

# Biochemistry

## MSc, PhD



Within a diverse and inclusive cluster of faculty and students, the Department of Biochemistry is a leader in its field. Dedicated to training the next generation of scientists and leaders, our students are supported by world-renowned faculty who make significant research contributions in key areas - from signal transduction and regulation, to molecular medicine, to gene expression and development, and everything in between.

Our students are engaged in research training that focus on cutting-edge problems in areas such as proteomics and bioinformatics, biomolecular structure and function, and drug discovery. Our facilities are world class and continually updated to modern standards, including state-of-the-art instruments for nuclear magnetic resonance, mass spectrometry, light and electron microscopy, X-ray crystallography and high-speed computation. Our rotation system is a key feature of our training that allows newly admitted students to experience 3 different labs before deciding on a "best fit" thesis lab. This allows students to explore the breadth and depth of the research conducted and find the ideal learning environment to succeed



### Master of Science (MSc)

In addition to completing a thesis, students take 1.5 FCE\*: BCH 2020Y (Seminar Course in Biochemistry, 1.0 FCE), BCH 2101H (Scientific Skills for Biochemists, 0.25 FCE) and one elective (0.25 FCE). Students successfully finish this program in 2 years.



### Doctor of Philosophy (PhD)

In addition to conducting independent and original research that will form their thesis, students complete 2.0 FCE: BCH 2020Y (Seminar Course in Biochemistry, 1.0 FCE), BCH 2101H (Scientific Skills for Biochemists, 0.25 FCE)\*\*, and 0.75 FCE in electives. Typically, students successfully complete this program in 6 years.

*\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 - 2 times per week.*

*\*\* In the event the student has completed this course, the student will need to take another course that should be approved by the Graduate Coordinator.*



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Biochemistry (n = 136).



## Application Deadlines

Prospective MSc and PhD students can apply to either application cycle (ie. Round 1 or 2).

ADMISSIONS	ROUND 1	ROUND 2
Fall 2023	January 15, 2023	March 31, 2023
Winter 2024	October 1, 2023	

## By the numbers



**How to Apply:**  
[biochemistry.utoronto.ca](https://biochemistry.utoronto.ca)  
Email: [carrie.harber@utoronto.ca](mailto:carrie.harber@utoronto.ca)

## Alumni profile

**April Pawluk, PhD**  
**Graduated 2016**

After completing her doctoral studies under the supervision of Professor Alan Davidson, April continued her research into the mechanisms of CRISPR-Cas systems as a postdoctoral fellow at the University of California Berkeley.



She fulfilled her long-time dream of being a scientific journal editor with the publication *Cell* in 2017. Rising to the position of Senior Editor over 4 years, April handled hundreds of submitted manuscripts across the biological sciences, mediating the peer review process and making decisions about which papers to publish.

April has brought her perspective as a journal editor back to the academic sphere to help scientists write better grants and papers – first at Harvard's Microbiome Center. She continues in this capacity at the newly launched Arc Institute, a non-profit organization based on Palo Alto, California, whose mission is to accelerate scientific progress, understand the root causes of disease, and narrow the gap between discoveries and impact on patients. In her spare time, she does freelance scientific editing with a group of former journal editors at Life Science Editors and leads workshops on scientific writing and publishing.

# Applied Immunology

## MSc



The MSc Program in Applied Immunology is a two year, research-based non-thesis degree program. Through course work and a major research project in a host laboratory, we train students to design, implement, and evaluate immunological research that measures immune responses and/or immune function. Instead of a thesis, students complete oral and written presentations throughout the program to summarize their findings and discoveries. Students can personalize their learning from a wide array of graduate courses to fulfill their electives, available within and outside of our department.

Students can also, if they choose, complete a four month internship or an international research opportunity. Students receive a guaranteed stipend (equivalent to tuition + incidental fees).



Students in this program complete 7.0 FCE\*

### Year One

- IMM1450Y – Major Research Project I, 1.0 FCE
- IMM1550Y – Major Research Project II, 1.0 FCE
- IMM1436H – Techniques in Immunology, 0.5 FCE
- 1.0 FCE from the following courses: IMM1428H (Molecular Immunology, 0.5 FCE), IMM1429H (Developmental Immunology, 0.5 FCE), IMM1430H (Clinical Immunology, 0.5 FCE), IMM1431H (Immunotherapy, 0.5 FCE)

### Year Two

- IMM1050H – Easton Seminar Series, 0.5 FCE
- IMM1075H – Special Topics in Immunology 0.5 FCE
- IMM1650Y – Major Research Project III, 1.0 FCE
- IMM1651H – Applied Research in Immunology, 0.5 FCE
- 1.0 FCE electives

*\*Successful students typically complete this program within 2 years. Students from UofT who completed a specific set of pre-requisites can enter the program with advanced standing and complete their degree requirements in 16 months.*



## Potential career paths

Alumni from the program have very diverse careers, including but not limited to, consulting, medical editing, marketing, as well as research and development in biotechnology. Alumni have also successfully transitioned into further education such as PhD programs, medical school, and law school.

## Application Deadlines

Fall 2023 Admissions

Deadline: January 15, 2023

Spring 2023 Admissions (Advanced Standing only)

Admissions Deadline: March 1, 2023

## By the numbers

12

average  
class size

26

current number  
of students in  
the program

85

active research  
faculty

## Alumni profile

### Christina Maria Ditlof, MSc Graduated 2020

I was co-supervised by Dr. Thomas Eiwegger and Dr. Julia Upton at the Hospital for Sick Children. I conducted research in the field of allergy and immunology, specifically investigating a potential treatment option for children with nut allergies. Since graduating, I have transitioned from academia into industry primarily working as a Data Manager for clinical trials.



The Master of Science in Applied Immunology program includes theory and lab-based courses, a research component, and an internship opportunity. This allowed me to further develop scientific knowledge and enhanced my technical and soft skills in both a lab and clinical research setting. Through this program, I was able to identify my strengths in the field of clinical research and used this experience to help decide the next steps in my professional career. I was also involved in several initiatives led by graduate students in the Department of Immunology. This helped me create a community within the Department and allowed me to explore other passions in science such as science education and communication.

I would advise prospective Applied Immunology students to take advantage of the internship portion, as this allows students to explore various career options and experience a role that they are interested in within industry.



