



Mechanical & Industrial Engineering  
UNIVERSITY OF TORONTO

# **MASc & PhD Orientation**

## **Fall 2023**

September 7, 2023



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# Land Acknowledgement

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.



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# Welcome & Department Overview

- People
- Programs
- Levels of University Support



**Professor Markus Bussmann**

**Department Chair**



**Professor Tobin Filleter**

**Associate Chair of Graduate Studies**





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# Graduate Programs

The Department of Mechanical & Industrial Engineering offers three graduate programs:

- Professional Master of Engineering (MEng) program
- Research-based Master of Applied Science (MASc)
- Doctor of Philosophy (PhD) programs



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# Levels of University Support

- **Engineering departments** supports their graduate students with specifics in their academic program.
- **Faculty of Applied Science and Engineering, Graduate Studies (FASE)** supports students with professional development programs and events, oversees Faculty-Wide engineering courses.
- **School of Graduate Studies (SGS)** supports all graduate students with a variety of services and resources (policies, awards, financial aid, career development, academic writing/speaking and more).

# MIE Graduate Office

- People
- Services
- Graduate Office Resources & Referrals
- School of Graduate Studies vs MIE Graduate Office



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## **Graduate Office Staff – MASc/PhD Support | MC 108**

**Sandra Borges, Admissions, MEng/MASc/PhD Graduate Program Advisor (acting)**

- PhD/MASc student support
- Funding related questions
- Academic advising
- Processes graduation requirements for all Graduate Programs

**Neha Mumtaz, Graduate Program Assistant (MEng)**

- Graduate student support





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# Graduate Office Services



Academic Advice



Course enrollment  
& course selection  
support



Graduation &  
degree checks



Funding  
information



Program  
Requirements &  
timeline



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# Graduate Office Resources & Referrals

- Health & Wellness
- Learning Strategists
- Math Aid & Writing Centre
- International Transition Advisor



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# School of Graduate Studies (SGS) Office

**The SGS supports graduate students across the University. Please refer to the SGS website for:**

- University-wide policies and guidelines:
  - SGS Code of Behaviour on Academic Matters, plagiarism, offenses, appeals
  - Code of Student Conduct, harassment, violence
  - No working full time for research students
- Important dates and deadlines (i.e. sessional dates)



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# Our Faculty

- Over 60 dedicated faculty members
- Experts in their fields
- Leaders in ground-breaking research



Dionne M. Aleman  
Operations Research, Applied Machine Learning



Myrteide Alfred  
Human Factors



Cristina H. Arnon  
Thermofluids



Samin Aref  
Operations Research, Applied Machine Learning,  
Informatics Engineering



