# **RESEARCH AND INNOVATION AT THE UNIVERSITY OF TORONTO**

**STAR CONFERENCE FEBRUARY 19, 2020** 

**VIVEK GOEL** 

VICE-PRESIDENT RESEARCH AND INNOVATION, AND STRATEGIC INITIATIVES



#### **Research Funding**

Serving the U of T Community



#### 200+

workshops and

Info sessions

2,700 principal investigators

**4,000** new funding applications

\$500M in funding awarded



**1,000** sponsors

**350 +** private sector partners

1,900 funding programs

#### Innovation & Entrepreneurship

180 invention disclosures

**300+** student-led startup

teams/companies

priority patent applications

8,270

75

annual startup investment

**35** licensing and option agreements 250

commercialization projects

\$10M annual sales by startups

Oversight & Compliance

**35** external audits

150 post-approval reviews 200

financial reports and related human ethics protocols

lab assessments for animals

14,700 personnel trained in EH&S

programs

1,100 EH&S lab safety inspections 425 worksite assessments

1.600

#### 1,100

850

occupational health assessments

animal ethics protocols



March 2020

https://research.utoronto.ca



- 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

Global Rankings Canadian Rankings

	2018-19	
1. National Taiwan University Ranking (NTU)	4	1
2. US News Best Global Universities	20	1
3. Times Higher Education World University Rankings (THE)	21	1
4. Academic Ranking of World Universities (ARWU)	23	1
5. QS World University Rankings (QS)	28	1





2018-19

# 2018-19 HIGHLIGHTS

#### **MAJOR FIELD RANKING RESULTS**

W = World Pankinge C = Canadian Pankinge

#### First Among Canadian Universities

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

QS 2018	W	С
Life Sciences & Medicine	13	1
Arts & Humanities	22	1
Natural Sciences	23	1
Social Sciences & Management	34	1
Engineering & Technology	43	1
NTU 2018	W 3	C
NTU 2018 Clinical Medicine Social Sciences	W 3 7	
Clinical Medicine	3	1
Clinical Medicine Social Sciences	3 7	1
Clinical Medicine Social Sciences Life Sciences	3 7 10	1 1 1

1-10	11-20	21-30	31+
THE 2019		w	С
Law		11	1
Clinical, Pre-clinical &	Health	13	1
Education		13	1
Arts & Humanities		18	1
Computer Science		18	1
Psychology		19	2
Life Sciences		24	1
Social Sciences		25	1
Physical Sciences		26	1
Business & Economics	5	28	2
Engineering & Techno	logy	31	1





#### **AWARDS AND HONOURS**

# Major Awards and Honours: U of T Market Share Among Canadian Universities (2009-2018)

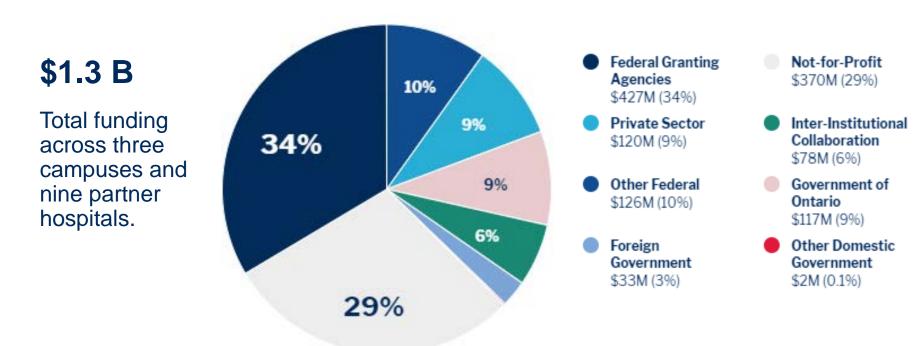
	International Awards		
•	Canada Gairdner International Award*		100%
	National Academy of Medicine Members (US)	50%	
	Sloan Research Fellows (US)	48%	
	merican Association for the Advancement of Science Fellows	39%	
	National Academy of Engineering Members (US)	38%	
U of T has 6% of	Guggenheim Fellows (US)	37%	
	American Academy of Arts & Sciences Members	36%	
Canada's	National Academy of Science Members (US)	33%	
professional faculty,	Royal Society Fellows (UK)	27%	
yet our researchers	National Awards		
	Steacie Prize	70%	
amass a dominant	Molson Prize	50%	
share of prestigious	NSERC Gerhard Herzberg Canada Gold Medal	40%	
Canadian and	Manning Innovation Awards	27%	
	Killam Prize	24%	
International	NSERC E.W.R. Steacie Memorial Fellows	24%	
honours.	Killam Research Fellows	22%	
	Canadian Academy of Health Sciences Fellows	20%	
	CIHR Health Researcher of the Year**	20%	
	Canadian Academy of Engineering Fellows	18%	
	Royal Society of Canada Fellows	16%	
	RSC College of New Scholars, Artists and Scientists	8%	
	SSHRC Impact Awards	496	