How to Apply:  
[immunology.utoronto.ca](https://immunology.utoronto.ca)  
Email: [applied.immuology@utoronto.ca](mailto:applied.immuology@utoronto.ca)

# Fundamental Immunology

## PhD

The Doctor of Philosophy (PhD) Program in Fundamental Immunology is an advanced research-intensive degree to train future independent research scientists and scientific leaders. Through the completion of their coursework and research activities, students acquire substantial knowledge of modern immunological concepts and methods, hone their critical thinking and problem-solving skills, and develop strong oral and written communication skills. This breadth and depth in training prepare our graduates for a wide range of careers in academia or other professional sectors.

Areas of study include developmental immunology, cancer immunotherapy, microbiome - immune system interactions, immune responses to pathogens, autoimmunity, and comparative immunology. Our graduate students conduct cutting-edge research with one of our internationally recognized faculty and will become experts in their respective fields. Their findings typically lead to publication(s) in recognized refereed journals. A key feature of our training is our rotation system which allows newly admitted students to experience 3 different labs before deciding on a "best fit" thesis lab. This allows students to explore the range of research conducted and find the ideal learning environment to succeed.



**In addition to conducting independent and original research for their thesis, students complete 4.5 FCE\*:**

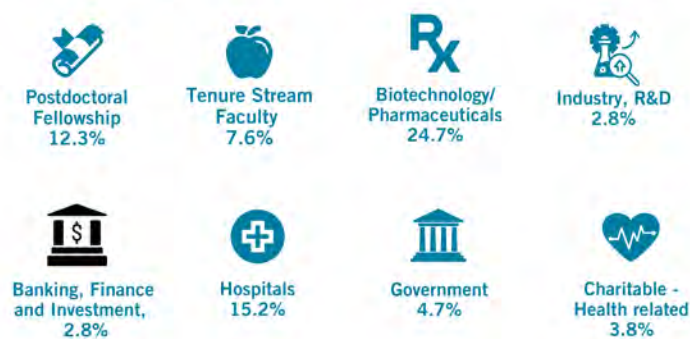
IMM1000Y (Recent Advances in Immunology, 1.0 FCE), IMM1200H (Scientific Skills for Immunologists, 0.5 FCE), IMM2000H (PhD Proposal in Immunology, 0.5 FCE), IMM2025H (Student Seminar Series, 0.5 FCE), IMM2050H (Easton Seminar Series, 0.5 FCE), IMM2075H (Special Topics in Immunology, 0.5 FCE), and 1.0 FCE elective. Typically, students successfully complete this program within 6 years.

\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 - 2 times per week.



## Potential career paths

In 2016, the School of Graduate Studies embarked on a project to track the career outcomes of 10,000 PhD students who graduated from 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Fundamental Immunology (n = 105).



## By the numbers

62

labs across 9  
research sites

115

current number of  
PhD students

85

active research  
faculty

## Application Deadline

Fall 2023 Admissions

Deadline: January 15, 2023



### How to Apply:

[immunology.utoronto.ca](mailto:immunology.utoronto.ca)

Email: [graduate.immunology@utoronto.ca](mailto:graduate.immunology@utoronto.ca)

## Alumni profile

### Mahmoud El-Maklizi, PhD Graduated 2022

I wanted to be an immunologist for as long as I can remember and my PhD journey started as a step towards that goal but ended with much deeper lessons, both for the lab and outside the lab. It taught me flexibility, creativity, accuracy, risk taking and, most importantly, focus. As I moved on to the next stage in my career, those lessons allowed me to approach my career choices from a different perspective. I looked for opportunities that allow me to step outside of the comfort zone of my PhD expertise and, therefore, push me to learn new skills, new topics and subjects while keeping those skills geared towards a clear goal.



That mindset is one of the best lessons I learned, as a graduate student and as I transition to a postdoctoral fellow. Based on that lesson, the advice I would give to prospective students is not to be afraid of stepping outside of your comfort zone; it's how the best lessons are learnt and how the most impactful science is made.

# Medical Science

## MSc, PhD



The Institute of Medical Science (IMS) offers stimulating, research-intensive MSc and PhD programs in one of the four areas of research: basic sciences, clinical sciences, health systems and services, and population health research. Each stream offers a variety of multidisciplinary studies in fields such as cardiovascular sciences, neuroscience, bioethics, stem cell biology, respiratory medicine, transplantation and psychiatric and brain health. This breadth is also reflected in our elective courses - from Neuroanatomy to Regenerative Medicine and Cardiovascular Science.

Our programs are full-time and offer an immersive graduate training experience. We specialize in multidisciplinary translational research with bench-to-bedside clinical applications. Under the mentorship of one of our world-renowned faculty, IMS students receive specialized graduate training and exposure to Toronto's finest cutting-edge biomedical research. Students can also participate in numerous Graduate Collaborative Specializations that provide more opportunities to develop multidisciplinary research skills and collaborations.



### Master of Science (MSc)

In addition to the completing a thesis, students take 2.0 FCE\*: MSC1010H (MSc Student Seminars in Translational Research, 0.5 FCE), two 0.25 FCE courses and 1.0 FCE elective. Students successfully finish this program in 2 years.



### Doctor of Philosophy (PhD)

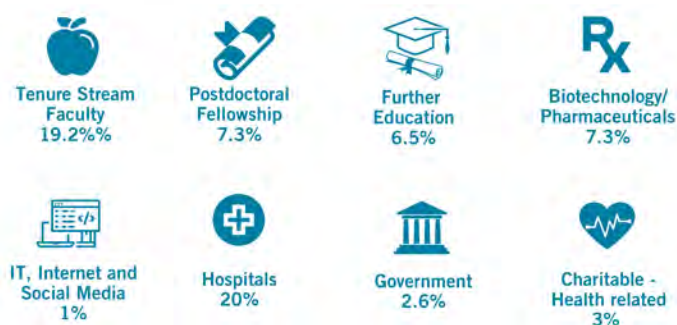
In addition to conducting independent and original research that will form their thesis, students complete 2.0 FCE: MSC 1011H (PhD Seminar Series in Translational Research, 0.5 FCE), two 0.25 FCE courses, and 1.0 FCE elective. Students typically complete this program within 5 years.

\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 - 2 times per week.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Medical Science (n = 489).