Nasser Ashgriz  
Thermofluids



Fae Azhari  
Mechanics & Design, Operations Research



Ainny Bazylak  
Thermofluids



Jason Bazylak  
Engineering Education



J. Christopher Beck  
Information Engineering, Operations Research,  
Applied Machine Learning



Kamran Behdinan  
Mechanics & Design



Ridha Ben Mrad  
Robotics



Beno Benhabib  
Robotics



Amy Bilton  
Thermofluids



Merve Bodur  
Operations Research



Markus Bussmann  
Thermofluids



Roger Carrick  
Engineering Design Education



Michael W. Carter  
Operations Research



Timothy C. Y. Chan  
Operations Research, Applied Machine Learning



Sanjeev Chandra  
Thermofluids



Mark H. Chignell  
Human Factors, Information Engineering



Eldan Cohen  
Information Engineering,  
Applied Machine Learning



Sinisa Colic  
Applied Machine Learning



Mariano P. Consens  
Information Engineering,  
Applied Machine Learning



Eric Diller  
Robotics



Ali Dolatabadi  
Thermofluids, Materials



Birsan Donmez  
Human Factors



Tobin Filletier  
Materials, Mechanics & Design



Mark S. Fox  
Information Engineering,  
Applied Machine Learning



Daniel M. Frances  
Operations Research



Kevin Golovin  
Materials, Thermofluids



Andrew A. Goldenberg  
Robotics



Michael Gruningier  
Information Engineering



Axel Guenther  
Thermofluids



Michael Guerzhoy  
Applied Machine Learning



David F. James  
Engineering Education



Greg A. Jamieson  
Human Factors



Andrew K.S. Jardine  
Operations Research



Olivera Kesler  
Materials



Elias B. Khalil  
Operations Research, Applied Machine Learning



Roy H. Kwon  
Operations Research



Chi-Guhn Lee  
Operations Research, Applied Machine Learning



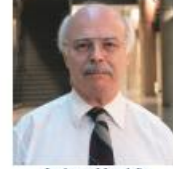
Patrick C. Lee  
Materials, Thermofluids



Xinyu Liu  
Robotics, Thermofluids



Matthew Mackay  
Robotics



Andreas Mandelis  
Thermofluids, Materials



Susan McCahan  
Engineering Education



Shaker A. Meguid  
Mechanics & Design



Erid Montague  
Human Factors



Javad Mostaghimi  
Materials, Thermofluids



Hari Naguib  
Materials



Goldie Nejat  
Robotics



Alison Olechowski  
Mechanics & Design, Human Factors



Joseph C. Paradi  
Operations Research



Chul B. Park  
Thermofluids, Materials



Mohini Sain  
Materials



Scott Sanner  
Information Engineering,  
Applied Machine Learning



Vahid Sarhangian  
Operations Research



Li Shu  
Mechanics & Design, Human Factors



Craig A. Simmons  
Mechanics & Design, Materials



Anthony N. Sinclair  
Mechanics & Design



David Sinton  
Thermofluids, Materials



David A. Steinman  
Thermofluids



Pierre E. Sullivan  
Thermofluids



Yu Sun  
Robotics, Mechanics & Design



Murray J. Thomson  
Thermofluids



Marianne Touchie  
Thermofluids, Human Factors



James S. Wallace  
Thermofluids



Lidian You  
Mechanics & Design, Materials



Edmond Young  
Materials, Thermofluids



# MIE Faculty in the News



**Professor Goldie Nejat**

**Global News: “Conversations with Alexa: How robots are helping Canada’s aging population connect”**



**Professor Tim Chan**

**CTV News: “Around the clock: Experts weigh in on speeding up Canada’s vaccination rollout”**



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## **AMIGAS:** Your MIE Graduate Student Group

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Association of Mechanical and Industrial Graduate Students

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Welcome!

# University of Toronto **Engineering**





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# **GECOS:** Your Engineering Graduate Student Club

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The Graduate Engineering Council of Students

# The Team

## President



Zeineb Ben Rejeb  
President

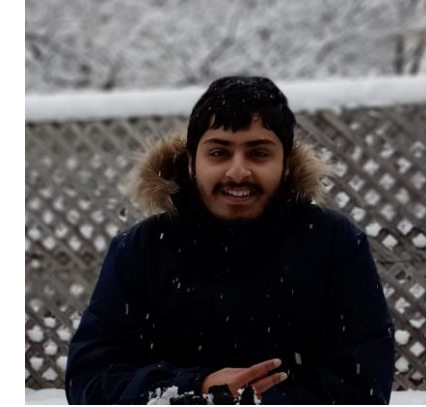
## Social Team



Aniss Zaoui  
VP



Zainab Husain  
Director



Krishnan Hariharan  
Director

## Admin/ Finance



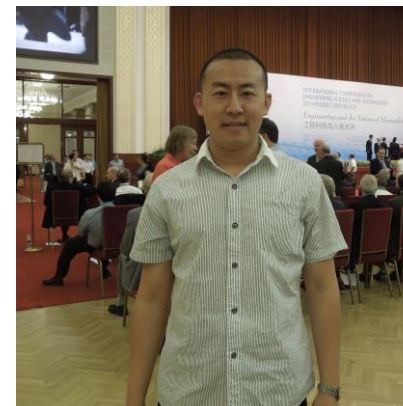
Trupal Patel  
VP

## Student Affairs



Tushar Verma  
VP

## Academic & Professional Development



Bo Sun  
Director

Siyu Sun  
Director

Dhilip Ilanseran  
Director





# Fall Activities

Picnics, Wonderland, Welcome Pub Event, Snakes & Latte, Coffee Break Events, Distillery District etc. in Fall 2021-22.



