



Mechanical & Industrial Engineering
UNIVERSITY OF TORONTO

MEng Orientation

Fall 2023

September 6, 2023



Mechanical & Industrial Engineering
UNIVERSITY OF TORONTO

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.

Agenda

- Welcome – Professor Markus Bussmann
- Welcome to the MEng program – Professor Kamran Behdinan, Professor Janet Lam
- MIE Graduate programs & supports
- MIE Community
- MEng program details & requirements – Professor Kamran Behdinan (MEng projects), Sandra Borges
- Tips for MEng success & OPTIONS presentation
- Q&A
- Networking



Professor Markus Bussmann

Department Chair



Professor Tobin Filleter

Associate Chair of Graduate Studies





**Professor Kamran
Behdinan**

**Academic Director -
Professional Program
& MEng Academic Advisor,
Mechanical Engineering**



Professor Janet Lam

**MEng Academic Advisor,
Industrial Engineering**





Mechanical & Industrial Engineering
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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).



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MIE Graduate Office

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



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Graduate Office Staff – MEng 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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School of Graduate Studies (SGS) vs MIE Graduate 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
- Important dates and deadlines (i.e. sessional dates)

Our Faculty

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

MIE FACULTY



Dionne M. Aleman
Operations Research, Applied Machine Learning



Myrlede Alfred
Human Factors



Cristina H. Amon
Thermofluids



Samin Aref
Operations Research, Applied Machine Learning,
Information Engineering



Nasser Ashgriz
Thermofluids



Fae Azhari
Mechanics & Design, Operations Research



Almy 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 Bitton
Thermofluids



Merve Bodur
Operations Research



Markus Bussmann
Thermofluids



Roger Carriek
Engineering Design Education



Michael W. Carter
Operations Research



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



Sarjeev Chandra
Thermofluids



Mark H. Chignell
Human Factors, Information Engineering



Eldan Cohen
Applied Machine Learning



Sinita Colic
Applied Machine Learning



Mariano P. Consens
Applied Machine Learning



Eric Diller
Robotics



Ali Dolatabadi
Thermofluids, Materials



Birsen Donmez
Human Factors



Tobin Filleter
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 Gruninger
Information Engineering



Axel Guenther
Thermofluids



Michael Guershoy
Applied Machine Learning



David F. James
Engineering Education



Greg A. Jamieson
Human Factors



Andrew K.S. Jardine
Operations Research



Olivera Kester
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



End Montague
Human Factors



Javad Mostaghimi
Materials, Thermofluids



Hani Naguib
Thermofluids



Golde 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



Lidan You
Mechanics & Design, Materials



Edmond Young
Materials, Thermofluids



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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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The Association of Mechanical and Industrial Engineering Graduate Students (AMIGAS)

- AMIGAS is the graduate student association in the Department of Mechanical and Industrial Engineering.
- AMIGAS hosts social, athletic, academic, and professional development events open to all MIE graduate students.
- Website: amigas.mie.utoronto.ca
- Instagram: @amigas_mie_uoft



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Our Alumni

Graduates of our MEng program go into careers such as:

- Project Engineer (Bruce Power)
- Associate Category Business Manager (Canadian Tire Corporation)
- Mechanical Designer (GE Aviation)
- Equity sales (scotiabank)
- Software Engineer (Sorting Hat Analytics)
- Strategic Sourcing and Network Planning (Apple Inc)
- Research Fellow (The Hong Kong Polytechnic University)



Ewura-Abena Bourne
MechE MEng (2017)

**Junior Mechanical Designer and
Robotics Simulator at Systematix Inc**



Si Hsu
IndE MEng (2018)

Vice President at Citi



MEng Program Breakdown

- Regulations
- Faculty-Wide Emphases
- Certificates
- Projects



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Regulations – Course-based

10 courses (500 & 1000 Level):

- 6 must be either offered by MIE or from a list of approved courses (found on the MIE website)
- up to 4 APS/ELITE, CS, RSM (Rotman)
- no limit on the number of 500-level courses
- only one reading course
- **Any other courses?** Consult the Graduate Office