## By the numbers

218

current number  
of PhD students

277

current number  
of MSc students

21

average class  
size (electives)

## Application Deadlines

The deadlines below apply to both the MSc and PhD programs.

### ADMISSIONS

Fall 2023  
Winter 2024

### ROUND 1

February 1, 2023  
October 15, 2023

### ROUND 2

June 15, 2023



### How to Apply:

[ims.utoronto.ca](https://ims.utoronto.ca)

Email: [adm.medscience@utoronto.ca](mailto:adm.medscience@utoronto.ca)

## Alumni profile

### Alaa Youssef, PhD Graduated 2021

During my graduate training I developed many transferrable skills such as understanding research problems and identifying research methodologies, gathering evidence, problem-solving, collaborating with teams, and most importantly communicating and learning from others. I apply these skills, today, studying organizational readiness to implement and use artificial intelligence (AI) in healthcare to promote diagnostic excellence in patient care.



My training in mixed-method research well-positioned me to investigate how organizational processes and policies influence technology adoption and integration in clinical workflow. Moreover, the plethora of extra-curricular opportunities during my graduate training allowed me to develop my leadership and communication skills, enabling me to build collaborations and lead educational initiatives in my current position.

My advice to all prospective students is to enjoy your graduate training in all its highs and lows. Get to know your lab, mentors, and research team very well. Most importantly, try to engage and meet other people, push yourself out of your comfort zone by building connections and seeking advice when needed; you will be surprised by how inspiring and illuminating people's research and career journeys can be.



# Laboratory Medicine and Pathobiology

MSc, PhD



At Laboratory Medicine and Pathobiology (LMP), you choose your research path whether it's basic, translational, or clinical. As one of the largest and most diverse departments of its kind, LMP offers you unprecedented opportunities to pursue your MSc or PhD degree. We occupy a special place at the interface between basic biomedical science and clinical practice, with research and clinical scientists located on campus and throughout our affiliated hospitals and research institutes.

Join our 390+ world-renowned research-active faculty and 250 graduate students pursuing basic, translational, and clinical research. We are engaged in exciting areas of investigation ranging from molecular and cellular biology to genomics and bioengineering that will improve our understanding of fundamental processes and our ability to treat human diseases such as neurological disorders, cardiovascular disease, infectious diseases, diabetes, and cancer.

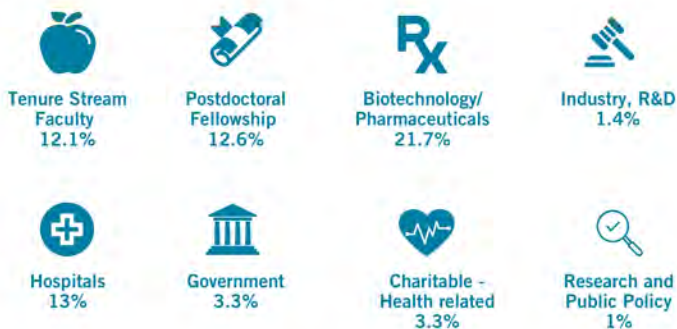
Machine learning and artificial intelligence will play a core role in medical research and patient care in the near future. Benefit from having The Temerty Centre for Artificial Intelligence Research and Education in Medicine (T-CAIREM) based in our department.

We train our research-stream graduate students to think critically and to communicate effectively. As an LMP student, you will be a member of our student union, Confederation of Laboratory Medicine & Pathobiology Students (CLAMPS) that offers academic and research support to all of its members, as well as social and wellness events throughout the year.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are the career trajectories of alumni from the PhD program in Laboratory Medicine and Pathobiology (n = 207).



## By the numbers

87

active labs  
across 16 sites

400

active research  
faculty

237

current number  
of MSc and PhD  
students

## Application Deadline

Applications for Fall 2023 admissions are open now and close on June 1, 2023.

## Alumni profile

**Dr. David Doua, PhD**  
**Graduated 2013**

"I was very impressed with the depth and breadth of research work that occurs at LMP. The number one reason for choosing to do my PhD at LMP was the research topic of my PhD supervisor. What made it even more clear for me was that the department, as a whole, is very student focused and provides a lot of support. It was also apparent that the LMP student body is a very close knit social group, which made it an easy choice for me.



I learned how to be a critical thinker and a good scientist because of my PhD training at LMP. There are so many essential skills above and beyond bench science that are critical in your success as a professional, no matter what career path you take. LMP has a breadth of training/workshops that were very helpful such as networking, negotiations, and oral presentations. Furthermore, this program provides the opportunity to become extremely resilient. It will test you in many ways. I'm glad I was in LMP because of the support I received from the program, as well as my peers that made the tough process enjoyable."



### How to Apply:

[Imp.utoronto.ca/graduate](http://Imp.utoronto.ca/graduate)

Email: [Imp.grad@utoronto.ca](mailto:Imp.grad@utoronto.ca)

# Medical Biophysics

## MSc, PhD



The Department of Medical Biophysics offers interdisciplinary research-focused graduate studies at both the Masters (MSc) and PhD level. Focusing on basic and translational research, we offer students a diverse and highly integrated modular curriculum which reflects the increasing specialization in biomedical science. Our rotation system is a key feature of our training that allows newly admitted students to experience 3 different labs before deciding on a "best fit" thesis lab. This allows students to explore the breadth and depth of the research conducted and find the ideal learning environment to succeed.

Cancer research remains our principal focus, followed by cardiovascular disease and neuroscience. We bring together researchers from diverse scientific areas, who work on multidisciplinary projects. In our labs, you will find faculty and students with backgrounds in Molecular and Cell Biology, Physiology, Biochemistry, Chemistry, Physics, Mathematics, Engineering, Computer Science and beyond. The department stresses an interdisciplinary approach to medical research, which is the hallmark of Medical Biophysics.



### Master of Science (MSc)

In addition to completing a thesis, students take 2.5 FCE\*: MBP 1015Y (Biomedical Seminar, 1.0 FCE), MBP 1200H (Scientific Exposition and Ethics, 0.25 FCE), MBP 1201H (Biostatistics, 0.25 FCE), 0.25 FCE in biology-related course and 0.75 FCE in electives. Students successfully finish this program in 2 years.



