

**FOR INFORMATION**

**PUBLIC**

**OPEN SESSION**

**TO:** UTSC Academic Affairs Committee

**SPONSOR:** Bernie Kraatz, Vice-Principal Research and Innovation, UTSC,  
**CONTACT INFO:** 416-208-4835, [vpresearch.utsc@utoronto.ca](mailto:vpresearch.utsc@utoronto.ca)

**PRESENTER:** See Sponsor  
**CONTACT INFO:**

**DATE:** April 20, 2021 for April 27, 2021

**AGENDA ITEM:** 3

**ITEM IDENTIFICATION:**

Annual Report: Office of the Vice-Principal Research and Innovation, UTSC

**JURISDICTIONAL INFORMATION:**

Under section 5.7 of its Terms of Reference, the *“Committee receives annually, from the appropriate administrators, reports on services within its areas of responsibility, including research”*

**GOVERNANCE PATH:**

1. Campus Council [For Information] (April 21, 2021)
2. Academic Affairs Committee [For Information] (April 27, 2021)

**PREVIOUS ACTION TAKEN:**

No previous action has been taken on this item.

**HIGHLIGHTS:**

This presentation for the Office of the Vice-Principal Research and Innovation (OVPRI) provides an overview of the contents of the recently released 2019-20 OVPRI Annual Report.

**FINANCIAL IMPLICATIONS:**

n/a

**RECOMMENDATION:**

Presented for information

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**DOCUMENTATION PROVIDED:**

Power Point Presentation

Annual Report - <https://www.utsch.utoronto.ca/research/annual-report>

# **INSPIRING INCLUSIVE EXCELLENCE**

**UTSC Research & Innovation Excellence**

**Inclusion** is not tangential to what we do. It is a core prerequisite for realizing our vision.

**Wisdom Tettey**  
Vice President & Principal  
University of Toronto Scarborough

# ROYAL SOCIETY OF CANADA FELLOWS



**John Friedlander (1988)**  
*Computer & Mathematical  
Sciences*



**Michael Lambek (2000)**  
*Anthropology*



**Lisa Jeffrey (2007)**  
*Computer &  
Mathematical Sciences*



**Judith Teichman (2014)**  
*Political Science /  
Centre for Critical Development Studies*



**Frank Wania (2017)**  
*Physical & Environmental  
Sciences*



**H. Bernie Kraatz (2019)**  
*Physical & Environmental  
Sciences*

# ROYAL SOCIETY OF CANADA

## MEMBERS OF THE COLLEGE OF NEW SCHOLARS, ARTISTS AND SCIENTISTS



**Nathalie Rothman (2014)**  
*Historical and Cultural Studies*



**Katie Larson (2018)**  
*English*



**Diana Fu (2020)**  
*Political Science*



**Marc Cadotte (2020)**  
*Biological Sciences*

## MEDALS AND AWARDS

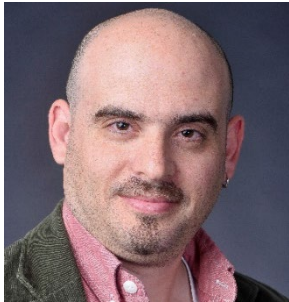


**Nick Eyles (2013)**  
*Physical & Environmental Sciences*  
RSC McNeil Medal



**Balint Virag (2014)**  
*Computer & Mathematical Sciences*  
John L. Synge Award

# UTSC CANADA RESEARCH CHAIRS



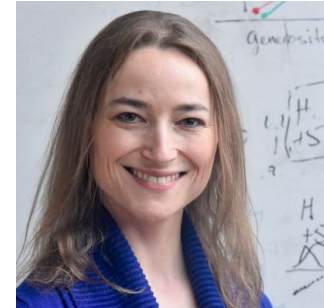
**Daniel Bender**  
*Historical and  
Cultural Studies*



