want a bonus activity, make time for the **Toronto Flower Market**, held Saturdays throughout the summer at CAMH. It's the perfect place to wander around, pick out a bouquet, and snap a few photos.

Bouquets at a Toronto Flower Market stand.

Coffees, matcha and hojicha lattes at Butter & Blue.

Afternoon Fun

For an easy summer escape, hop on the ferry to the **Toronto Islands**. Before boarding, stop at Farm Boy across from the terminal to stock up on picnic essentials. I like to grab sparkling lemonade, fresh fruit, cheese, and their caprese salad. Once on the island, Centre is a lively choice with beaches and bike rentals, but I prefer **Ward's** which is quieter and ideal for a picnic. There's a boardwalk trail over, and while you're exploring the island there's also the **Runaway Cafe** which is a cute place for a drink. ***Pro tip:*** Time your ferry back at sunset for the best views.

Sunset view from the Toronto Island ferry.

Dinosaur and butterfly exhibits at the ROM.

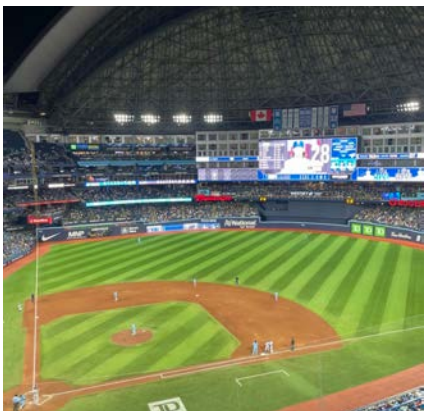
If you're looking for something a little more structured (and air-conditioned), the **Royal Ontario Museum** and **Art Gallery of Ontario** are the perfect places to go. They both have great exhibits, and offer days that are free admission. For the ROM, every Tuesday is free for students, which is great as MD-PhDs who have a lot of school to do! They also offer free nights the third Tuesday of every month, lines are long though so make sure to head there early. They also host events called **ROM After Dark** that are themed with live music, pop-up performances, and food and drinks. The upcoming one in June is *Summer Solstice*–themed. The AGO also has free admission nights every first wednesday night of each month and is currently showcasing *Making Her Mark*, a survey of women artists through history.

Iconic Toronto Evenings

There's no better way to close out a summer day than with a live show and the best venue in the summer is the **Budweiser Stage**. Lawn tickets are affordable and sunset views along with some good music is always a fun time! They have many concerts to choose from, so there is definitely something that fits your taste.

Outdoor concert vibes at the Budweiser Stage.

For another casual city tradition, head to the **Rogers Centre** for a Blue Jays game. Even if you're not a baseball fan, going with a group of friends is always a fun time. General admission tickets start at $20, and Tuesday nights are the day to go because of $1 hot dogs.



Blue Jays baseball game at the Rogers Centre (with the dome open in the summer!).

Endless fun ahead!

I hope this has given you some ideas on what to do this summer. Whether you're starting your day with a workout or ending it with a concert, summer in Toronto is all about curating your own fun. So grab your favourite drink, rally your friends, and start planning your perfect Toronto day!

Life Lessons from a Moose

Rain on Me: Reflections from ICAM

By: **Saim Imran**

I attended the International Congress on Academic Medicine (ICAM) in Halifax alongside a few of my colleagues in April this year. Conferences: the backbone of academia, buffet of knowledge, the place where sleep-deprived professionals wear lanyards like battle medals and chase the high of a great idea. They're also a hotspot for freebies (because clearly, what we all need is another pen shaped like a stethoscope). Going in with the motto: *I see it, I like it, I want it, I got it* is a must to nab every tote bag, granola bar, and stress ball. They're noisy, they're overwhelming, and they often cost more than your rent. But they matter.

They're where ideas are born, collaborations begin, and careers are quietly rerouted. A study by Sanders et al. gave us the framework to understand why we keep flocking to them: to build human capital (aka finally understand that statistical method), to maintain social capital (aka have dinner with someone you emailed once), to find mentorship, to explore new job paths.[1] *Something about conferences makes us feel like a dangerous academic.*

ICAM 2025 wasn't just a gathering. It was a monsoon. Of research, people, acronyms, and ambition. *Switchin' the positions* from socializing to presenting as an academic was a norm. One minute you're sipping coffee at a CFMS booth, the next you're in a CITAC workshop questioning your career path, only to stumble into a hallway and find out that there is a poster session and a talk happening. *Is this a black-and-white scene? If so, then I'm in a grey one, different dimensions, stuck in ICAM's twilight zone*—the kind of overstimulation that makes you lose yourself at times.