### Doctor of Philosophy (PhD)

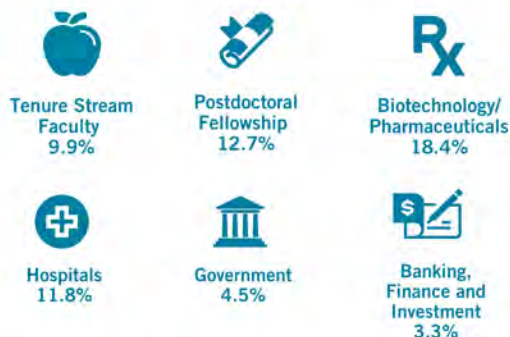
In addition to conducting independent and original research that will form their thesis, students take 3.5 FCE: MBP 1015Y (Biomedical Seminar, 1.0 FCE), MBP 1200H (Scientific Exposition and Ethics, 0.25 FCE), MBP 1201H (Biostatistics, 0.25 FCE), 0.25 FCE in biology-related course and 1.75 FCE in electives. Typically, students successfully complete this program within 6 years.

\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 - 2 times per week.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Medical Biophysics (n = 331).



## Application Deadlines

Prospective MSc and PhD students can apply to either application cycle (ie. Round 1 or 2) for Fall 2023 admissions.

ADMISSION DEADLINE	WHEN TO EXPECT DECISIONS
January 9, 2023	March 2023
March 17, 2023	May 2023

## By the numbers

<b>295</b> number of MSc and PhD graduate students	<b>130</b> number of graduate faculty	<b>11</b> number of research sites
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**How to Apply:**  
[medbio.utoronto.ca](https://medbio.utoronto.ca)  
Email: [medbio.info@utoronto.ca](mailto:medbio.info@utoronto.ca)

## Alumni profile

**Dr. Hui Guo, PhD**  
**Graduated 2022**

I completed the Biophysics Specialist program in my undergraduate at U of T and graduated from MBP in June 2022.

Currently, I am a postdoctoral fellow at the Max Planck Institute of Biochemistry in Germany.



During my PhD, I developed an interest in research and decided to pursue a career as an independent researcher. In the PhD program, I received extensive training in designing, conducting, and communicating my research. These skills allowed me to pursue further trainings as a postdoc in my current institution and will remain useful in my career down the road.

For new graduate students, the most important thing in graduate school is to find a lab with a supportive supervisor and lab mates. Suggestions from supervisor and peers are essential to help you stay on the right track and avoid pitfalls. Additionally, as once suggested to me by my PhD supervisor: focus on doing good science, and the rest will follow. Whatever your eventual goal might be, a solid master or PhD can be a plus. Try to be patient and enjoy the process!

# Medical Genomics

## MHSc



**Genomics – the ability to read and interpret information contained within our DNA – is a rapidly growing field, with implications reaching from the bench all the way to the bedside.**

The fast-paced nature of this field is creating a widening knowledge gap between cutting-edge genomics research and current clinical practices, and this has created an emerging need for laboratory professionals and clinicians to generate, integrate, and interpret genetic and genomic data. The Master of Health Science (MHSc) in Medical Genomics is meeting this need head on, training the next generation of genomics experts who are helping to drive a new era of healthcare and patient management, and a vibrant academic healthcare system.

This is a 9.0 FCE\* fast-paced, content-dense degree program consisting of a core set of lecture, discussion, and project-based courses across a two-year (five term) program. Enrolling students in either a laboratory professional stream or a clinical stream, the program provides medical trainees, clinicians, research scientists, and laboratory professionals with the theory and practical knowledge necessary to incorporate genomics data into research, medical practice, and business. In addition to lecture-based learning, students participate in a hands-on, stream-specific capstone practicum during the final academic term of the program. During the practicum, students engage in dynamic placements with a huge breadth of available project topics, including clinical genomics research, clinical diagnostics, bioinformatics, public health policy, commercial development, and communications, and working with groups in hospitals, academic institutions, industry, and government agencies, among many others.

*\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.*

## Alumni profiles

### Sierra Scodellaro, MHSc, Graduated 2022



Sierra is currently a Pharmacogenomics Data Analyst at SickKids Hospital. She describes her role as the link between pharmacology and genomics, and is passionate about finding new ways to use whole genome sequencing data to optimize medication safety. Interestingly, her unique position did not exist prior to her entry into the role – as she explains, “When I started, pharmacology and genome diagnostics were very isolated from each other; my work helps to bridge the gap between them”. Sierra is excited to continue to grow in her role with a more patient-facing role in the future, consulting with patients and their healthcare providers on their pharmacogenomics profiles.

As a graduate student, Sierra focused on creating opportunities to gain experience in pharmacogenomics, both in and out of the classroom. This initiative led to her Capstone Practicum project at SickKids, where she gained valuable experience working with a variety of medical and scientific experts, including pharmacists, clinicians, genetic counsellors, and company stakeholders. Sierra encourages current and future graduate students to reach out, make connections, and pursue the ideas that fascinate them. In her words, students entering the Medical Genomics program should aim to “expand your horizons, see what different genomics fields are like, learn how the field is progressing, and figure out how to enter it.”

## By the numbers

20

average class size

35

different Capstone  
Practicum projects

91%

employed immediately  
after graduation

## Application Deadlines

ROUND 1

Fall 2023 Admissions Jan. 15, 2023

ROUND 2

May 1, 2023



How to Apply:

[moleculargenetics.utoronto.ca/medicalgenomics](https://moleculargenetics.utoronto.ca/medicalgenomics)

Email: [medicalgenomics@utoronto.ca](mailto:medicalgenomics@utoronto.ca)

# Genetic Counselling

## MSc



**The MSc program in Genetic Counselling is a full-time graduate program that prepares students with the academic and clinical skills to function as highly competent genetic counsellors in a variety of work settings.**

Genetic counsellors work in many areas of healthcare and are involved in the provision of genetic counselling and risk assessment to individuals and families with, or at risk for genetic disorders. The program is accredited by the Accreditation Council for Genetic Counseling.

Students complete 13.0 FCE\* which includes didactic coursework, clinical rotations and an independent research project. The curriculum is designed exclusively for genetic counselling students and delivered by local and international experts in this field. Under the supervision of a faculty member, the independent research project is an opportunity to engage in the full spectrum of conducting research – from developing a protocol, to obtaining research ethics approval, analyzing data and presenting findings. Through this project, students gain an understanding of the research process and learn to appreciate the skills required to undertake clinical research.