**Hilary Brown**  
*Interdisciplinary Centre for  
Health and Society*



**Brian Connelly**  
*Management*



**Cendri Hutcherson**  
*Psychology*



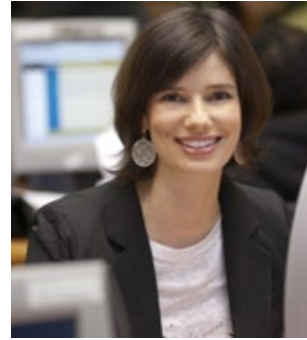
**Marney Isaac**  
*Physical & Environmental Sciences  
/ Centre for Critical Development  
Studies*



**Kagan Kerman**  
*Physical & Environmental  
Sciences*



**Michael Lambek**  
*Anthropology*



**Bianca Schroeder**  
*Computer & Mathematical  
Sciences*



**Myrna Simpson**  
*Physical and Environmental  
Sciences*



**Bebhinn Treanor**  
*Biological Sciences*

# 2020 UTSC Research Awards

## UTSC Principal's Research Award



Ken Howard  
*Physical & Environmental Sciences*

## UTSC Research Excellence Faculty Scholars



Marc Cadotte  
*Biological Sciences*

## UTSC Research Recognition Award



Nicole Klenk  
*Physical & Environmental Sciences/  
Political Science*

## UTSC Pre-Tenure Faculty Research Awards

### Humanities



David Nieborg  
*Arts, Culture and Media*

### Sciences



Hilary Brown  
*Health & Society*

### Social Sciences



Emine Fidan Elcioglu  
*Sociology*



# UTSC RESEARCH ADVISORY BOARD 2019-20



Julie Teichroeb/  
Girish Daswani  
*Anthropology*



Mark Campbell  
*Arts, Culture and Media*



Ken Welch  
*Biological Sciences*



Lisa Jeffrey  
*Computer and  
Mathematical Sciences*



Judith Teichman/  
Anne-Emanuelle Birn  
*Centre for Critical Development Studies*



Marlene Goldman/Neal Dolan  
*English*



Rena Helms-Park  
*Centre for French  
and Linguistics*



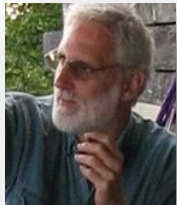
Michelle Silver  
*Interdisciplinary Centre  
for Health & Society*



Russell Kazal/  
Daniel Bender  
*Historical and Cultural Studies*



John Trougakos  
*Management*



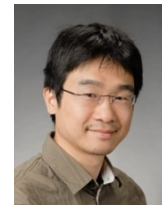
William Seager  
*Philosophy*



Artur Izmaylov  
*Physical &  
Environmental Sciences*



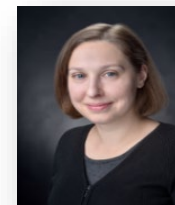
Lucan Way/ Matt Hoffman  
*Political Science*



Andy Lee  
*Psychology*



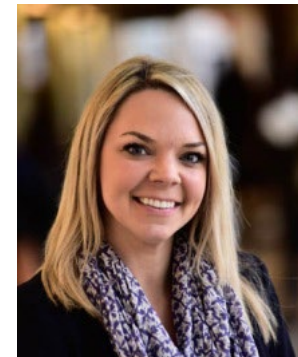
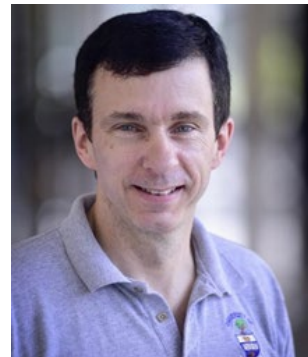
John Hannigan  
*Sociology*