#### **RESEARCH FUNDING**

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

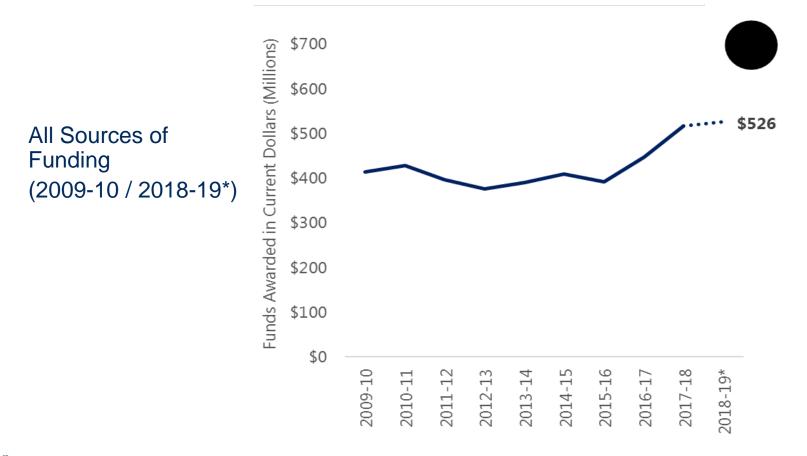


Total Funding = \$1.3B



#### **RESEARCH FUNDING**

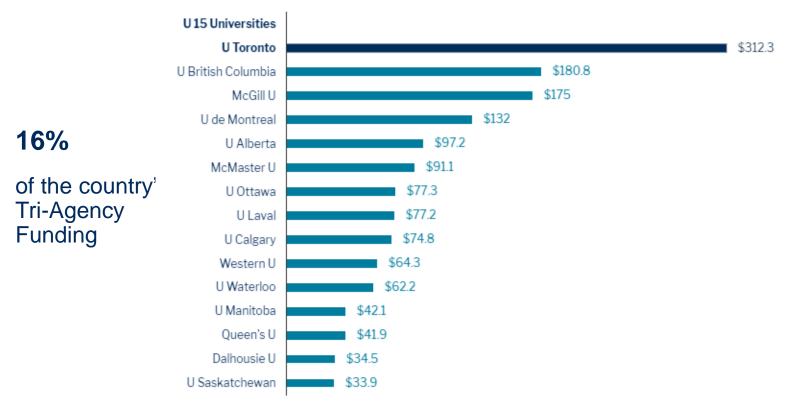
#### **U of T without Partner Hospitals**





