

# Fostering Lifelong Learning about the Relationship between Drugs and Human Health & Disease

Department of Pharmacology & Toxicology

Strategy 2016–2020



Pharmacology & Toxicology  
UNIVERSITY OF TORONTO

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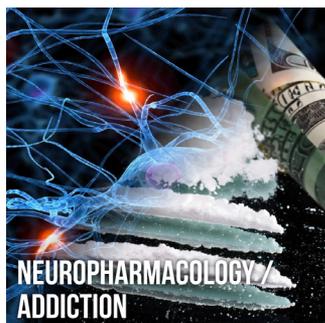
## Background and Process

**Pharmacology** — the discovery and study of synthetic drugs and natural products.

**Toxicology** — the study of the adverse effects of chemicals (including drugs) on living systems and the means to prevent or ameliorate them.

The Department of Pharmacology & Toxicology is one of the strongest basic science departments in the Faculty of Medicine, and was recently ranked #2 in the world, based on research productivity, impact and excellence (2014 National Taiwan University Ranking). Affiliated with one of the largest Clinical Pharmacology training programs in North America, the department conducts internationally recognized research in pharmacology and toxicology, and is considered one of the finest educational programs worldwide.

In 2014, we initiated the creation of a new strategic plan that involved a highly engaged series of interviews with stakeholders, faculty members, and students. In 2014-15, we created an aspirational vision and reshaped our research foci while identifying four strategic priorities to guide the activities of the department through 2020.



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## Five-Year Aspirational Vision

Building on our recognized leadership in both pharmacology and toxicology, we will continue to contribute significantly to scientific knowledge and the public conversation about relationships between drugs and human health. We will focus our research on our vibrant and growing research programs in:

- Mechanisms of Drug Action/Drug Discovery
- Drug Safety/Toxicology
- Neuropharmacology/Addiction
- Variability in Drug Response/Pharmacogenetics

We will be known for collaboration, innovation and close connection to partners in academia, healthcare and industry. Our core programs will be well funded from diverse sources. Our pharmacology education programs will drive innovation in teaching, science and public awareness. Our graduates will continue to be in demand in academic, government and private sectors for their breadth of knowledge, versatility and leadership capabilities.

## Four Priorities

1. Strengthen and Promote High-Impact Research
2. Be an Internationally-Recognized Leader in Interdisciplinary Drug Education
3. Develop Partnerships with Industry and Other Disciplines
4. Create a Compelling Public Identity and Voice

### Our priorities are enabled by

- Collaboration and partnerships
- Integration with core health questions
- Interdisciplinarity
- Innovation
- Full participation of cross-appointees and adjunct faculty



# 2016–2020 Strategy Overview

## Priority #1

### **Strengthen and Promote High-Impact Research**

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#### **GOAL**

Produce high quality, innovative, interdisciplinary research with potential for impact.

#### **OBJECTIVES**

- Expand our faculty by attracting internationally recognized leaders in research and education, in addition to cross-appointment of high-profile faculty.
- Increase collaboration by seeking individuals with an interest in addressing impactful research questions within the department, as well as across departments and disciplines, and beyond the university to industry and community partners.
- Promote sharing of expertise, technologies, ideas and grant writing skills.
- Unite students, faculty, and external collaborators from diverse backgrounds around common research questions and “hot topics” influenced by Pharmacology/Toxicology.
- Support faculty by providing research and career mentorship.
- Create a ‘*Research Innovation Fund*’ to prime new ideas and collaborations and promote high impact publications.

## Priority #2

### **Be an Internationally-Recognized Leader in Interdisciplinary Drug Education**

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#### **GOAL**

Enhance the international recognition of our training programs for fostering a comprehensive understanding of drugs and other xenobiotics, and developing critical thinking and communication, adaptive, and successful leadership skills.

#### **OBJECTIVES**

- Attract greater global recognition for innovative pharmacology and toxicology training programs at the undergraduate and graduate levels.
- Improve the communication of research activities and expand our experiential learning opportunities to ensure students participate in innovative environments that foster independent inquiry, critical thinking and skill application.
- Strengthen our capacity to prepare students for a variety of career paths.
- Support faculty by establishing a formalized mentorship program.
- Provide faculty development that encourages engagement of learners and fosters attention to critical thinking, skill development, and the application of pharmacology and toxicology knowledge.
- Promote and announce student, faculty, staff and alumni successes and encourage award nominations.
- Create a ‘*Teaching Innovation Fund*’ to prime new educational innovations.