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Faculty-Wide Emphases

You can customize your program with a technical emphasis which **will appear on your transcript** (if all requirements are met). Options include:

- Advanced Manufacturing
- Advanced Soft Materials
- Advanced Water Technologies
- Aerial Robotics
- Analytics
- Biomanufacturing
- Engineering & Globalization
- Entrepreneurship, Leadership, Innovation & Technology in Engineering (ELITE)
- Forensic Engineering
- Identity, Privacy & Security
- Robotics
- Sustainable Aviation
- Sustainable Energy
- Waterpower



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Regulations – Project-based

7 courses (500 & 1000 Level) + MEng project:

- at least 4 from MIE
- completion of a MEng project

Any other courses? Consult the Graduate Office



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Certificates

- **Financial Engineering**
 - Prof. Roy Kwon, kwon@mie.utoronto.ca
 - Prof. Chi-Guhn Lee, cglee@mie.utoronto.ca
- **Healthcare Engineering**
 - Prof. Michael Carter, carter@mie.utoronto.ca
- **Information Engineering**
 - Prof. Mark Fox, msf@mie.utoronto.ca
- **Computational Mechanics in Design**
 - Prof. Shaker Meguid, meguid@mie.utoronto.ca



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MEng Projects

- Equivalent to 1.5 FCE.
- Type of project depends on your supervisor – research-based vs. applied.
- Project supervisors are from MIE, however it is possible to take on projects elsewhere in FASE or even outside of Engineering (with permission).
- Projects can last up to 3 consecutive terms. The most common duration is 2 terms.
- You may start your project in any term.
- Connect with the Graduate Office to add a project.
- Also available are paid and unpaid project through:
 - Multidisciplinary MEng projects (<http://imdi.mie.utoronto.ca/>)
 - IMDI internships (not for credit) (<http://imdi.mie.utoronto.ca/>)



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How to Succeed & Resources

- Quick Tips
- Advice on Drop Deadlines & Waitlists
- Graduate Student Supports (Faculty & University-wide)



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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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Advice on Drop Deadlines & Waitlists

- The drop deadline is firm - don't try to drop a course after the deadline.
- If you are on a waitlist:
 - Consider letting the course instructor know of your interest.
 - Remain on the waiting list – students could drop the course within the first week or two of class.
 - Popular courses like MIE1624, MIE1622 & MIE1628 have large waitlists and course instructors cannot request that you get a spot.



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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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University-wide Supports:

NEW: Myhal MEng Lounge

- MEng students have a dedicated space (MY660) on the sixth floor of the Myhal Centre for Engineering Innovation and Entrepreneurship.
- Myhal MEng Lounge Code: 3456

Welcome!

University of Toronto **Engineering**



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GECOS: Your Engineering Graduate Student Club

The Graduate Engineering Council of Students



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AMIGAS: Your MIE Graduate Student Group

Association of Mechanical and Industrial Graduate Students

The Team

President



Zeineb Ben Rejeb
President

Social Team



Aniss Zaoui
VP



Zainab Husain
Director



Krishnan Hariharan
Director

Admin/ Finance



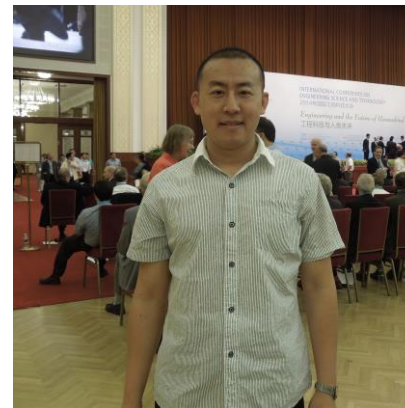
Trupal Patel
VP

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.