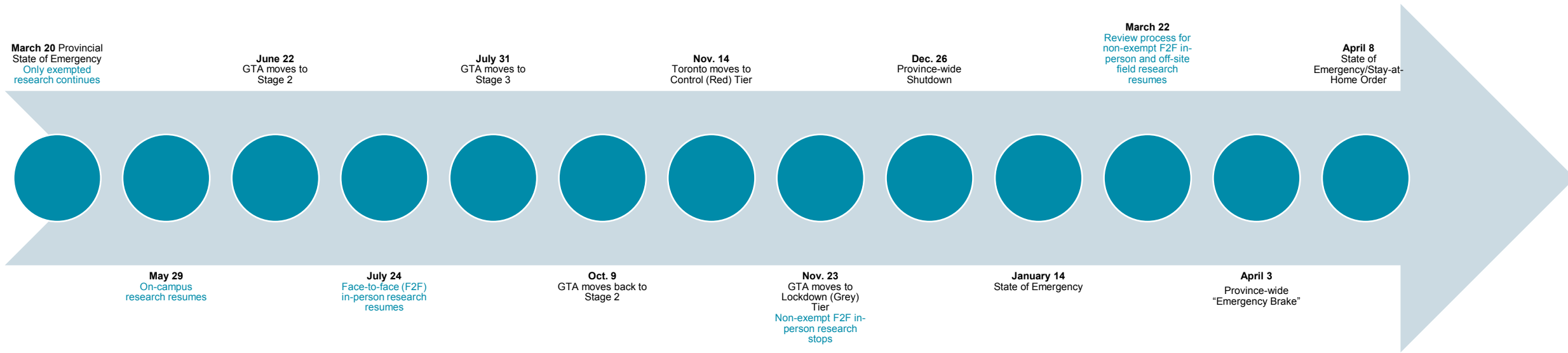
Sarah Forbes  
*Library Representative*

# UTSC RESTART RESEARCH WORKING GROUP

- VPRI (Chair)
- 6 Departmental Chairs
  - George Arhonditsis
  - Suzanne Erb
  - Jessica Fields
  - Andrew Mason
  - Juvénal Ndayiragije
  - Grace Skogstad
- UTSC Chief Administrative Officer
- Director, OVPRI
- UTSC Vivarium Manager
- Manager of UTSC Office of EHS
- Graduate (PhD) Student



# COVID-19 PANDEMIC TIMELINE



## COVID-19 RESEARCH FUNDING

UTSC, in conjunction with the Toronto COVID-19 Action Initiative and the University of Toronto, awarded **more than \$500,000** in funding to support research that renders near-term results (from one month to 12 months, depending on the nature of the impact) with strong potential to positively impact individuals, communities and public health systems.

Gerald Cupchik  
Psychology



Jessica Fields  
Health and Society

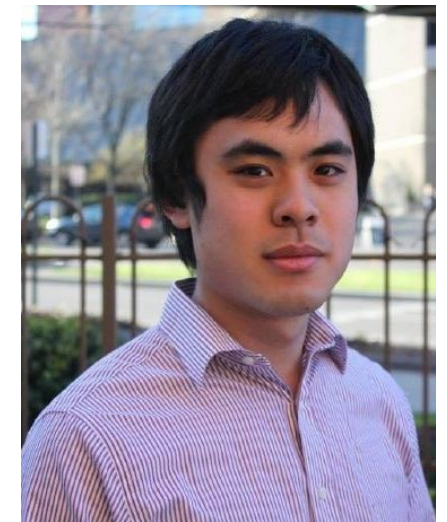


Joseph Hermer  
Sociology



Jayeeta Sharma  
Historical & Cultural Studies

Yun William Yu  
Computer & Mathematical  
Studies



# COVID-19 PANDEMIC RELIEF FUNDING SUPPORT

The OVPRI secured some limited, one-time funding to help UTSC researchers mitigate the consequences of the COVID-19-related mandatory temporary cessation of research activities.