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# Winter Activities

Intercontinental Cooking Class, Persian New Year, Chinese New Year, Musical Event etc. in Winter 2021.



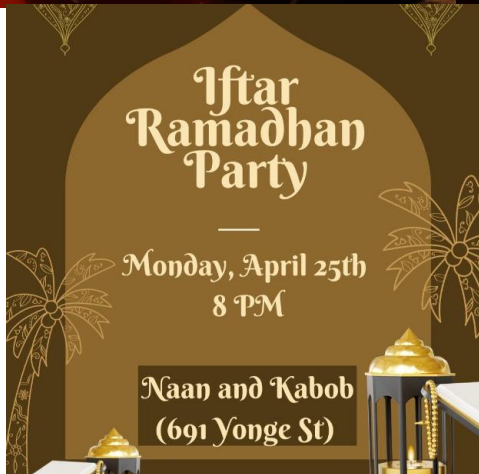
Intercontinental Cooking



Musical Event



Persian New Year



Painting Event



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# Summer Activities

Cherry Blossoms, Niagara Falls, Canada's wonderland,  
Trillium Park Picnic, Trampoline Park Event, etc. in Summer



Coffee Break Event



Cheery Blossom Event



Niagara Falls Event



Trampoline Park Event



Trillium Park Picnic Event

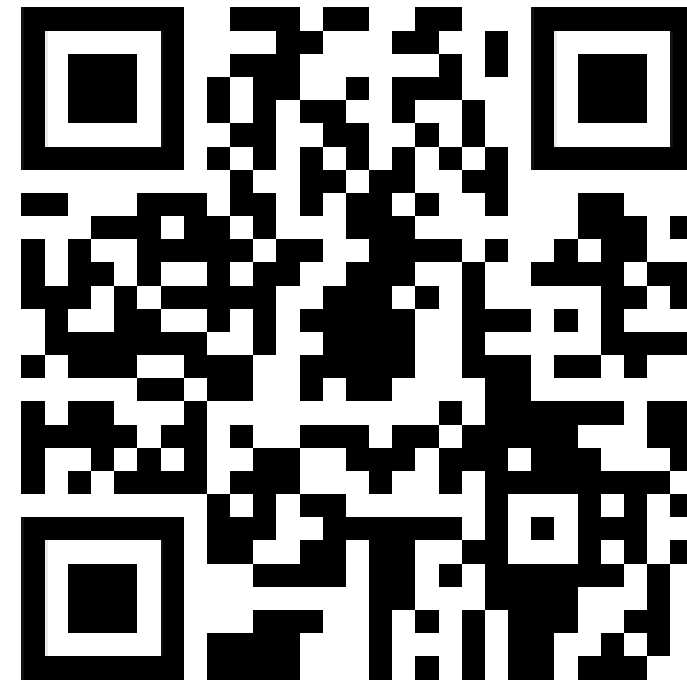


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# The social events do not end here ..

Welcome BBQ EVENT

Wednesday, Sep. 13<sup>th</sup> starting at 12 pm



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# Academic and Professional Development Activities

Student seminar series and mentorship program

Professional development events: Networking, Alumni Event and Job Search events

Master your job search!

**FREE WEBINAR:**  
**HOW TO MASTER YOUR  
JOB SEARCH & DIFFERENTIATE  
AS TOP TALENT**

LIVE WITH

*Diana YK Chan*

EXECUTIVE CAREER COACH, SPEAKER  
& FOUNDER, MY MARKETABILITY



**FEB 11, 12:00 PM - 1:00 PM EST**

**MIE Mentorship  
Program Info Session**

February 2021  
Coordinators: AMIGAS team



Networking  
with  
LinkedIn!