Students are exposed to a variety of clinical rotation opportunities offered at University of Toronto affiliated teaching hospitals, or at other hospitals in the Greater Toronto Area. Students choose from over 10 options to fulfill and elective rotation in the areas of research, fertility, or in the private sector setting. Successful students typically complete this program within 2 years.

*\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.*

## Alumni profile

**Rosettia Ho, MSc in Genetic Counselling, Graduated 2020**



Upon graduation, Rosettia began working as a Genetic Counsellor at the London Health Sciences Centre where she sees patients in Prenatal and General Genetics. She is a member of the Canadian Association of Genetic Counsellors Annual Education Conference Committee. Her dream is to be able to give back to the University of Toronto by becoming a clinical instructor.

Her research project explored parents' perspectives after the return of uncertain genetic test results related to their child's hearing loss.

She found that parents report resilience after the return of these uncertain genetic test results and perceive value in genetic testing.

Rosettia is deeply grateful for her education through the University of Toronto Genetic Counselling Program. She feels fortunate for being trained by a renowned group of supervisors, instructors and mentors. Although she finished her degree during the pandemic, the Genetic Counselling Program provided unwavering support and guidance, which enabled her success in the program and beyond.

## Application Deadline

Fall 2023 Entry

Deadline: January 6, 2023



**How to Apply:**

**Email: [Mscgc.inquiries@sickkids.ca](mailto:Mscgc.inquiries@sickkids.ca)**



# Occupational Therapy

## MScOT



**The need for skilled occupational therapists has never been greater. Occupational therapists (OT) are on the front lines of health care providing critical services. OTs are in high demand across a wide range of settings – traditional and emerging, hospital and community based. They are indispensable members of interprofessional/integrated health care teams for their role in enabling people to lead healthy, meaningful lives regardless of ability, illness or age.**

The Master of Science in Occupational Therapy (MScOT) creates graduates with advanced academic and professional knowledge as well as applied research skills for leadership positions in occupational therapy practice. Our emphasis is on applying theory and research evidence to clinical practice through rigorous studies in occupational therapy and research production and utilization. Students in this program complete 18.5 FCE\* over the duration of two years. The curriculum is a combination of courses and field work and students can choose to take the program at either the St. George downtown campus or at University of Toronto Mississauga.

As a graduate of the program, you will be eligible to write the certification examination of the Canadian Association of Occupational Therapists, a requirement for registration with the College of Occupational Therapists of Ontario and other professional regulatory colleges in Canada. You may also be eligible to practice occupational therapy elsewhere by passing the licensing requirements specific to that state or country.

*\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.*



## Alumni profiles

**Meera Premnazeer, MScOT, Graduated 2021**



Based on my own experience, I would say three things are important. One, take part in extracurricular opportunities throughout the OT program, including applying to work-study positions or volunteering with professors to assist in their research. Having taken part in multiple work-study opportunities throughout the MScOT program, I have found it to be a great opportunity to take part in research by the department's faculty members. The research experience also adds to gaining more skills when working clinically using evidence-based strategies. Also, volunteering is a great opportunity to make connections with faculty and current OTs in meaningful ways. Two, make time for yourself, friends, and family to enjoy your two years in the program as much as possible. After being in a pandemic while in this program, I see the value of self-care and making time for those whom you are close to more than ever. Having that in-person interaction and connection with others has helped me get through the past two years. Three, research your area of interest and try to plan for your third or fourth placement accordingly, as many OTs end up getting jobs through the connections they make.

## By the numbers

**90**

number of  
incoming students  
at St. George  
Campus

**40**

number of  
incoming students  
at UT Mississauga

**400**

number of clinical  
faculty

**100+**

number of placement  
sites

## Application Deadline

Fall 2023 Entry  
Deadline: January 6, 2023



**How to Apply:**  
Email: [ot.studentservices@utoronto.ca](mailto:ot.studentservices@utoronto.ca)

# Physical Therapy

## MScPT



**The Master of Science in Physical Therapy (MScPT) is a 24-month professional graduate program designed for students who have completed an undergraduate degree.**

We select candidates who are well-rounded and from a variety of backgrounds and life experiences. Individuals who are compassionate, have excellent problem-solving abilities, strong people skills, and have a desire to engage in leadership activities, will find the study of physiotherapy to be an excellent fit and will flourish in this program.

Recognized as one of the top programs in Canada, students complete 18.75 FCE\* through 30 weeks of full-time clinical education over 5 internships. Graduates are eligible to write the Physiotherapy Competency Examination (PCE), administered by the Canadian Alliance of Physiotherapy Regulators, which qualifies them to practise physical therapy in Canada. Graduates will be eligible to register in the Canadian Physiotherapy Association and the Colleges of Physiotherapy in all Canadian provinces.

*\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.*



## Alumni profiles

Jen Hutter, MScPT, Graduated 2021



The most powerful thing I learned while completing my graduate degree is best captured in the quote: “People don’t care how much you know until they know how much you care”. The instructors in the program demonstrated unwavering empathy and passion for the work physiotherapists do and showed me what bringing heart to healthcare looks like. Since graduating, I have been providing therapy to individuals who have been injured in car accidents and aim to offer humanity first, and expertise second. I am also inspired to teach aspiring physiotherapists and have been a clinical instructor to several students in the past year.

My advice to prospective students is to show up fully in all aspects of your life – extra-curricular, advocacy, personal and beyond. Tunnel vision is very easy to adapt when you’re in a rigorous, prestigious academic program. Always remember that life doesn’t start when you finish school – you’re living it right now and some of your richest and most impactful moments will be outside the walls of academia, if only you keep yourself open to experiencing them.

## By the numbers

**110**

number of  
incoming students

**300**

number of clinical  
teaching facilities

## Application Deadlines

Fall 2023 Entry  
Deadline: January 6, 2023



How to Apply:  
[physicaltherapy.utoronto.ca](https://physicaltherapy.utoronto.ca)  
Email: [physther.facmed@utoronto.ca](mailto:physther.facmed@utoronto.ca)

# Nutritional Sciences

## MSc, PhD

The Department of Nutritional Sciences positions itself as a leader in its field by leveraging the resources of the Temerty Faculty of Medicine and its strong affiliation with the Dalla Lana School of Public Health at the University of Toronto. This provides our graduate students with unparalleled access to the highest concentration of university-affiliated hospitals, clinicians, and health researchers in North America. In fact, Toronto is home to the largest research and development (R&D) hub in Canada and the second largest food cluster in North America.