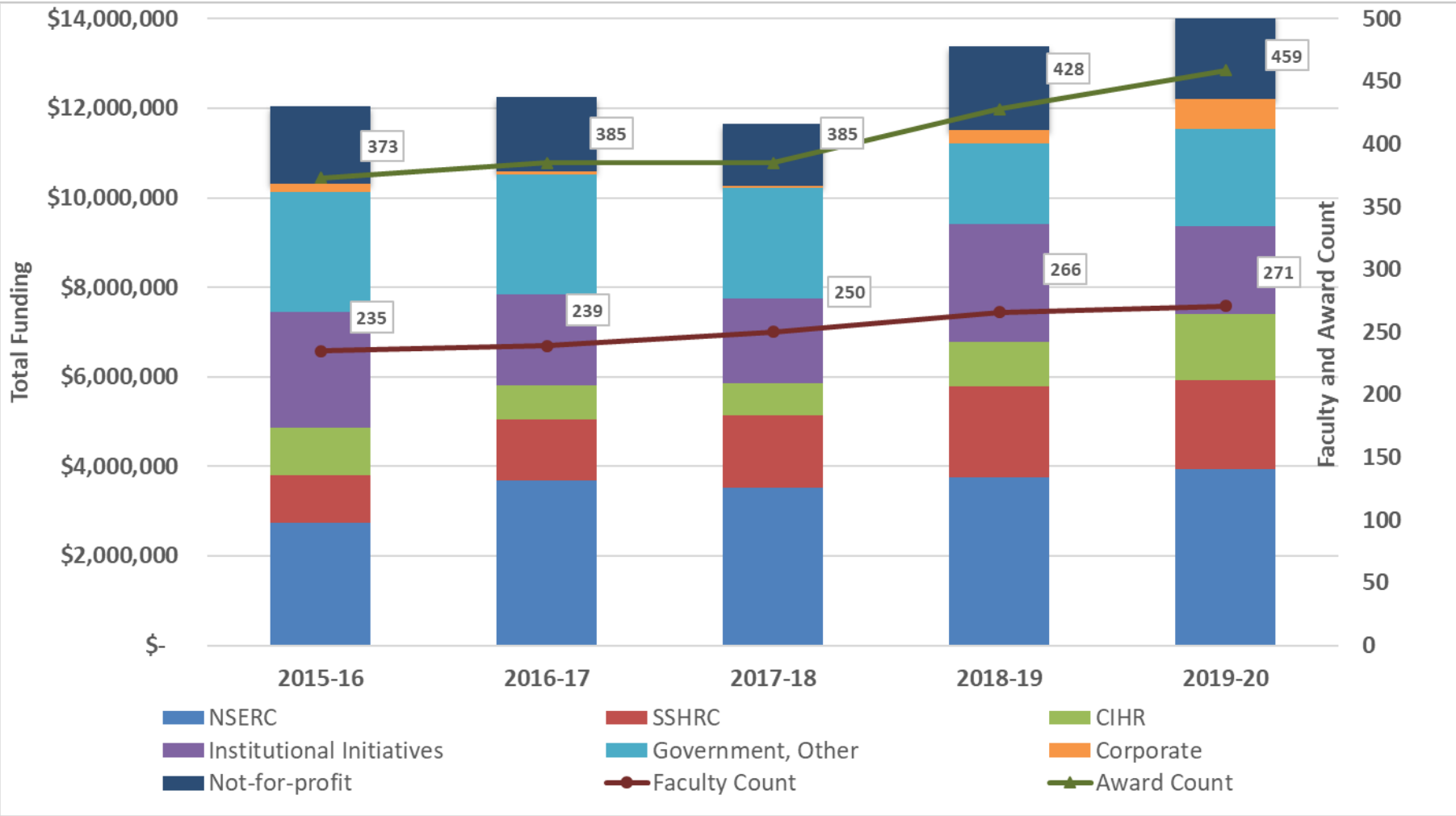
To that end, the following funds were disbursed for the identified purposes:

- Repair of UTSC Lab Instruments: **\$100,000**
- Extension of UTSC Postdoctoral Fellow Contracts: **\$60,000**
- Restocking the Vivarium and Greenhouse: **\$45,000**