**Job search  
& Networking with  
LinkedIn Event**



Join us on Zoom

Nov 12, 2021 | 6 PM

Speaker: Mujtaba Ali Khan

**MIE Student Seminar Series  
September 24<sup>th</sup>, 3 - 4 p.m.**

Presenters

**Nitish Sarker:** Improved Operability of Photovoltaic-powered Reverse Osmosis for Remote, Off-grid Communities

**Maliha R. Imami:** Toronto Western Hospital Non-Emergent Spine Care QBP Planning System Operationalizing Dynamic Response To Funded Surgery Volumes

After hearing the talks, please fill out the feedback form (link in the chat box - <https://forms.gle/8RUjcmwWy8HR9o1t5>), as a thank you, you will receive a gift card from the AMIGAS!

Interested in presenting at the next MIE student seminar series? Contact us at: [amigas@mie.utoronto.ca](mailto:amigas@mie.utoronto.ca)

AMIGAS PRESENTS:

**LIFE AFTER  
GRAD  
SCHOOL**

**NOV 12 | 6-8PM |  
MC102**



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# Interested in joining AMIGAS as an executive???

- The fall elections process started last week.

Applications are due by September 22<sup>nd</sup> at 23:59 pm EST.

- Conditions for becoming an exec:
  - Be a full time or part time Gard student at MIE for this academic year (2023-2024).

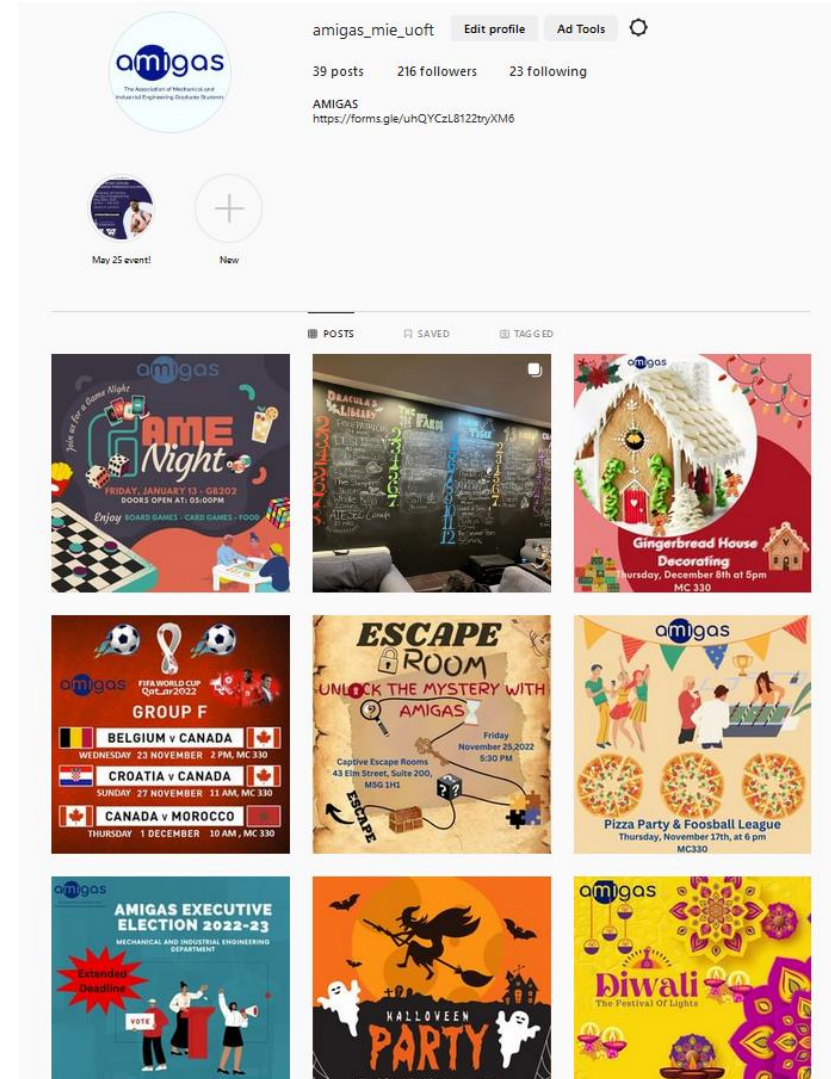




# Stay In Touch

The best way to stay in touch is to follow our **Instagram Page** and our **Weekly Newsletters**.

