WHY DO YOUR GRADUATE WORK WITH US?
WHO WE ARE

• City wide academic unit

• Training programs:
  – Undergraduate
  – Graduate
  – Postdoctoral

• Research Powerhouse

• Leading Immunology Program in Canada
RESEARCH THEMES

• Cellular & Molecular Immunology
• Development of the Immune System
• Autoimmunity & Inflammation
  – Diabetes, SLE, MS, RA
• Primary Immunodeficiencies
• Cancer Immunology & Immunotherapy
• Infectious Diseases
  – Flu, HIV/AIDS
• Mucosal Immunology (Microbiome)
• Transplantation & Immune tolerance
WHO WE ARE

65 Faculty Members

Hospital for Sick Children  9
Medical Sciences Building  18
Mount Sinai Hospital  3
Sunnybrook Research Inst.  9
University Health Network  25
U of T – Scarborough  1
RESEARCH POWERHOUSE

- Over 2,000 publications in past 10 years
  - With >37,000 citations

- >$20M in operating grant support

- $15M in recent infrastructure support
  - Host-Microbiome Research Network

- 109 Graduate students and over 220 Postdoctoral fellows
RESEARCH POWERHOUSE

Seminal Discoveries

- Identification of the T cell receptor
- Identification of early hematopoietic stem/progenitor cells
- Isolation of genes for Crohn's disease
- Identification of CTLA4 immune-regulatory function
- Function of adipose tissue regulatory T cells
- Characterization of tyrosine phosphatases, SHP1
- Isolation of primary immunodeficiency genes, CD3d
- Mechanisms of T cell co-stimulation
- Molecular characterization of positive selection of T cells
- Description of an independent intestinal Immune system
- Use of interferons for the treatment of SARS
- Development of an in vitro system for the generation of T cells
GRADUATE PROGRAMS
GRADUATE PROGRAMS IN IMMUNOLOGY

Graduate Program

Applied Immunology

- MSc

Fundamental Immunology (Doctoral Stream)

- MSc
- PhD
HOW IS THIS PROGRAM DIFFERENT?

• Not necessarily hypothesis driven
• Focus is more on applying technical knowledge to solve problems and create efficiencies
  – assay development and optimization
  – hone skills desired by modern biomedical research companies
• Fixed-length
  • (academic requirements finished in 20 months or 16 months with advanced standing)
# HOW LONG IS THE PROGRAM?

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Auxiliary Courses</th>
<th>STANDART ENROLMENT PERIOD</th>
<th>ADVANCED STANDING PERIOD</th>
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</thead>
</table>
| IMM1450Y, IMM1435H (IMM2041H) | Two from the following:  
• IMM1428H  
• IMM1429H  
• IMM1430H | IMM1550Y | IMM2550Y (IMM2041H) |
| | | | IMM2551H |
| | | Two from the following:  
• IMM 2888H  
• JBZ 1472H  
• JTB 2010H  
• JTB 2020H  
• JFK 1120H  
• JFK 1121H  
• LMP 1006H  
• LMP 1019H  
• LMP 1407H  
• BTC 1860H | Practical Placement (either on- or off-campus) |
DO I GET TO WORK IN A LAB?

• Yes!

• Major research project will be to develop a new assay / technique or improve upon an existing one that will ultimately benefit your host lab.

• At the end of the term, you'll submit a report on your findings and give an oral presentation.
WHAT CAN I DO WITH THIS DEGREE?

• Business
  – Management Consulting
  – Innovations Officer (MaRS)
  – Market Analyst

• Communications
  – Writing/Editing for Scientific Journals, Newspapers, etc.
  – Technical Consultant/Tech Transfer Officer/Patent Agent
  – Science Translation
  – Regulatory affairs/Med Affairs

• Government
  – Research and Development
  – Office of Innovations
  – Policy

• Biotech Industry
  – Field or Application Scientist
  – Product/Project Manager
  – Pharma or Biotech Sales
  – Food & Agricultural Immunology R&D
  – Technologist for Immune Assays

• Education
  – High School Teacher / Head of Science
  – Science/Immunology Outreach Programs

• Non-profit
  – Independent Science Research Foundations
  – Social Programs & Public/Global Health Organizations
  – Public Policy & Research
  – Laboratory Technologist at Hospitals or Academia