#### **RESEARCH FUNDING**

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



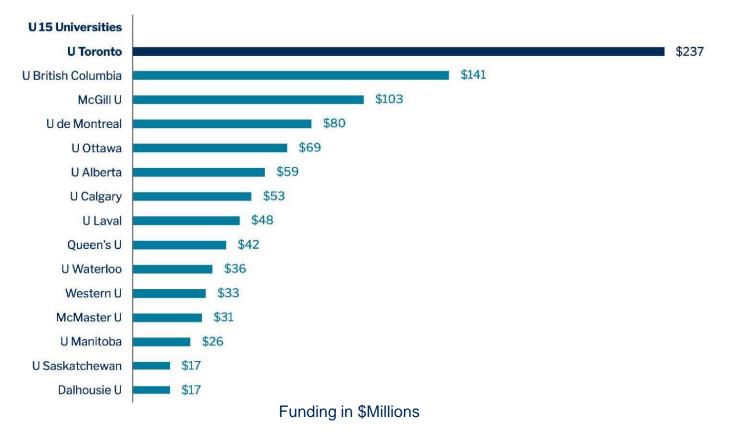
Funding in \$Millions





#### **RESEARCH FUNDING**

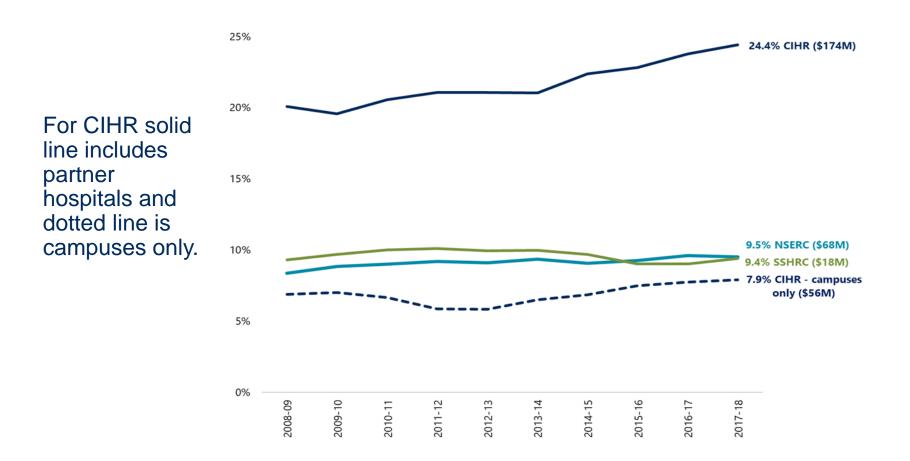
#### CFI Funding to U15 Universities (2012-13 / 2017-18)







# **U of T's MARKET SHARE BY AGENCY**

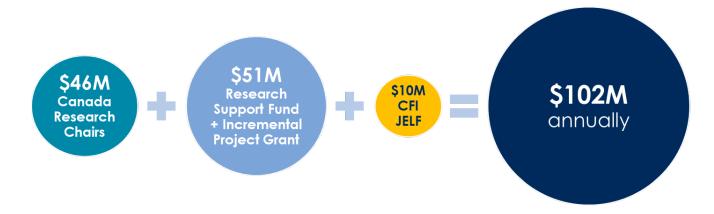




# **TRI-AGENCY FUNDING**

#### **AND WHY IT MATTERS**

The federal government is the **largest source of research funding for U of T** and funding is mainly from the tri-agencies.

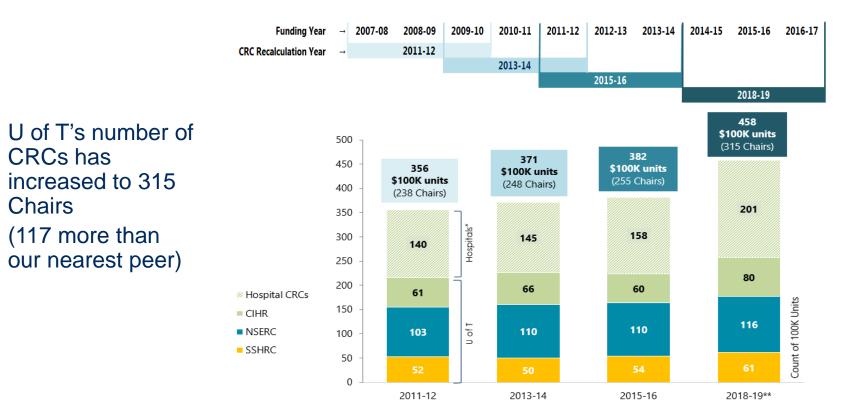


Our share of national tri-agency funding is **used to allocate additional resources** to the university totaling **more than \$100M** in 2018-19.





## U of T's MARKET SHARE AND CRC ALLOCATION



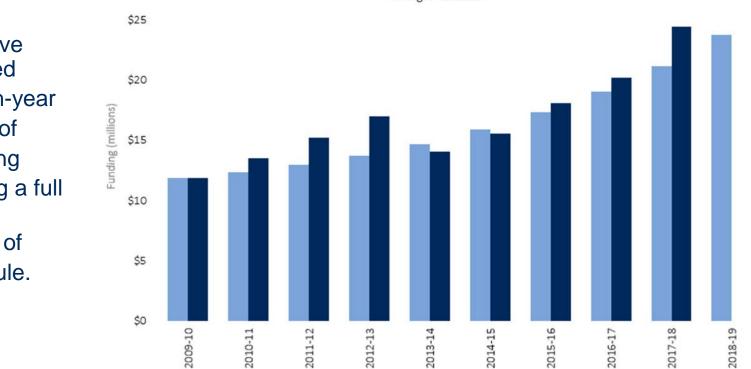
\* The majority of CRCs at partner hospitals are CIHR.

\*\* Allocation for 2018-19 includes the 40 newly awarded Chairs.





