Research and Innovation at the University of Toronto

STAR Conference
February 20, 2019

Vivek Goel
Vice-President, Research & Innovation
## 2018 Highlights

### Serving the U of T Community

#### RESEARCH FUNDING
- 2,800 principal investigators
- 4,000 new funding applications
- $500M in funding awarded
- 9,000 research funds
- 1,000 sponsors
- 300+ private sector partners
- 1,800 funding programs
- 130 workshops and info sessions

#### INNOVATION & ENTREPRENEURSHIP
- 180 invention disclosures
- 70 priority patent applications
- 30 licensing agreements & options
- 230 commercialization projects
- 300+ student-led startup teams/companies
- $150M in annual startup investment
- $10M in annual sales revenue

#### OVERSIGHT & COMPLIANCE
- 40 external audits
- 8,900 financial reports
- 1,600 human ethics protocols
- 430 animal ethics protocols
- 60 post-approval reviews
- 177 lab assessments for animals
- 12,200 personnel trained in EH&S programs
- 1,060 lab safety inspections
- 220 worksite assessments
- 800 occupational health assessments

February 2019
2018 Highlights

- Institutional Strategic Research Plan (ISRP)
- 3 Canada 150 Chairs, 2 CERCs, 20 new CRCs
- Federal Science Review advocacy and Budget 2018
- CRC Equity, Diversity and Inclusion Action Plan and Equity and Diversity in Research and Innovation Working Group
- MR Human Protocols
- Multiple site visits (eg, CCAC, PHAC)
- Guidebooks for Startup companies; Entrepreneurs
- President’s Impact Award and Academy
- Chief Administrative Officer – Renee Brost
## 2017-18 Highlights

### World Rankings

### U of T Rankings in the Most Prominent Global Rankings Systems

<table>
<thead>
<tr>
<th>Global Rankings</th>
<th>2017-18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. National Taiwan University Ranking (NTU)</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>2. US News Best Global Universities</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>3. Times Higher Education World University Rankings (THE)</strong></td>
<td>22</td>
</tr>
<tr>
<td><strong>4. Academic Ranking of World Universities (ARWU)</strong></td>
<td>23</td>
</tr>
<tr>
<td><strong>5. QS World University Rankings (QS)</strong></td>
<td>31</td>
</tr>
</tbody>
</table>
U of T once again confirmed its caliber as a stellar research institution across a wide range of disciplines.
2017 Highlights

Awards and Honours


<table>
<thead>
<tr>
<th>International Awards</th>
<th>Percent Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amer. Academy of Arts &amp; Sciences Members</td>
<td>44%</td>
</tr>
<tr>
<td>Amer. Assoc. for the Advancement of Science Fellows</td>
<td>43%</td>
</tr>
<tr>
<td>National Academy of Medicine Members (US)</td>
<td>43%</td>
</tr>
<tr>
<td>Sloan Research Fellows (US)</td>
<td>42%</td>
</tr>
<tr>
<td>Guggenheim Fellows (US)</td>
<td>40%</td>
</tr>
<tr>
<td>National Academy of Engineering Members (US)</td>
<td>38%</td>
</tr>
<tr>
<td>National Academy of Science Members (US)</td>
<td>38%</td>
</tr>
<tr>
<td>Canada Gairdner International Award</td>
<td>33%</td>
</tr>
<tr>
<td>Royal Society Fellows (UK)</td>
<td>29%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>National Awards</th>
<th>Percent Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steacie Prize</td>
<td>70%</td>
</tr>
<tr>
<td>NSERC Gerhard Herzberg Canada Gold Medal</td>
<td>40%</td>
</tr>
<tr>
<td>Molson Prize</td>
<td>40%</td>
</tr>
<tr>
<td>Killam Prize</td>
<td>28%</td>
</tr>
<tr>
<td>NSERC E.W.R. Steacie Memorial Fellows</td>
<td>24%</td>
</tr>
<tr>
<td>Killam Research Fellows</td>
<td>23%</td>
</tr>
<tr>
<td>Canadian Academy of Health Sciences Fellows</td>
<td>19%</td>
</tr>
<tr>
<td>Canadian Academy of Engineering Fellows</td>
<td>18%</td>
</tr>
<tr>
<td>CIHR Health Researcher of the Year*</td>
<td>17%</td>
</tr>
<tr>
<td>Royal Society of Canada Fellows</td>
<td>16%</td>
</tr>
<tr>
<td>Trudeau Fellows (Regular Fellows)</td>
<td>15%</td>
</tr>
<tr>
<td>SSHRC Gold Medal</td>
<td>10%</td>
</tr>
</tbody>
</table>
2017 Highlights

Research Funding

Funds Awarded to U of T and Partner Hospitals by Sector (2016-17)