The day before arriving, I along with fellow MD-PhDs and non-PhDers (*we can be friends*) made our way to Cape Breton, a tourist wonderland known for its scenic view and *eternal sunshine*. We set off for the Sunset Trail in Cape Breton, a path usually known for picturesque sunset that will leave you with *no tears left to cry*. But today was not one of those days. The trail didn't greet me with coastal charm or postcard sunsets—it greeted me with a downpour. I was drenched before I even stepped onto the path, like *raindrops… an angel cried*. And yet, while I had *99 problems*, for some reason, I thought hiking through the rain *won't be one*.

Walking through the rain and ice that covered ground, I regret my life decisions. That's when I saw it. Antlers emerging through the trees like something out of a fever dream. *Just keep breathin' and breathin'* I had to tell myself as a moose appeared in front of me. Real. Massive. Regal. We locked eyes. But I stood there, completely still. The moose *was like supernatural—it was possessin' me.*

The moose, like that perfect paper, is a presence. Just… there. *Just like magic, getting everything you want because you attract it.* And suddenly, the rain stopped mattering.

One of many trails in the Cape Breton Highlands National Park.

Now this is the part when I say I got it on camera and *I felt stronger than I did before* but… instead the rain did matter and I slipped taking a step back startling the moose and sending panic through me to break free. As I dashed away, *tripping or falling with no safety net*, I made it back to car and the trail start. I told people what I saw. Most didn't believe me.

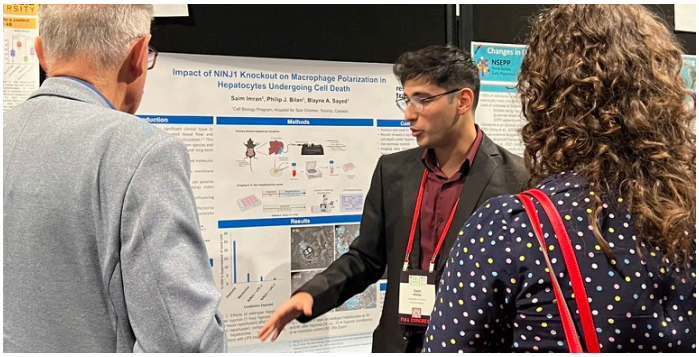
"A moose? In Halifax?"
"In that rain?"
"You're having delusions of grandeur, next you're going to say you want to *defy gravity*."

Recreation of the moose sighting by Anita (left) and Saim (right), taken at the Clinician Investigator Trainee Association of Canada (CITAC)'s Social photo booth.

And I get it. Moose sightings around Halifax are rare. But Parks Canada reports that findings of moose are actually common in Cape Breton Highland Parks, and April is when they typically move to higher elevation, so chances were there![2] Yes, I get it, fewer than a thousand moose are estimated across Nova Scotia, mostly tucked deep in Cape Breton not along the edge where I was. But that's the thing about once-in-a-lifetime moments—they come when you least expect it.

See, conferences are like that hike. You show up soaked (in information or actual water), you question your life choices, and you wade through sessions and symposia hoping to find that one elusive thing – the "moose". Most days it's just rain. But sometimes, you find your moose: that perfect talk, that paper that answers questions you didn't know you had. So you attend every session thinking *one last time, it needs to be the one* that's your moose.

At the conference, the large halls of poster boards *got me walkin' side to side*. After hours of scanning QR codes and nodding politely, I wasn't even sure what I was hoping to find. And then I wandered into a session on translational research frameworks. It wasn't even directly related to my work, but something



Saim presenting his poster on cell biology at ICAM.

about the way the speaker laid out the concepts with such clarity and conviction pulled me in. As they spoke, I was reminded of why I chose this path in the first place. The buzz of the conference faded for a moment, and I found myself fully present. Not just as a student, but as someone who genuinely cares about the science.

Both experiences reminded me: it's not the note-taking or networking that makes a conference (or a hike) worthwhile. It's the moment you remember why you started doing this in the first place. Why you sat through ethics training, or packed hiking boots despite the weather report. Because you're chasing something rare.

That's what conferences are. You don't go expecting anything but a hefty bill (I spent more than I'd like to admit, adding up the prices for dinner: *34* tonight + *35* tomorrow). So maybe you don't find your moose. Maybe it's just rain. Maybe you leave ICAM with wet socks and a dozen poster selfies you'll never post. But maybe, just maybe, you stumble on a paper that changes your research direction. But rare findings like that don't come easy. Just like seeing a moose on a coastal trail in a storm.