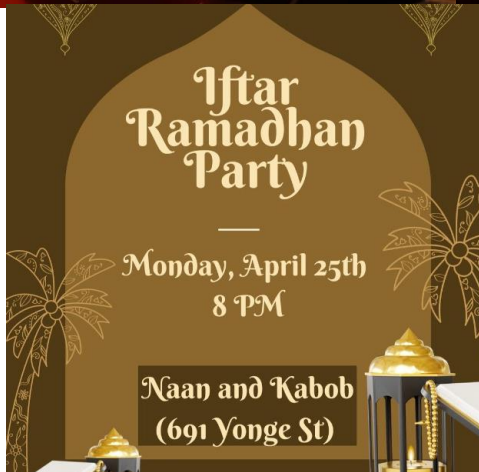
Intercontinental Cooking



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

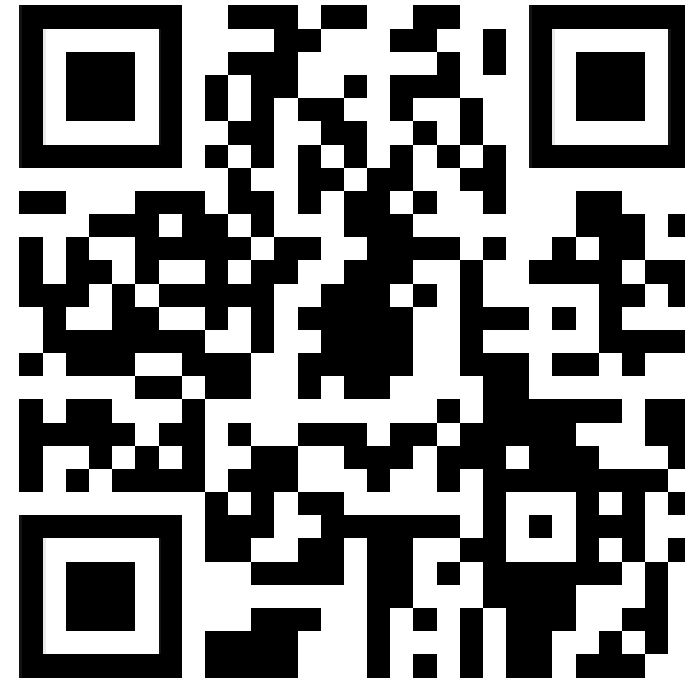


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The social events do not end here ..

Welcome BBQ EVENT

Wednesday, Sep. 13th 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 24th, 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

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 22nd at 23:59 pm EST.

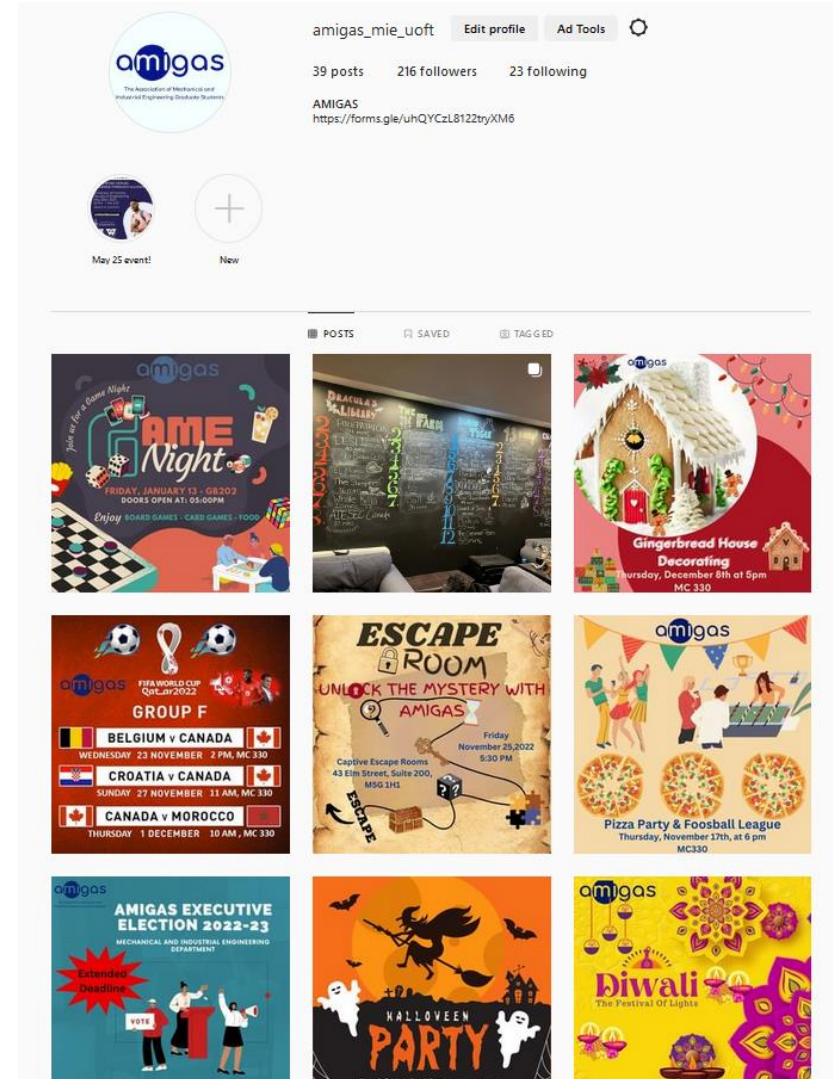
- Conditions for becoming an exec:
 - Be a full time or part time Gard student at MIE for this academic year (2023-2024).