$1.2B total funding across three campuses and nine partner hospitals.
2017 Highlights

Research Funding

U of T without Partner Hospitals
All Sources of Funding (2007-08 / 2017-18)

Funds Awarded in Current Dollars (Millions)

$0

$100

$200

$300

$400

$500

$600

$700

2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18

Total Funding

$512M
2017 Highlights

Research Funding

Tri-Agency Funding to U15 Universities (2016-17)

15.7% of the country's Tri-Agency funding.
2017 Highlights

Research Funding

CFI Funding to U15 Universities (2011-12 / 2016-17)

<table>
<thead>
<tr>
<th>U15 Universities</th>
<th>Funds Awarded (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U Toronto</td>
<td>$125</td>
</tr>
<tr>
<td>U British Columbia</td>
<td>$92</td>
</tr>
<tr>
<td>McGill U</td>
<td>$78</td>
</tr>
<tr>
<td>U de Montreal</td>
<td>$63</td>
</tr>
<tr>
<td>U Ottawa</td>
<td>$51</td>
</tr>
<tr>
<td>U Alberta</td>
<td>$46</td>
</tr>
<tr>
<td>U Laval</td>
<td>$41</td>
</tr>
<tr>
<td>Queen's U</td>
<td>$38</td>
</tr>
<tr>
<td>U Waterloo</td>
<td>$31</td>
</tr>
<tr>
<td>McMaster U</td>
<td>$27</td>
</tr>
<tr>
<td>U Manitoba</td>
<td>$25</td>
</tr>
<tr>
<td>Western U</td>
<td>$21</td>
</tr>
<tr>
<td>U Calgary</td>
<td>$20</td>
</tr>
<tr>
<td>U Saskatchewan</td>
<td>$20</td>
</tr>
<tr>
<td>Dalhousie U</td>
<td>$13</td>
</tr>
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DVPRI Priorities 2018-19

Demonstrate National and Global Leadership in Research and Innovation

• Advocate to shape and then respond to new government research initiatives – including:
  • 2018 Federal Budget – Tri-Agencies programs, Canada Research Chairs, fellowship funding, intellectual property, cluster strategy, innovation strategy, digital research infrastructure & data management.
  • Provincial – responding to the Ontario Research Fund and other reviews.
Foster Collaborations, Partnerships, & Engagement

• Find innovative approaches to support research, partnership & entrepreneurship activities that engage our local & global communities – including:
  • Development & launch of new Community Partnership Labs funding for academic divisions
  • Support international entrepreneurship strategies
DVPRI Priorities 2018-19

Advance Equity, Diversity, & Inclusion Across Research & Innovation

• Continue responding to the recommendations of the Equity and Diversity in Research & Innovation Working Group

• Continue to work towards our institutional commitments for our CRC Equity, Diversity and Inclusion Action Plan
Support Integration of Research & Innovation in Student Curricular & Co-Curricular Experience

• Continue to collaborate with Vice-Provost-IUE in assessing the online research opportunities catalogue
  • Includes development of new ACORN course tagging for research and innovation

• Support entrepreneurship-related work integrated learning through enhancement of UofT Entrepreneurship & network of Campus-Linked Accelerators
DVPRI Priorities 2018-19

Strengthen the Institutional Supports that Foster Research & Innovation Excellence

• Develop and implement supports for our academic divisions to meet the needs of our researchers

• And to meet performance-based research and innovation metrics
New - Centre for Research & Innovation Support (CRIS)

Researcher-centred, practical, and focused on supporting researchers, innovators and divisional research offices.
1) Broker access to existing supports and resources offered by university-wide units and academic divisions; visible and integrated hub where researchers can learn about and access services.

2) Increase visibility of supports to the tri-campus community while providing efficiencies in administrative operations.

3) Collaborate to identify gaps and develop services and resources for emerging needs; ensure programming is current, complementary, and supportive.

4) Provide centralized access / training for research and innovation information and analytics tools.

5) Provide visibility to partners and funders, particularly in the area of research impact.
Cross-Divisional Initiatives

• The VPRI continues to be deeply engaged in the development and submission of an increasing number of applications to high dollar-value funding programs, that involve large-scale, multi-partner and multi-sectoral initiatives.

• Often these opportunities involve government, private-sector and other partners, interdisciplinary approaches, and institutional commitments that span academic divisions.
Evolving Research & Innovation Environment

• The research funding environment is much more complex.

• Requirements have been changing in a number of areas, including expectations for transparency and accountability that create increased demands for oversight and compliance.

• Audit and reporting requirements that are an integral part of research accountability continue to increase.

• Principal investigators are increasingly being asked to lead large interdisciplinary teams and partnerships that entail complex structural, administrative, and funding mechanisms involving different partners, including other universities, hospitals, governments, foundations, agencies, industry, and business.