# **PRIVATE SECTOR**



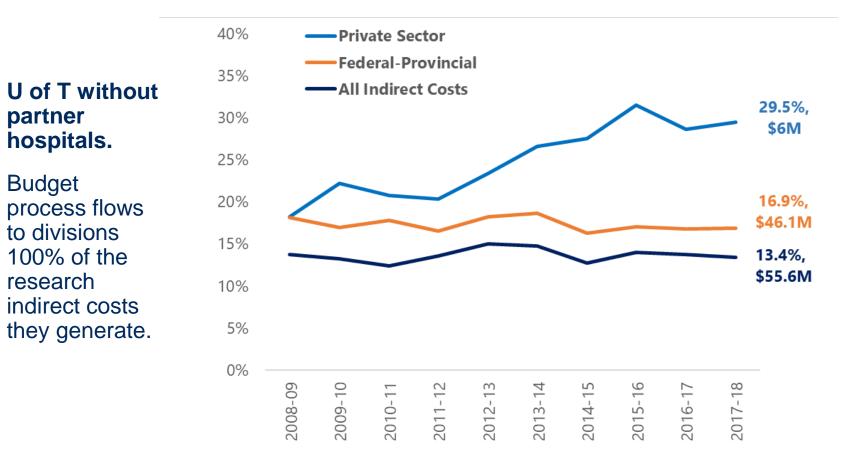
Target Actual

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



# **FULL COSTS OF RESEARCH**

#### **ALL SOURCES**





# **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 Cocurricular 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
- continue to lead Canadian institutions in international rankings and awards and honours
- 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:

- o launch and operationalize ISI processes
- operationalize the Schwartz Reisman Institute for technology and Society
- maintain or increase research partnership successes
- o double private sector support by 2029
- $_{\circ}$  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





# **INSTITUTIONAL STRATEGIC INITIATIVES**

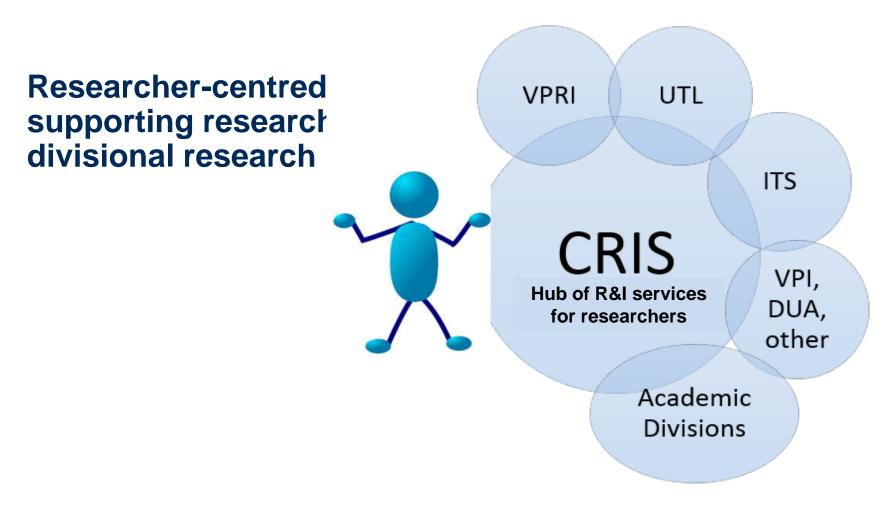
# The challenges we face don't fall into one category. Neither does our research.





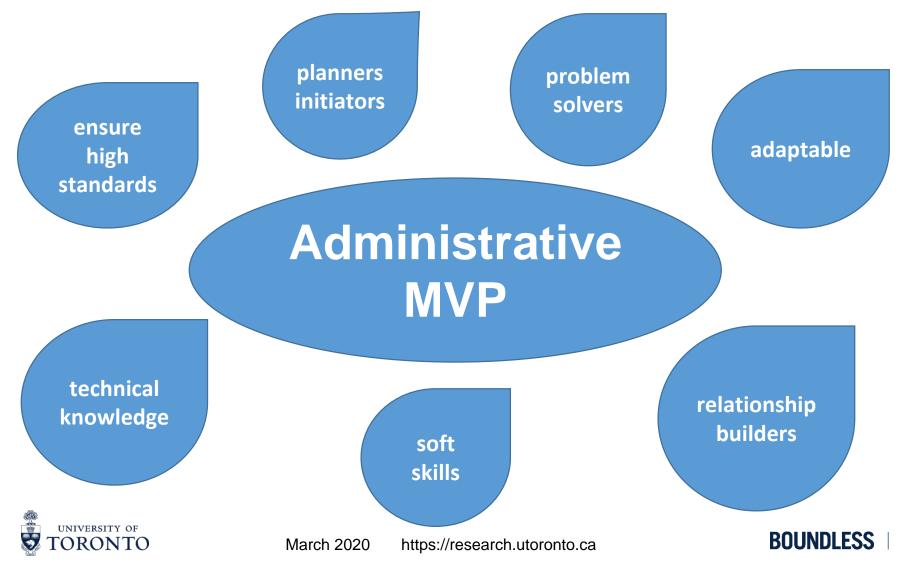


# CENTRE FOR RESEARCH SUPPORT AND INNOVATION (CRIS)





### IMPORTANCE OF THE BUSINESS OFFICER ROLE



## **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