The department offers both MSc and PhD degree programs. Our graduate students work on the front lines of research with internationally recognized professors on competitive, peer-reviewed research projects. They present their research at international conferences and publish their work in high-impact journals and are frequently awarded prestigious scholarships.



### Master of Science (MSc)

In addition to completing a thesis, students take 2.0 FCE\*: NFS 1204Y (Master Seminars in Nutritional Sciences, 1.0 FCE) and two 0.5 FCE electives. Students successfully finish this program in 2 years.



### Doctor of Philosophy (PhD)

In addition to conducting independent and original research that will form their thesis, students complete 3.0 FCE: NFS 1304Y (Doctoral Seminars in Nutritional Sciences) and four 0.5 FCE electives. Typically, students successfully complete this program within 4 years.

\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.

## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Nutritional Sciences (n = 72).



## Application Deadlines

Below are the deadlines to apply to the MSc and PhD programs. Please note there is one application deadline for international students interested in the MSc program with a Fall 2023 start.

ADMISSIONS CYCLE	DOMESTIC	INTERNATIONAL
Fall 2023, Round 1	January 15, 2023	January 1, 2023
Fall 2023, Round 2	June 15, 2023	PhD only: June 15, 2023
Winter 2024	November 1, 2023	November 1, 2023

## By the numbers



### Contact

Email: [grad.nutrisci@utoronto.ca](mailto:grad.nutrisci@utoronto.ca)

## Alumni profile

### Zhila Semnani-Azad, PhD Graduated 2021

During my time at the University of Toronto I was lucky to be exposed to many areas of research throughout my undergraduate career and graduate training in the Department of Nutritional Sciences. These



experiences helped me identify my passion in pursuing further training in cardiometabolic disease epidemiology and taught me that a career in research can

allow me to express my unique creativity. I had great mentors and collaborators who provided me with invaluable opportunities to learn and explore the field and to develop critical and transferable skills. I also had several opportunities to teach courses while at UofT, which showed me the importance of not only knowing the research, literature, and course material but being able to teach to the next generation of future scientists. Furthermore, having the opportunity to meet experts and early-career scientists through seminars and conferences during my training provided me with the motivation to pursue a career as a research scientist where I can contribute to an ever-evolving field.

My advice to prospective students would be to be open to new experiences and opportunities, and to never cancel yourself out. Never let pre-existing notions of what you would or would not be interested in or self-doubt limit you from your exploration. Also, never underestimate the importance of networking and mentorship. The best way to learn and to broaden your horizons is to talk to as many people as you can!

# Pharmacology

MSc, PhD



Pharmacology is the study of drugs and involves examining the interactions of chemical substances with living systems. The intent is to understand the properties of these drugs and their actions, including the interactions between drug molecules and drug receptors and how these interactions elicit an effect. Our pharmacology courses examine the different classes of drugs, how they are used therapeutically, their mechanisms of action, how they are handled by the human body, and their role in society.

As the largest pharmacology department in North America, we have a breadth of research interests that encompass our four research foci: Mechanisms of Drug Action & Drug Discovery; Drug Safety & Toxicology; Neuropharmacology & Addiction; and Variability in Drug Response & Pharmacogenetics. Research laboratories are located on the main campus (Medical Sciences Building), and across our nine university-affiliated research institutes and teaching hospitals. This strategic positioning enables a wealth of potential opportunities for interdisciplinary collaboration with internationally recognized investigators within one of the largest and densest existing concentrations of biomedical research expertise in North America.



## Master of Science (MSc)

In addition to completing a thesis, students will take PCL 1002Y (Graduate Pharmacology, 1.0 FCE). Typically, students successfully complete this program within 2 years.



## Doctor of Philosophy (PhD)

In addition to conducting independent and original research that will form their thesis, students complete 3.0 FCE: PCL 1002Y (Graduate Pharmacology, 1.0 FCE), PCL 1003Y (Seminars in Pharmacology, 1.0 FCE), 1.0 FCE elective and any graduate courses advised by the student's Graduate Curriculum Committee. Typically, students successfully complete this program within 5 years.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Pharmacology and Toxicology (n = 93).



## Application Deadlines

ADMISSIONS	DOMESTIC	INTERNATIONAL
Fall 2023, MSc and PhD	April 28, 2023	January 27, 2023 <i>outside of Canada &amp; USA</i> April 28, 2023 <i>within Canada &amp; USA</i>
Winter 2024, PhD	October 27, 2023	N/A

## By the numbers



**How to Apply:**  
[pharmtox.utoronto.ca](http://pharmtox.utoronto.ca)  
 Email: [pharmtox.dept@utoronto.ca](mailto:pharmtox.dept@utoronto.ca) (Diana Kam)

## Alumni profile

### Chidera Chukwueke, PhD Graduated 2021



Chidera completed his Honours Bachelor of Science (Specialist in Psychology/Major in Neuroscience) at the University of Toronto Scarborough. In the Fall of 2016, he began his MSc in Pharmacology under the supervision of Dr. Bernard Le Foll at the Centre for Addiction and Mental Health (CAMH). His thesis focused on neuroimaging and behavioural experimental tools to explore the role of neurotransmitter systems in addiction. Eventually, he continued his graduate training as a PhD student in 2017, where he explored the influence of dopamine D3 and cannabinoid CB1 receptors in substance use disorders. His thesis research led to three first-author published research articles and three first-author book chapters.

In 2022, Chidera was the recipient of the Amar K. Sen award in recognition of his dedication and outstanding scientific contributions made as a PhD student in Pharmacology. During his doctoral research, he became interested in pursuing careers in business and explored opportunities to broaden his exposure outside the world of academia. He completed courses through the Rotman School of Management and took on leadership roles with the Graduate Management Consulting Association and the University Consulting Group. Following the completion of his PhD, Chidera successfully transitioned to a role with Oliver Wyman, a global top 10 strategy firm, as a management consultant.



# Medical Physiology

## MHSc



Within a vibrant learning atmosphere, the Department of Physiology offers the Master of Health Science (MHSc) in Medical Physiology. This program is designed to address the rapidly emerging need for professionals who can interpret near-infinite amounts of data generated by clinicians at the bedside, researchers at the bench, and emergent health technologies every single day. Students successfully complete this program in one year.