Make sure to add our email  
**amigas@mie.utoronto.ca**  
to your trusted contact!



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# Our Alumni

**Graduates of our MASc program go into careers such as:**

- Business and Marketing Lead (LEGO)
- Member of Faculty (Harvard University)
- Medical Produce Development Manager (MDA)
- Software Development Engineer (Yahoo! Inc)

**Graduates of our PhD program go into careers such as:**

- R&D Engineer (Genpak)
- Director – Rail Solutions (Optym)
- Product Design (Interaptix Augmented Reality)
- Defence Scientist (Department of National Defence, Canada)



**Chakameh Shafii**  
**MechE MASc (2014)**

**VP of Product Management at Sidekick  
Health**



**Ali Vahit Esensoy**  
**IndE PhD (2016)**

**Vice President, Data Science at Klick**



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# MASc: Step by Step

- Admission
- Thesis Final Exam
- Completion



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# MASc Program Steps

## Step 1: Admission

- Undergraduate degree
- Transfer from MEng

## Step 2: Thesis Final Exam

- Within 24 months
- Thesis committee:  
supervisor + 1 member

## Step 3: Completion

- With degree:  
convocation
- Without degree:  
termination, withdrawal



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# Requirements & Restrictions

- Complete 4 graduate level courses:
  - 2 must be from MIE
  - Up to one reading course
  - Up to one APS course
- Complete JDE1000H (Ethics in Research Seminar) in the 1st or the 2nd term of registration.
- Attend a minimum of 70% of departmental seminars (MIE Distinguished MIE Seminar Series) in the first 2 years.

# PhD: Step by Step

- Admission
- Qualifying Exam
- Progress Meetings
- Oral Exam (MIE and SGS)
- Completion



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# PhD Program Steps 1-3

## Step 1: Admission

- Master's degree
- Direct entry from Undergrad
- Transfer from MASc

## Step 2: Qualifying Exam

- Within 12 months of registration
- Pre-requisites: 4 courses or more with at least an A- average
- Failure to meet the pre-requisites may lead to termination

## Step 3: Progress Meetings

- Every 12 months from registration
- Outcome may be termination





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# PhD Program Steps 4-5

## Step 4: Oral Exam

- Scheduled with MIE and SGS

## Step 5: Completion

- With degree: convocation
- Without degree: termination, withdrawal



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# Requirements & Restrictions

- Complete 5 graduate level courses:
  - 3 must be from MIE
  - Only one reading course
  - Only one APS course
  - Only one 500-level course
- Complete JDE1000H (Ethics in Research Seminar) in the 1st year of study.
- Attend a minimum of 70% of departmental seminars (MIE Distinguished MIE Seminar Series) in the first 2 years.



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# Good Academic Standing

- Sanctions
- What Constitutes Good Academic Standing



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# Good Academic Standing

## What Constitutes Good Academic Standing?

- Attend Orientation Session
- **No FZ**
- Average grade **A-** or above.
- Qualifying Exam within 12 months of registration
  - At least four courses to be completed
  - JDE/Ethics
  - MIE Seminar credits
- Annual PhD Progress Meetings

\*Failure to maintain **good academic standing** may result in various sanctions, including **ineligibility for financial assistance**, lowest priority for bursaries and assistantships, and even **termination**.

# Funding & Scholarships

- Funding Components
- How to Access Funding
- Accessing Pay Slips and Tax Documents
- Business Office Contacts

# **2023-2024**

# **Funding & Scholarships**

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University of Toronto

**Welcome!!!**

# Funding and Scholarships

What are the funding components:

- 1) MIE Open **Fellowship** (paid via acorn on October and February)
- 2) RA - **Research Assistantship** (paid via HRIS system in the business office, on a monthly basis)
- 3) **Scholarship** – when applicable to the student
- 4) When changes on funding may occur?