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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Graduate Programming



UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING





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



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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?



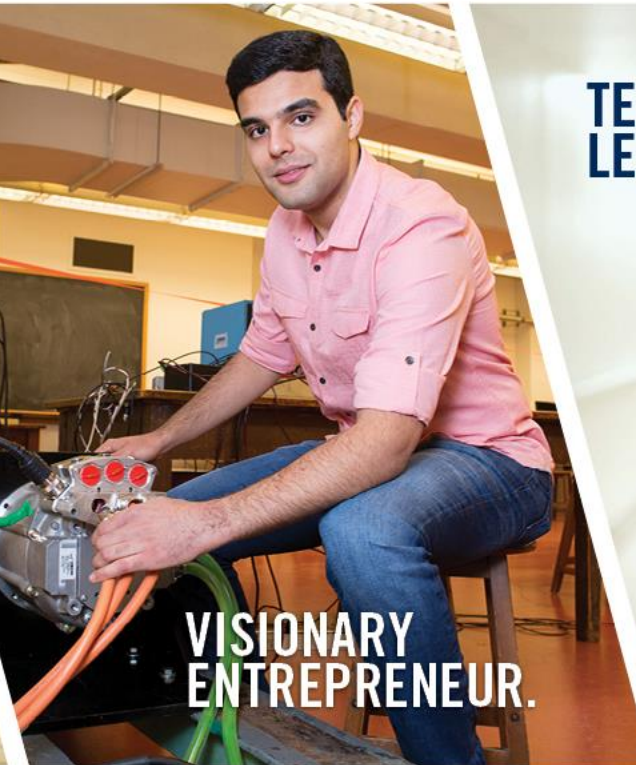
OPPORTUNITY FOR ALL UofT ENGINEERING
GRADUATE STUDENTS and POST-DOCS



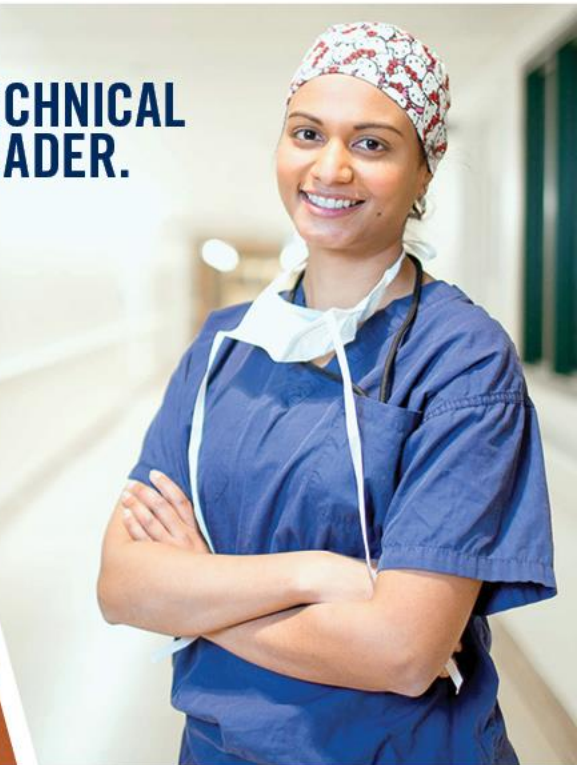
**R&D
INNOVATOR.**



**COLLABORATIVE
CONSULTANT.**



**VISIONARY
ENTREPRENEUR.**



**TECHNICAL
LEADER.**

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



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Visit 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

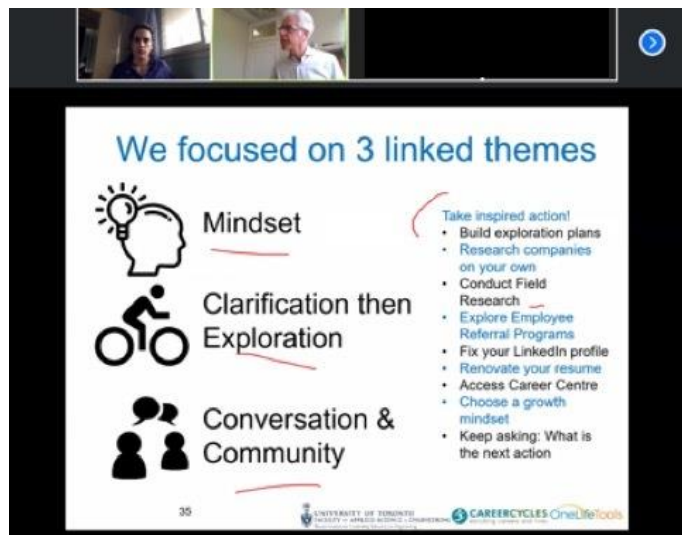
- Create a career exploration plan