## Canada Research Continuity Emergency Fund (CRCEF)

- UTSC researchers secured a total of more than \$295,000 via CRCEF Stages 1-4

# UTSC EXTERNAL RESEARCH FUNDING



Data source: UTBI Research Cube; Grant Year April 1 – March 31; February 9 2021

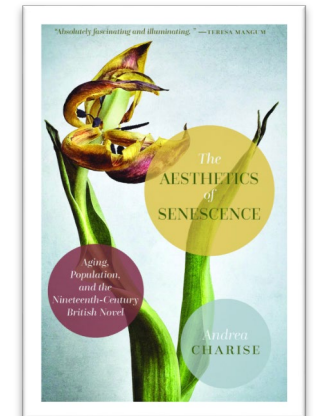
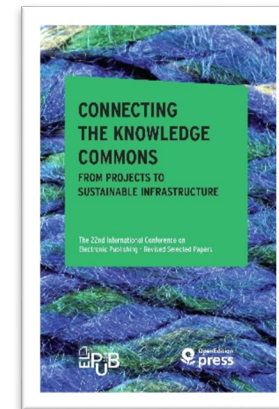
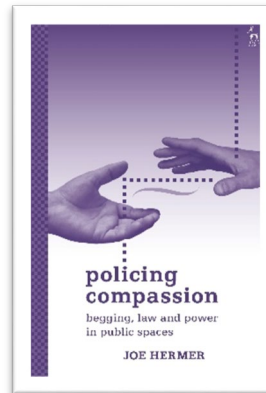
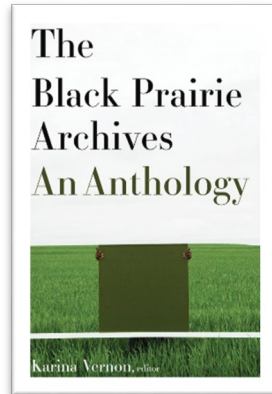
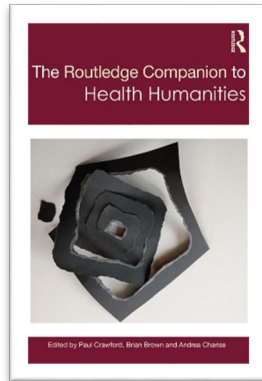
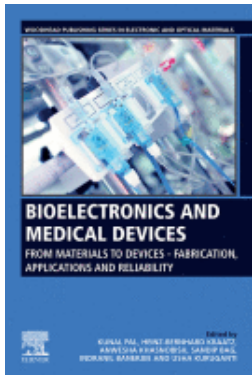
## UTSC EXTERNAL RESEARCH FUNDING

	2015-16	2016-17	2017-18	2018-19	2019-20
NSERC	\$2,731,890	\$3,686,473	\$3,532,766	\$3,747,992	\$3,947,517
SSHRC	\$1,061,959	\$1,369,159	\$1,602,941	\$2,046,933	\$1,970,275
CIHR	\$1,066,502	\$765,089	\$732,110	\$981,801	\$1,479,916
TIPS	\$0	\$0	\$0	\$125,000	\$125,000
<b>Tri-Council</b>	<b>\$4,860,351</b>	<b>\$5,820,721</b>	<b>\$5,867,817</b>	<b>\$6,901,726</b>	<b>\$7,522,708</b>
Institutional Initiatives	\$2,587,511	\$2,014,029	\$1,882,260	\$2,639,630	\$1,974,437
Government, Other	\$2,676,217	\$2,686,451	\$2,477,456	\$1,791,276	\$2,157,094
Corporate	\$194,064	\$67,702	\$34,817	\$297,824	\$688,307
Not-for-profit	\$1,732,444	\$1,664,400	\$1,383,200	\$1,881,639	\$1,882,291
<b>Total Research Funding</b>	<b>\$12,050,587</b>	<b>\$12,253,303</b>	<b>\$11,645,550</b>	<b>\$13,512,095</b>	<b>\$14,224,837</b>
Faculty Count	235	239	250	266	271
Award Count	373	385	385	428	459

