RESEARCH AND INNOVATION
AT THE UNIVERSITY OF TORONTO

STAR CONFERENCE
FEBRUARY 19, 2020

VIVEK GOEL
VICE-PRESIDENT
RESEARCH AND INNOVATION,
AND STRATEGIC INITIATIVES

UNIVERSITY OF
TORONTO
### 2019 HIGHLIGHTS

#### Research Funding

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Investigators</td>
<td>2,700</td>
</tr>
<tr>
<td>New Funding Applications</td>
<td>4,000</td>
</tr>
<tr>
<td>Funding Awarded</td>
<td>$500M</td>
</tr>
<tr>
<td>Research Funds</td>
<td>9,000</td>
</tr>
<tr>
<td>Sponsors</td>
<td>1,000</td>
</tr>
<tr>
<td>Private Sector Partners</td>
<td>350+</td>
</tr>
<tr>
<td>Funding Programs</td>
<td>1,900</td>
</tr>
</tbody>
</table>

#### Innovation & Entrepreneurship

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invention Disclosures</td>
<td>180</td>
</tr>
<tr>
<td>Priority Patent Applications</td>
<td>75</td>
</tr>
<tr>
<td>Licensing and Option Agreements</td>
<td>35</td>
</tr>
<tr>
<td>Commercialization Projects</td>
<td>250</td>
</tr>
<tr>
<td>Student-led Startup Teams/Companies</td>
<td>300+</td>
</tr>
<tr>
<td>Annual Startup Investment</td>
<td>$150M</td>
</tr>
<tr>
<td>Annual Sales byStartups</td>
<td>$10M</td>
</tr>
</tbody>
</table>

#### Oversight & Compliance

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Audits</td>
<td>35</td>
</tr>
<tr>
<td>Financial Reports and Related Oversight</td>
<td>8,270</td>
</tr>
<tr>
<td>Human Ethics Protocols</td>
<td>1,600</td>
</tr>
<tr>
<td>Animal Ethics Protocols</td>
<td>850</td>
</tr>
<tr>
<td>Post-Approval Reviews</td>
<td>150</td>
</tr>
<tr>
<td>Lab Assessments for Animals</td>
<td>200</td>
</tr>
<tr>
<td>Personnel Trained in EH&amp;S Programs</td>
<td>14,700</td>
</tr>
<tr>
<td>Lab Safety Inspections</td>
<td>1,100</td>
</tr>
<tr>
<td>Worksite Assessments</td>
<td>425</td>
</tr>
<tr>
<td>Occupational Health Assessments</td>
<td>1,100</td>
</tr>
</tbody>
</table>

#### Serving the U of T Community

- Workshops and Info Sessions: 200+

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March 2020  https://research.utoronto.ca
2019 HIGHLIGHTS

• Institutional Strategic Initiatives (ISI), portfolio led by Professor Christine Allen, Associate Vice-President and Vice-Provost, Strategic Initiatives

• Schwartz Reisman Institute for Technology and Society

• 43 new CRCs, 13 renewed

• New, Principles-Based Tri-Agency Guide on Financial Administration

• Expansion of My Research Applications (MRA) to include non-funded research agreements

• New Research and Innovation Website

• Research Funding Dashboards Project

• Centre for Research & Innovation Support (CRIS)
# 2018-19 HIGHLIGHTS

## WORLD RANKINGS

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

<table>
<thead>
<tr>
<th>Global Rankings</th>
<th>Canadian Rankings</th>
<th>2018-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. National Taiwan University Ranking (NTU)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>2. US News Best Global Universities</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>3. Times Higher Education World University Rankings (THE)</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>4. Academic Ranking of World Universities (ARWU)</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>5. QS World University Rankings (QS)</td>
<td></td>
<td>28</td>
</tr>
</tbody>
</table>
2018-19 HIGHLIGHTS

MAJOR FIELD RANKING RESULTS

First Among Canadian Universities

U of T once again confirmed its caliber as a stellar research institution across a wide range of disciplines.

<table>
<thead>
<tr>
<th>Field</th>
<th>QS 2018</th>
<th>THE 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Sciences &amp; Medicine</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Arts &amp; Humanities</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Social Sciences &amp; Management</td>
<td>34</td>
<td>18</td>
</tr>
<tr>
<td>Engineering &amp; Technology</td>
<td>43</td>
<td>18</td>
</tr>
<tr>
<td>NTU 2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Medicine</td>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>Agriculture</td>
<td>48</td>
<td>31</td>
</tr>
<tr>
<td>Engineering</td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>
2018 HIGHLIGHTS

AWARDS AND HONOURS


U of T has 6% of Canada’s professional faculty, yet our researchers amass a dominant share of prestigious Canadian and International honours.
2018 HIGHLIGHTS

RESEARCH FUNDING

Funds Awarded to U of T and Partner Hospitals by Sector (2017-18)

$1.3 B
Total funding across three campuses and nine partner hospitals.
2018 HIGHLIGHTS