- Communicate your experiences in a resume, cover letter, and interview



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Use informational interviews and networking tools to clarify career aspirations

Complementary Events

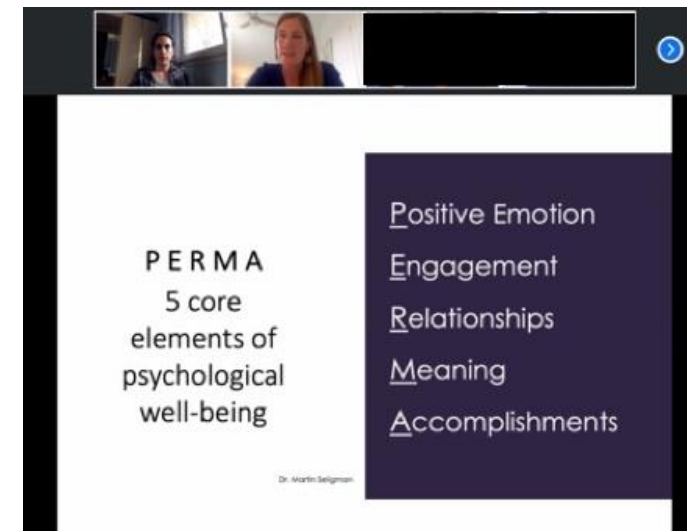


We focused on 3 linked themes

- 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**

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CAREERCYCLES OneLifeTools



PERMA
5 core
elements of
psychological
well-being

Positive Emotion
Engagement
Relationships
Meaning
Accomplishments

Dr. Martin Seligman



Learn more

uoft.me/FASEcurrentstudents

Questions? Contact
grad.experience@engineering.utoronto.ca





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Courses, workshops, programs, and more!

Visit uoft.me/ileadstudents to learn more and
sign up for our newsletter!



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?