Led by world-class faculty, the unique combination of coursework and hands-on experience ensures our graduates are equipped with the knowledge and skills sought in today's competitive health-related workforce. The program culminates with a work placement in an industry, hospital, or government setting. A professional development component runs throughout the program to ensure our students succeed and help them find a career they love.



**Students in this program complete  
6.0 FCE\***

### Year One

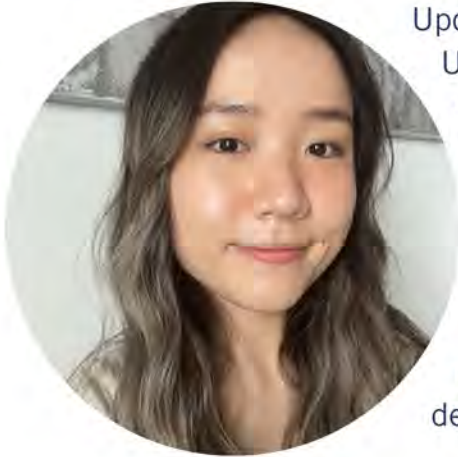
- PSL4000Y, Seminars and Graduate Professional Development (1.0 FCE)
- PSL4010Y Mentored Literature Review Project in Physiology (1.0 FCE)
- PSL4020Y Medical Physiology Practicum (1.0 FCE)
- PSL4030H Clinical Physiology (0.5 FCE)
- PSL4040H Big Data and Health (0.5 FCE)
- PSL4050H Collaboration and Commercialization in Physiology (0.5 FCE)
- 1.5 FCE electives

*\*Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.*



## Alumni profiles

**Elly Zhou, MSc in Medical Physiology, Graduated 2021**



Upon graduation, Elly was hired full-time as a research assistant by UHN's Latner Thoracic Surgery Research Lab where she did her summer placement.

"I loved the Big Data component," she told us of her time in the program. "Especially the machine learning aspect. I'm able to apply a lot of those concepts in my current project – trying to improve AI-based diagnostics in lung transplants. It feels meaningful and we can hopefully help more patients as we develop the algorithm."

Her advice to prospective students is to "work hard, stay open minded, and follow your heart!"

## By the numbers

**24**

number of  
students in the  
program

**12**

number of months  
to complete the  
program

**1 in 2**

students employed  
after graduation via  
placement



## Application Deadlines

**ADMISSIONS**

Fall 2023 Entry

**ROUND 1**

January 16, 2023

**ROUND 2**

April 10, 2023

**How to Apply:**

[mhsc.physiology@utoronto.ca](mailto:mhsc.physiology@utoronto.ca)

# Physiology

## MSc, PhD

The Department of Physiology is dedicated to understanding fundamental physiological processes and translating these to clinical care. It is home to the discovery of insulin, the scientific intuition and curiosity that led Banting and Best to their seminal studies of diabetes.

Our research-based MSc and PhD programs provide advanced training in physiology and significant experience conducting research in a lab. Under the direct supervision of a member of our world-class faculty, students will apply modern experimental methods to further discover and understand of the systems of the human body. Students will also broaden and deepen their knowledge through coursework and seminars. Both programs culminate with an oral defense of a written thesis based on original research.



### Master of Science (MSc)

In addition to completing a thesis, students complete 1.5 FCE\*: PSL 1000H (MSc Seminar in Physiology, 0.5 FCE), 0.5 FCE physiology graduate course and 0.5 FCE graduate course in physiology or outside of the department. Students successfully finish this program within 2 years.



### Doctor of Philosophy (PhD)

In addition to conducting independent and original research that will form their thesis, students complete 2.5 FCE: PSL 2000H (PhD Seminars in Physiology, 0.5 FCE), PSL 1066H (Research Grant Proposal, 0.5 FCE), 0.5 FCE physiology graduate course, and 1.0 FCE graduate course in physiology or outside of the department. Typically, students successfully complete this program within 6 years.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Physiology (n = 140).



## Application Deadlines

Below are the deadlines for the MSc and PhD programs.

ADMISSIONS	DOMESTIC	INTERNATIONAL
Summer 2023	January 15, 2023	January 15, 2023
Fall 2023 Entry – 1st round	January 15, 2023	January 15, 2023
Fall 2023 Entry – 2nd round	June 1, 2023	n/a
Winter 2023	October 1, 2023	June 1, 2023

## Alumni profile

### Dr. Gareth Lim, PhD Graduated 2009



Supervised by diabetes researcher, Dr. Patricia Brubaker, Dr. Lim continued his training as a Postdoctoral Fellowship with Dr. James Johnson at the University of British Columbia, and now leads his own lab at Université de Montréal. Dr. Lim's research focuses on possibilities for new treatments of metabolic diseases, including diabetes and obesity. He recently received the Jean-Davignon Young Investigator Award from the Cardiometabolic Health, Diabetes and Obesity Research Network (RRCMDO) and the Canada Research Chair in Adipocyte Development from the Canadian Institutes of Health Research (CIHR).

"During my time in the Department of Physiology, I was amazed by the encouraging and stimulating environment offered by trainees and faculty members," Dr. Lim tells us. "In the Brubaker lab, I was given the opportunity to grow scientifically and realize my own independence as a researcher." He advises prospective students to "always be willing to ask questions and remember there are never right or wrong questions. Questions may lead to unexpected discoveries that can open new areas of research." It was this critical question-asking skill that led to Dr. Lim's interest in the physiological functions of 14-3-3 proteins, which remains the primary area of research in his lab today.



**How to Apply:**  
[physiology.utoronto.ca](http://physiology.utoronto.ca)  
 Email: [graduate.physiology@utoronto.ca](mailto:graduate.physiology@utoronto.ca)

# Rehabilitation Sciences

MSc, PhD

The Rehabilitation Sciences Institute (RSI) offers both MSc and PhD programs across three primary disciplines: Occupational Science and Occupational Therapy, Physical Therapy and Speech-Language Pathology. Students can specialize in one of six fields: Movement Science, Occupational Science, Speech-Language Pathology, Rehabilitation Health Services Studies, Rehabilitation Technology Sciences, and Social & Cognitive Rehabilitation Sciences. Our research is multidisciplinary and focuses on understanding human function and participation in family, community, and society and its relationship to health and well-being.