Data source: UTBI Research Cube; Grant Year April 1 – March 31

# UTSC FACULTY PUBLICATIONS

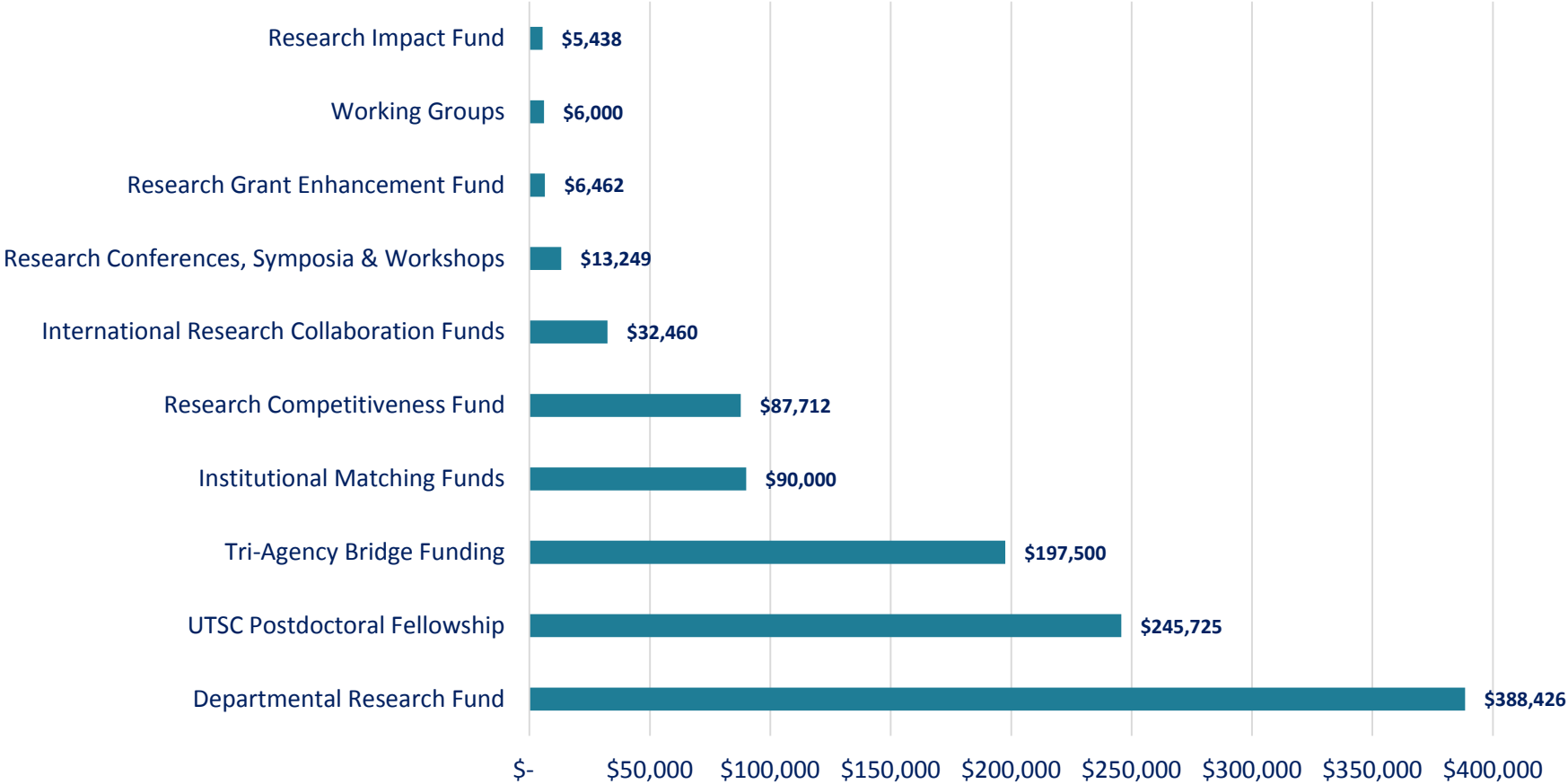
	2016	2017	2018	2019
Journal articles	298	350	357	490
Books	20	9	4	7
Book chapters	10	17	24	58
Other	77	84	74	72
<b>TOTAL</b>	<b>405</b>	<b>460</b>	<b>459</b>	<b>627</b>