Priority #3

## Develop Partnerships with Industry and Other Disciplines and Stakeholders

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### GOAL

Lead collaborative funding and training partnerships that advance core research questions and training in broad sets of skills and knowledge, positioning our trainees for diverse career opportunities.

### OBJECTIVES

- Secure funding and research partnerships between academia, industry, and non-governmental organizations and that enable mutually beneficial outcomes.
- Cultivate a robust, reciprocal partnership with the new Centre for Collaborative Drug Research to advance shared priorities.
- Create a novel mentorship program to facilitate commercialization.
- Provide opportunities for students to explore diverse career paths through strengthened relationships with industry, alumni, and other partners.
- Increase access to diverse sources of funding through the development of a transdisciplinary collaborative research program within and beyond academia.
- Strengthen ties with our alumni across the globe and increase their engagement in the department's wide-ranging activities.

Priority #4

## Create a Compelling Public Identity and Voice

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### GOAL

Demonstrate a strong public profile and an influential voice that shapes the understanding of drug discovery and research that applies to human health, such that we are recognized for fostering lifelong learning about drugs and are seen as the “go-to” source for reliable knowledge and consultation about drug-related questions.

### OBJECTIVES

- Strengthen our identification with our core themes (e.g., molecular brain science, pharmacogenomics, drug safety and toxicology, drug discovery and mechanisms of action).
- Build relationships with government and policy makers to facilitate knowledge translation.
- Articulate key applications and impact of our work, and promote our research stories via a new website and other communications media.
- Expand our reach and capacity to tell our stories in influential public, industrial, and scientific spaces.
- Identify synergies and build communication hubs for shared interests with collaborative partners.





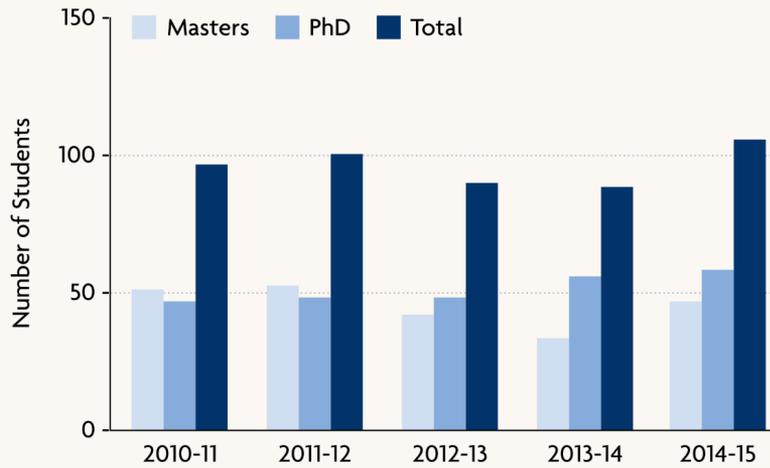
We will build on our position as a national and international leader in pharmacology and toxicology to enhance our recognition as innovators in education, research and knowledge about the relationship between drugs and human health, and to further develop and enable the next generation of leaders to make an impactful contribution to science and society.

# The Department of Pharmacology & Toxicology: Our People Are the Core of Our Success

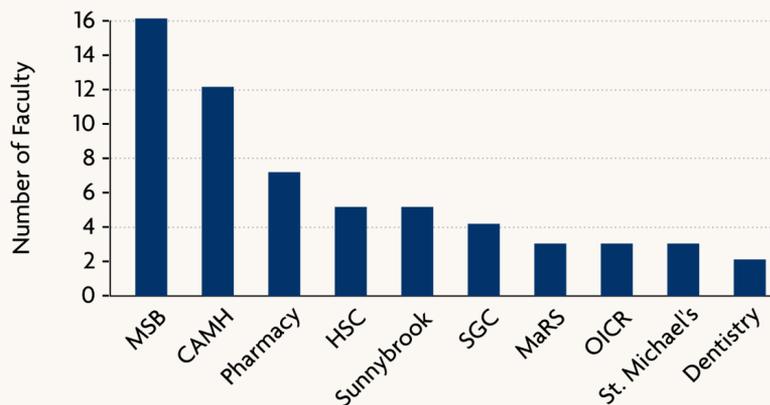
## Undergraduate Students



## Graduate Students



## Faculty Distribution



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