RESEARCH FUNDING

U of T without Partner Hospitals

All Sources of Funding (2009-10 / 2018-19*)

Funds Awarded in Current Dollars ( Millions )

$0 $100 $200 $300 $400 $500 $600 $700

2018 HIGHLIGHTS

RESEARCH FUNDING

Tri-Agency Funding to U15 Universities (2017-18)

16% of the country’s Tri-Agency Funding

Funding in $Millions
2018 HIGHLIGHTS

RESEARCH FUNDING

CFI Funding to U15 Universities (2012-13 / 2017-18)

Funding in $Millions

- U Toronto: $237
- U British Columbia: $141
- McGill U: $103
- U de Montreal: $80
- U Ottawa: $69
- U Alberta: $59
- U Calgary: $53
- U Laval: $48
- Queen's U: $42
- U Waterloo: $36
- Western U: $33
- McMaster U: $31
- U Manitoba: $26
- U Saskatchewan: $17
- Dalhousie U: $17
U of T’s MARKET SHARE BY AGENCY

For CIHR solid line includes partner hospitals and dotted line is campuses only.
The federal government is the **largest source of research funding for U of T** and funding is mainly from the tri-agencies.

Our share of national tri-agency funding is **used to allocate additional resources** to the university totaling **more than $100M** in 2018-19.
U of T’s number of CRCs has increased to 315 Chairs
(117 more than our nearest peer)
PRIVATE SECTOR

We have reached our ten-year target of doubling funding a full year ahead of schedule.
FULL COSTS OF RESEARCH

ALL SOURCES

U of T without partner hospitals.

Budget process flows to divisions 100% of the research indirect costs they generate.
DVPRI STRATEGIC OBJECTIVES

1. Demonstrate National and Global Leadership in Research and Innovation
2. Foster Collaborations, Partnerships and Engagement
3. Advance Equity, Diversity and Inclusion across Research and Innovation
4. Support Integration of Research and Innovation in Student Curricular and Co-curricular Experience
5. Strengthen the Institutional Supports that Foster Research and Innovation Excellence
DEMONSTRATE NATIONAL AND GLOBAL LEADERSHIP IN RESEARCH & INNOVATION

Advocate to shape and then respond to new government research initiatives

• Related goals:
  o maintain or increase market share in R&I funding
  o continue to lead Canadian institutions in international rankings and awards and honours
  o continue to demonstrate the impact of our research beyond academia
FOSTER COLLABORATIONS, PARTNERSHIPS, AND ENGAGEMENT

Continue to find innovative approaches to support research, partnership and entrepreneurship activities that engage our local and global communities

Related goals:
- launch and operationalize ISI processes
- operationalize the Schwartz Reisman Institute for technology and Society
- maintain or increase research partnership successes
- double private sector support by 2029
- find new sources to increase research revenue
ADVANCE EQUITY, DIVERSITY AND INCLUSION ACROSS RESEARCH & INNOVATION

Respond to the recommendations of the Equity and Diversity in Research and Innovation Working group and continue to meet our institutional commitments for our “CRC Equity, Diversity and Inclusion Action Plan”

Related goals:
- meet and exceed the CRC Action Plan goals
- increase participation and success rates of underrepresented groups in funding, awards, honours, and entrepreneurship programs
- continue to work on implementing recommendations from the Truth and Reconciliation Committee
SUPPORT INTEGRATION OF RESEARCH & INNOVATION IN STUDENT EXPERIENCE

Continue to collaborate with internal partners to assess, develop, and enhance tools and networks to increase student participation in research and innovation related work-integrated learning

Related goals:
- work towards increasing the proportion of students that obtain curricular and co-curricular research and innovation experience
- engage new students in the UTE ecosystem and its opportunities, especially humanities students
STRENGTHEN THE INSTITUTIONAL SUPPORTS THAT FOSTER RESEARCH & INNOVATION EXCELLENCE

Develop and implement supports for academic divisions that ensure the needs of our researchers are met, as well as future performance-based research and innovation metrics

Related goals:
- operationalize the Centre for Research and Innovation Support (CRIS)
- develop guidelines for research security
- obtain funding for a Data Science Hub
- continue to ensure operational excellence
The challenges we face don’t fall into one category. Neither does our research.
CENTRE FOR RESEARCH SUPPORT AND INNOVATION (CRIS)

Researcher-centred supporting research divisional research

CRIS
Hub of R&I services for researchers

VPRI
UTL
ITS
VPI, DUA, other

Academic Divisions
IMPORTANCE OF THE BUSINESS OFFICER ROLE

ensure high standards

Administrative MVP

planners initiators

problem solvers

adaptable

technical knowledge

soft skills

relationship builders
EVOLVING RESEARCH AND INNOVATION ENVIRONMENT

The research funding environment is complex and changing.

- transparency and accountability
- audit and reporting requirements
- equity, diversity, and inclusion plans
- large and complex interdisciplinary teams