Our student body comes from a broad range of disciplines such as Biology, Biomedical Engineering, Epidemiology Health Studies, Human Kinetics, Kinesiology, Neuroscience, Public Health, Psychology, Education and Medicine. Our faculty are among the most world-renowned in the rehabilitation field. The possibilities – for research, for interdisciplinary learning, for knowledge translation – are endless.



## Master of Science (MSc)

In addition to completing a thesis, students take 2.0 FCE\*: REH 1100H (Introduction to Rehabilitation Sciences, 0.5 FCE), REH 2001H (RSI MSc Seminar – Foundations of Professional Development, 0.5 FCE), 0.5 FCE in research methods and 0.5 FCE elective. Students typically finish this program within 2 years.



## Doctor of Philosophy (PhD)

In addition to conducting independent and original research that will form their thesis, students take 1.5 FCE: REH 3001H (RSI PhD Seminar – Foundations of Professional Development), 0.5 FCE in advanced research methods and 0.5 FCE elective. Students must also complete a qualifying exam within the first 18 months of registration. Typically, students successfully complete this program within 6 years.

\* Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.



## Potential career paths

In 2016, the School of Graduate Studies (SGS) tracked the career outcomes of 10,000 PhD students who graduated from the University of Toronto between 2000 to 2015. Below are some career trajectories of alumni from the PhD program in Rehabilitation Sciences (n = 41).



Tenure Stream  
Faculty  
34.1%



Postdoctoral  
Fellowship  
9.7%



Adjunct/Affiliated  
Professor 12.2%



Hospitals  
17%



Government  
2.4%



Charitable -  
Health Services  
4.8%

## Application Deadlines

### ADMISSIONS

Fall 2023, Round 1  
Fall 2023, Round 2

### DOMESTIC

January 15, 2023  
May 15, 2023

### INTERNATIONAL

December 15, 2022  
N/A

## By the numbers

# 20

average class  
size

# #1

in North America for  
Publication and Citations,  
Rehabilitation Sciences  
(Thomas Reuters)

# 119

number of  
graduate faculty

## Alumni profile

### Tyler Saumur, PhD, Graduated 2021

I was fortunate enough to be at RSI for 6 years and formed so many great memories over the years. The Student and Alumni Networking

Event is one of the highlights that I hope students can benefit from

for years to come. My

involvement in the  
Rehabilitation Sciences

Graduate Students' Union over

the years also allowed me to

create great relationships with the

fantastic staff and incoming cohorts  
of students of the years.



I'm currently working as a Medical

Writer II at Everest Clinical

Research. As I continue to advance

my career, I look forward to

applying the amazing skills I

developed at RSI and take on

additional leadership and

mentorship opportunities to support

colleagues. There is so much advice

that I would love to share with all

new students. But overall, I would

suggest saying "yes" to whatever

opportunities that present

themselves as you never know what

may come of them. That also comes

with the caveat of knowing when to

say "no", which can sometimes be

more difficult. Lean on your fellow

students when possible, make time

for yourself, and embrace the

experience!



How to Apply:

[rsi.utoronto.ca](https://rsi.utoronto.ca)

Email: [rsi.admin@utoronto.ca](mailto:rsi.admin@utoronto.ca)

# Translational Research in Health Sciences

## MHSc



This is your opportunity to impact healthcare and improve the lives of people and communities. At the Translational Research Program (TRP), build on your own experiences and on expertise across disciplines to develop health innovations. You'll collaborate with learners from varied backgrounds that are passionate about improving health. You'll learn from peers and mentors in industry and healthcare through feedback and support rather than lectures and exams.

Designed to be flexible, an Individual Development Plan will help you identify opportunities to build the skills that facilitate your personal and professional goals throughout the 8.0 FCE\*, two-year graduate program.

**If you want to be challenged,  
If you want to think differently,  
If you want to have impact,  
Join us.**



### Year One

Focus on foundational and modular courses that cover real-world issues through case studies and projects.

### Year Two

Focus on your Capstone Project which is the culmination of your degree. You'll identify, propose, and execute a translational research project with substantial benefits for human health, while completing electives that complement your research focus and professional goals.

The customizable coursework options and hybrid classes are rallying points for discussions and peer learning, while hands-on projects and co-curricular activities allow you to tackle real-world challenges while building your networks and skills.

\*Full course equivalent. A typical 0.5FCE is over one term (13 weeks), meeting 1-2 times per week. A typical 1.0FCE is over two terms (26 weeks), meeting 1 – 2 times per week.



## Potential career paths

Our alumni have influential careers as clinician-scientists, government analysts, entrepreneurs, industry leaders and consultants. They are making positive differences in the lives of patients and communities.



Industry  
34%



Research  
20%



Clinical  
20%



Government  
12%



Consulting  
7%



Further education  
7%

## By the numbers

30

average number  
of incoming  
students

50+

publications by  
our graduate  
students

40+

awards, grants  
and fellowships  
awarded to  
students

## Application Deadlines

**ADMISSIONS**  
Fall 2023

**INTERNATIONAL**  
May 12, 2023

**DOMESTIC**  
June 9, 2023



**How to Apply:**

[trp.utoronto.ca](http://trp.utoronto.ca)

Email: [trp@utoronto.ca](mailto:trp@utoronto.ca)

## Alumni profiles

**Sally Moy, MHSc**

**Graduating Class of 2022,**  
*Senior Analyst with Ontario  
Health*



"The TRP is about taking theory, and moving it into practice... I think where my time at TRP has really helped is that, now, I'm not scared of ambiguity. TRP really encourages you to do self-directed learning to find out what you like, and what opportunities you want to pursue. So, it didn't matter that I didn't know exactly what I wanted to do after my program. All I knew is that I had a really unique opportunity to focus on myself and invest in myself. My advice for students is to take the leap and invest in yourself."

**Alex Panicucci, MHSc,**  
**Graduating Class of 2015,**  
*Operations and Program  
Management*



"I was excited to join the Translational Research Program (TRP) because of the focus on navigating ambiguity and problem solving. These are two of the most valuable skills I exercised, and built upon, in the program. When I was first starting my career, the TRP exposed me to several different areas of science, technology, research, and medicine. This was beneficial because I was able to identify different roles and companies that I was passionate about!"