# Funding Package

How much is it?

<https://www.mie.utoronto.ca/programs/graduate/scholarships-funding/>



# Funding from the Supervisor

## **RA = Research Assistantship**

- 1) Documentation required for processing payment on a monthly basis
- 2) When payment is made
- 3) Where you can see the credit made (bank account update)

## **TA = Teaching Assistant**

Not part of the funding package, payment is made via the business office.

# Receiving your funding

- How to access your funding:
- **Fellowship** = Student must update information on the acorn system, including bank account
- **Research Assistantship** – Student must provide documentation/information to the business office team

# Funding Letter

- How to obtain it?
- <https://gms.mie.utoronto.ca>
- When the letter will be ready?

# T4 and T4A

- **How to obtain a pay slip:**
  - Go to the ESS website at <https://hrandequity.utoronto.ca/resources/ess.htm> with your Utorid and password plus your Personal Number and you can obtain your pay slip on a monthly basis.
- **Personal Number:** Update on GMS
- You also can obtain your T4 and T4A on a yearly basis, via this ESS site.

# Research Supplies

## Research Supplies

- a) MC 106 Receive and Delivery
- b) Purchases via MIE and how to do it?
- c) Approval process and fund
- c) Reimbursement of supplies – what is needed

# Field Trip and or Conferences

## Travel and or conference:

- a) What is needed:
- b) authorization from the PI/supervisor
- c) support documentation
- d) Expense Claim form and Policy can be found at <https://www.mie.utoronto.ca/faculty-staff/forms-support/business-forms/>

# Need More Support

## Please contact:

- Business Office = Travel and Expense Claim at [businessoffice@mie.utoronto.ca](mailto:businessoffice@mie.utoronto.ca) or room MC134
- Purchase Coordinator at [purchasing@mie.utoronto.ca](mailto:purchasing@mie.utoronto.ca)

## THANK YOU!



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# How to Succeed & Resources

- Quick Tips
- Communicating with your Supervisor
- Common Expectations
- Graduate Student Supports (Faculty & University-wide)
- MIE Graduate Student Management System (GMS)



# Graduate Programming



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# Navigate Your Degree With **Grad Maps**

- Develop your professional skills
- Connect with you peers and mentors
- Build your professional network
- Launch your career plan



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# Welcome to Graduate School!

Friday September 15, 2023

11:00 am - 2:00 pm

[uoft.me/FASEcurrentstudents](https://uoft.me/FASEcurrentstudents)



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# Building a Better Relationship with Your Writing

Wednesday, September 27  
12:00 – 1:30 pm  
GB202

<https://forms.office.com/r/Be1kAyv4ig>





# I HAVE A GRADUATE DEGREE — NOW WHAT?



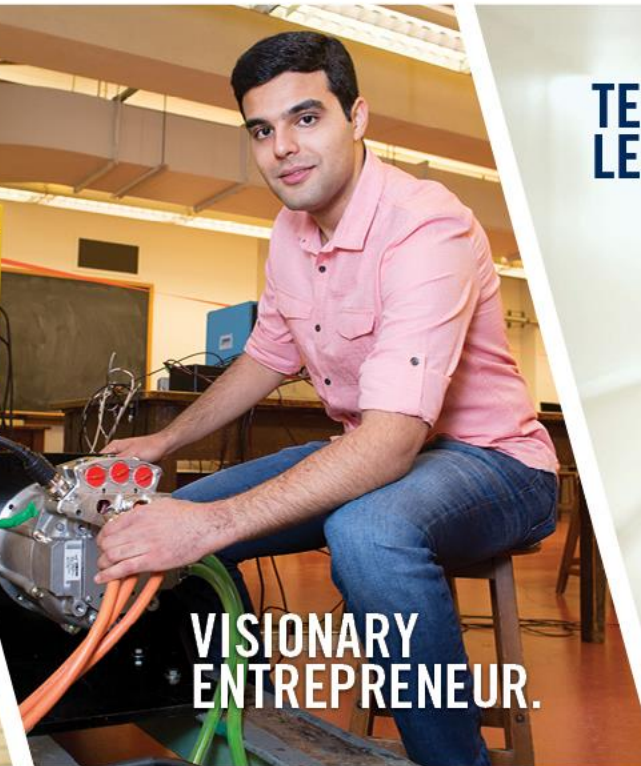
OPPORTUNITY FOR ALL UofT ENGINEERING  
GRADUATE STUDENTS and POST-DOCS