Thank u, next.

Disclosures: Ariana Grande had no financial stake in this article. Rather she made her presence felt, and it was appreciated by Daniel D'Souza.

1. Sanders et al., *Hum. Resour. Manag. Rev.*, **2022**, *32* (1), 100793.
2. Parks Canada. *Moose: Cape Breton Highlands National Park*.

Dear Doctor Doctor

Advice Column for MD-PhD Students

Chief Concern

From Sickly Student

Dear Doctor Doctor,

I don't feel well. I have swollen nodes, sweats/chills, and all my joints ache. What should I do?

RE: Chief Concern

Dear Sickly Student,

Firstly, make sure all of your vitals are in normal range. Time to put all that blood pressure taking practice to the test! Next, drink water like you've just finished running the SportingLife 10K. The best thing you can do is try to get some rest without having any OSCE nightmares. If you're up to it, UpToDate likely has all the information you'll need about whatever your body is fighting off before it will recommend supportive care as the best next step for treatment. Make sure to email all of the people who will miss you while you're gone - CBL tutors, ICE tutors, and the people who work at the MSB Starbucks. Lastly, be sure to fill out the unplanned absence form to keep that professionalism score up: https://documents.med.utoronto.ca/Forms/AbsenceRequest

Feel better soon,
Doctor Doctor

Lab Girl Summer

From Pale PhD Student

The cell culture room in my lab doesn't have any windows, and it looks like I'm going to be spending a lot of time in there this summer. How can I still get enough sunlight without having to take extra vitamin D?

RE: Lab Girl Summer

Dear Pale PhD Student,

I know it can be super tough to not see the light of day, especially during a time where the sun sets late and it seems like everyone else gets to spend as much time as they want to outside. But don't fret, you too can have the outdoors inside your cell culture room! There are special lamps that help with SAD that will help you photosynthesize like your succulents. In case you don't believe me, check out this peer-reviewed article about the effectiveness of light therapy:

Campbell PD, Miller AM, Woesner ME. Bright Light Therapy: Seasonal Affective Disorder and Beyond. *Einstein J Biol Med*. **2017**; *32,* E13-E25. PMID: 31528147; PMCID: PMC6746555.

To purchase your own light therapy lamp, check out our Amazon storefront (search for 'DoctorDoctor') for our top picks.

Also, since it's summer, patio season is in full swing. Become your lab's official "Internal Affairs Coordinator" for the sole purpose of organizing lab events outdoors. Not only will you be creating memories with your labmates, but it will be a guilt-free way to spend some time outside without wondering if your cells are surviving and thriving. If you still feel like you're missing out on some sun, try to eat lots of citrus fruits, eggs, fish, and mushrooms. Sounds like a trip to Mandy's salads for lunch will do the trick :)

Stay sunny,
Doctor Doctor

Dear Doctor Doctor

Advice Column for MD-PhD Students

Class of 20??

From Hopeless Mouse Whisperer, PhD Candidate

Dear Doctor Doctor,

All of my friends are graduating medical school today. Meanwhile, my mouse experiment this week failed for the fifth time. What should I do?

RE: Class of 20??

Dear PhD Candidate,

Seeing your peers walk across the podium must be giving you dissonant feelings. On one hand, you're cheering on your friends whom you've had since the start of school–and probably whose lymph nodes you've palpated while prepping for the OSCE. On the other hand, you're mourning a life you could've chosen–a direct 4-year MD path. But there are so many opportunities that come with this worthwhile pursuit!

There are plenty of benefits to paving the MD-PhD path for yourself:

1. You're learning early on to think like a scientist. Do you think your MD cohort could unlock all of those problem-solving skills from just one HSR project? Of course not! You need at least one lead research project, one systematic review, one explorative project on the verge of failing and being scrapped entirely, and one collaboration with a research group halfway across the world all occurring at the same time to unlock your untapped multitasking potential.

2. Now, when you return to clerkship, you'll have colleagues who are residents and attendings and will be sure to select "Exceeds expectations" on all your evals ;)

3. Finally, at your MD cohort's pre-convocation, you still have your moment to shine. Nicola will surely hype you up and make those tedious research days worth it each time.

So why be one doctor when you can be Hannah Montana and live the best of both worlds?

Hope you chill it out and take it slow,
Doctor Doctor

MDPhDeets | Games

By: **Adina Borenstein** and **Anita Hu**

Strands

Identify all the words in the word search that fit the theme!