• Preparation for MD/PhD/DDS
• Students in the Applied Immunology Program are not fully funded – however:

**Core Courses**

- IMM1450Y, IMM1435H (IMM2041H)
- IMM2550Y
- IMM2551H

**Graduate Funding**

- **Standard Enrolment Period**
  - Fall (Year 1)
  - Winter (Year 1)
  - Summer (Year 1)
- **Advanced Standing Period**
  - Fall (Year 2)
  - Winter (Year 2)
  - Summer (Year 2)

**Stipend**

- $5,000 stipend

**Practical Placement**

- Practical placement
FUNDAMENTAL IMMUNOLOGY
FUNDAMENTAL IMMUNOLOGY

• An advanced research program intended to reflect a level of training consistent with the ability of the student to function as an independent research scientist

• Thesis-based; Successful completion of course work as well as a demonstrated ability to carry out research of publishable quality
TIMELINE

PhD

- degree decision -

1st Committee Meeting

2nd Committee Meeting

Prepare Thesis

Defense & Degree Completion

Qualifying Exam

Defense & Degree Completion

MSc

- degree decision -

1st Committee Meeting

2nd Committee Meeting

Prepare Thesis

Defense & Degree Completion

Rotations (3 months)

1st Committee Meeting

2nd Committee Meeting

- degree decision -
• Incoming students
  – $18,270 + tuition fees
    • [~$26,750 for domestic students]

• Students who successfully pass their qualifying/reclassification exam
  – $20,300 + tuition fees
    • [~$28,780 for domestic students]
How do I apply for these programs?

GRADUATE ADMISSIONS
# ADMISSION REQUIREMENTS

## FUNDAMENTAL IMMUNOLOGY
- 4 year Life Sciences BSc, with at least a B+ in the final two years (10 FCEs)
- For direct-entry PhD, must have A- in the final two years
- 4th year courses in Immunology
- Strong research experience, e.g. senior thesis or equivalent

## APPLIED IMMUNOLOGY
- 4 year Life Sciences BSc, with at least a B+ in the final two years (10 FCEs)
- 2nd/3rd year courses in Immunology
- Some lab experience
- **Advanced Standing option:**
  - IMM435H, IMM450Y and 2 of: IMM428H, IMM429H, IMM430H
  - Already have a research supervisor who is a Faculty Member in the Department of Immunology (usually your supervisor for IMM450Y)
SUPPORTING DOCUMENTS

• CV
• Letter of intent
  – max 2 pages, single spaced, 1-inch margins
• Three letters of reference
  – from people familiar with your academic and research capabilities
  – webform: questions + letter
• Transcripts
  – scanned is acceptable
  – official, final transcript required prior to registration
ONLINE APPLICATION

• Apply via the School of Graduate Studies
  • SGS Online Admissions Application: https://apply.sgs.utoronto.ca

• DoI website for info on procedure, required documents, admissions FAQ
  http://uoft.me/applytoimmunology
Graduate Application Deadlines:

- Early: January 12, 2018
- Final: April 30, 2018

we highly encourage you to apply by this date, especially international students

only deadline for advanced standing (applied immunology)
ADMISSIONS ASSISTANCE

• Fundamental Program
  – Ian Marquez, MSB 7205
  – graduate.immunology@utoronto.ca

• Applied Program
  – Korosh Kianizad, MSB 7255A
  – applied.immunology@utoronto.ca
We’re a fun place to be!

IMMUNOLOGY GRADUATE STUDENTS ASSOCIATION (IGSA)
GAMES NIGHT & HALLOWEEN PARTY/PUB!
HOLIDAY PARTY (BEST ONE ON CAMPUS!!)
DEPARTMENT PICNIC @ THE ISLANDS!
SPORTS! THE IMMUNODOMINATORS
LEARN AND GIVE BACK!

- “Meet the Speaker” Lunches
- Blackboard Immunology
- Career development sessions
- Fundraising
  - Nellie’s Shelter
- Community outreach
  - Let’s Talk Science
  - SciChat
  - International Day of Immunology
ORIENTATION DAY & PUB

• Hopefully featuring you in September!