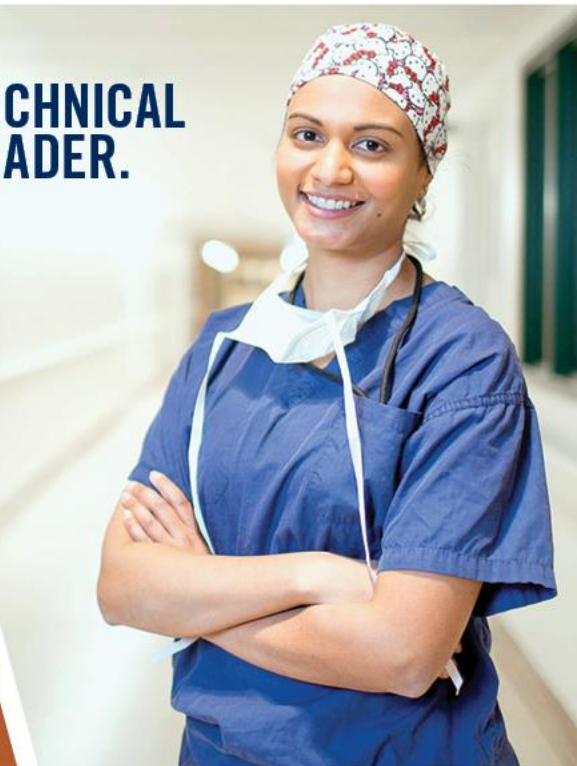
**R&D  
INNOVATOR.**



**COLLABORATIVE  
CONSULTANT.**



**VISIONARY  
ENTREPRENEUR.**



**TECHNICAL  
LEADER.**

The **OPTIONS** Program is here to help you explore diverse career pathways



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FACULTY OF APPLIED SCIENCE & ENGINEERING

Visit [uoft.me/optionsprogram](https://uoft.me/optionsprogram) to learn about the  
9-week cohort program and complementary events.



# Cohort Program



**Fall 2023 | Applications Due:**  
**September 25**  
MAsc Cohort  
PhD and PDF Cohort

**Winter 2024 | Applications**  
**Open: Mid-December**  
MEng Cohort

- Create a career exploration plan
- Communicate your experiences in a resume, cover letter, and interview



Michael S. & Linda J. Michaelson  
UNIVERSITY OF TORONTO

Use informational interviews and networking tools to clarify career aspirations

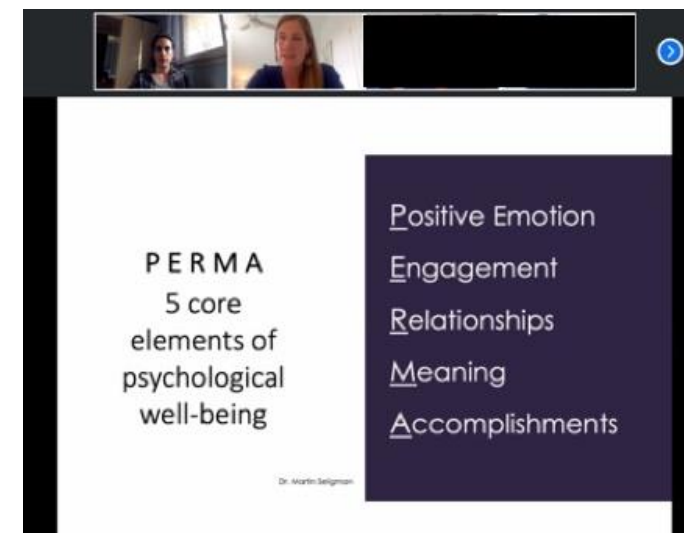
# Complementary Events



We focused on 3 linked themes

- Mindset**
  - Take inspired action!
  - Build exploration plans
  - Research companies on your own
  - Conduct Field Research
  - Explore Employee Referral Programs
  - Fix your LinkedIn profile
  - Renovate your resume
  - Access Career Centre
  - Choose a growth mindset
  - Keep asking: What is the next action
- Clarification then Exploration**
- Conversation & Community**