TODAY'S THEME

Community

A	E	E	D	M	I
M	J	H	P	D	T
L	I	D	F	A	N
J	C	A	C	Z	A
O	N	M	I	Z	M
N	U	I	A	T	D
E	O	L	C	C	O
S	C	Y	M	L	E

Have you discovered the main strand?

Name the strand that ties together ALL of the other words in the grid:

_____

Connections

Categorize the terms into 4 groups of 4!

RBC	ALT	GGT	CPC
ALP	HSR	Hb	SEADS
AST	AAA	Plt	HEADSS
IHELLP	MCV	IPE	MAPS

Name the categories:

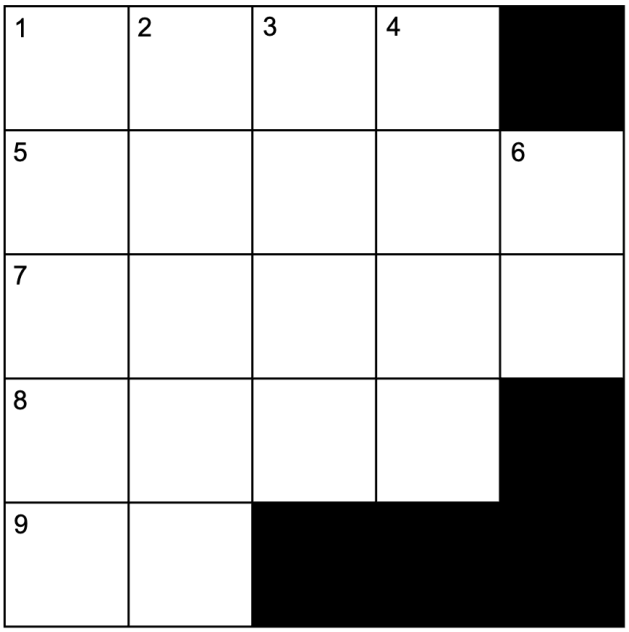
_____

_____

_____

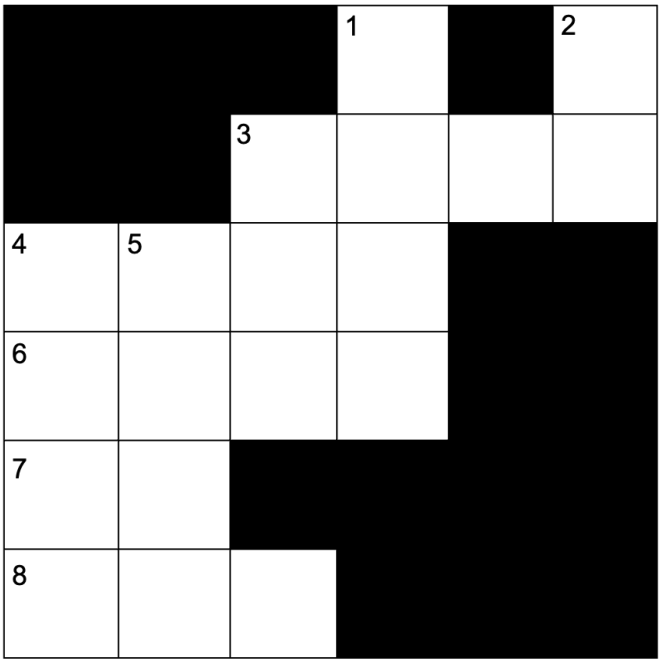
_____

Minis



Across:
1. Gene associated with breast cancer
5. To love
7. Students do this everyday
8. Assisting your lab's Environmental Health and Safety
9. Shhhhh!

Down:
1. Action performed to bundle hay, past tense
2. A form of melanosis (pigmented contact dermatitis), a person's name
3. Canadian medical association, or where country music shines
4. A rooftop restaurant at the Well
6. Member of the interdisciplinary team



Across:
3. Always include it in a history
4. ____ skills, for short
6. Reason to get a low professionalism score
7. Elevated
8. UofT in 1827, for short

Down:
1. Undistressed
2. Written every 2 weeks
3. Average risk screening test for CRC
4. What you're reading
6. Amount ran or swam

Doc Doc Jokes

By: **Adina Borenstein**

Doc Doc!

Who's there?

CPC.

CPC who?

CPC you later!

Doc Doc!

Who's there?

CPC1.

CPC1 who?

Have a CPC1-derful summer!

Doc Doc!

Who's there?

CPC3.

CPC3 who?

It's summer, there's no CPC3-son to still be thinking about school!

Doc Doc!

Who's there?

CPC2.

CPC2 who?

I don't know, coming up with these jokes is CPC2 hard for me...