35 UNIVERSITY OF TORONTO CAREERCYCLES OneLifeTools



PERMA  
5 core elements of psychological well-being

- Positive Emotion
- Engagement
- Relationships
- Meaning
- Accomplishments

Dr. Martin Seligman



# Learn more

## [uoft.me/FASEcurrentstudents](https://uoft.me/FASEcurrentstudents)

Questions? Contact  
[grad.experience@engineering.utoronto.ca](mailto:grad.experience@engineering.utoronto.ca)







# Become the engineering leader the future needs.



Institute for Studies in Transdisciplinary Engineering Education and Practice  
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Institute for Studies in Transdisciplinary Engineering Education and Practice  
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# Courses, workshops, programs, and more!

Visit [uoft.me/ileadstudents](https://uoft.me/ileadstudents) to learn more and  
sign up for our newsletter!





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## Quick Tips

- Graduate school is what you make it – establish your goals.
- Take initiative, be aware of deadlines and ask for clarification when needed.
- Leverage the U of T alumni network - join Engineering CONNECT.
- Attend networking sessions and make relationships outside the laboratory/classroom.
- Prioritize a work-life balance.
- Stay physically and mentally well. Seek out support if you need it.



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# Communicating with your Supervisor

- Confirm how and how often you will be in contact.
- Find out how non-scheduled communication should be handled.
- Confirm where and when most of the work will be completed.
- Discuss timing of major milestones: courses, paper submission, thesis topic and drafts, turnaround time on written materials etc.
- The expected “turnaround time” on drafts of written materials.
- Discuss lab etiquette.
- Talk about expectations concerning publications & conference presentations.



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# Common Expectations

- As a **full-time student**, you are required to spend a significant number of hours on academic works such as courses and research.
- Since your supervisor is providing Research Assistantship, you are recommended to consult with your supervisor before accepting **TA positions**.
- If you will have to **be away**, you will have to consult with your supervisor prior to your away to avoid any disruption to the research project you are engaged. This is especially important when you travel internationally.
- Failure to maintain **good academic standing** may result in various sanctions, including ineligibility for financial assistance, lowest priority for bursaries and assistantships, and even termination



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# Engineering Faculty Supports:

[Engineering Grad Career Development](#)

[ILead and ILead:Grad](#) | Leadership development programming and events

[Graduate Peer and Career Support \(Grad PACS\)](#) | Engineering grad students guides for advice

[Hatchery](#), [H2i](#), [OnRamp](#) | Entrepreneurship programs

[U of T Engineering CONNECT](#) | Web platform to network with U of T Engineering Alumni

[Alumni Mentorship Program](#)





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# University-wide Supports:

[Centre for International Experience](#) (resource centre for International Students, study permits, travelling abroad etc)

[Graduate Centre for Academic Communication \(GCAC\)](#) (training in academic writing and speaking)

[UofT Career Learning Network](#) (workshops, networking events, job postings, career fairs etc.)

[SGS Resources & Supports](#) (academic workshops, guides for degree success, book meeting rooms)



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## **MIE Graduate Student Management System (GMS)**

- Mandatory for arranging Qualifying and Committee meetings
  - <https://grad.mie.utoronto.ca/>
- Program funding letter available on **GMS**
  - Review with supervisor and sign.
  - Email signed letter to the MIE Business Office



A low-angle, upward-looking photograph of a classical building featuring large, white, fluted columns and a curved pediment. The building is partially framed by lush green leaves in the foreground, which are slightly out of focus. The sky is bright blue with some light clouds. The word "Questions?" is centered in the image in a bold, dark blue font.

**Questions?**