# OVPRI FUNDING PROGRAMS 2019-20

Total amount of funding disbursed: **\$1,072,972**



# CSPP INAUGURAL COMPETITION (2020)

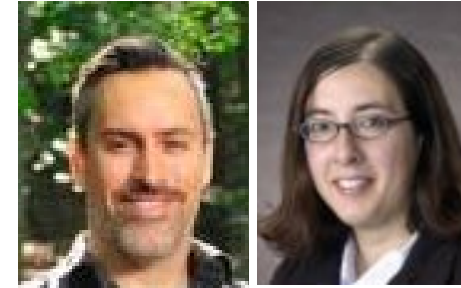
UTSC has established the CSPP as the new flagship program for supporting the pursuit of strategic initiatives.

The CSPP is designed to promote self-sustaining, interdisciplinary, inter-departmental/inter-divisional, collaborative clusters of scholarship in areas of established & emerging strength at UTSC.

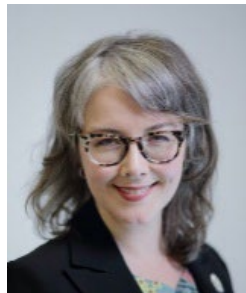
**\$2.4 million of funding was awarded** and the development of the following four clusters was approved:



**The Clinical Research and Evaluation Cluster (CREC)**  
Cluster Leads: Michael Best (Psychology) & Zindel Segal (Psychology)



**The Centre for Environmental Research in the Anthropocene (CERA)**  
Cluster Leads: Marc Cadotte (Biological Sciences) & Myrna Simpson (DPES)



**Flourish: The Arts and Social Wellness Cluster**  
Cluster Lead: Andrea Charise (Health & Society)



**Suburban Mobilities Cluster**  
Cluster Lead: Steven Farber (Human Geography)

# COLLABORATIVE RESEARCH CONSORTIUM PROGRAM (CRCP)



- UTSC, Ontario Tech University, Centennial College and Trent University have partnered to establish the CRCP in order to provide initial seed support of \$50,000 for the development of high-quality collaborative research projects in areas of mutual strength and shared interest that advance the EaRTH Initiative.
- The theme for the 2021 year is **Integrated Sustainable Energy Technologies**.

## UTSC/ONTARIO SHORES LETTER OF INTENT (LOI)



- UTSC/Ontario Shores Centre for Mental Health Sciences signed a Letter of Intent (LOI) on August 21, 2020, to work cooperatively to explore research partnership opportunities and scholarly training initiatives in the advancement of knowledge about, and treatment of, mental health disorders.
- A number of collaborative projects are underway and an inaugural meeting of a joint steering committee occurred on March 10, 2021, at which current activities, potential future opportunities and the objectives for the following year were discussed.

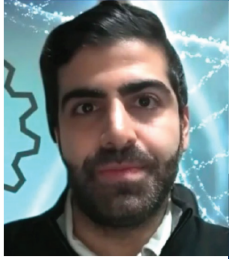
# THE HUB

INSPIRING  
INCLUSIVE  
EXCELLENCE



## Excellent Path to Precision Medicine

Exvivent



Mohammad Ali Ahmadpour – a graduate in Biomedical Engineering at U of T – is the chief founder of Exvivent.

It seems he was destined to create his biomedical firm from a very young age. When just 8 years old, Mohammad Ali's young life hung in the balance: a severe case of mycoplasma pneumoniae required urgent and decisive medical intervention. This experience produced an indelible and lasting impact – so much so that when he was finally able to pursue a career at university, he chose a path in biomedical engineering. Since graduating, Mohammad Ali has created Exvivent in order to save and improve lives of those suffering from lung disease.

Exvivent focuses on working with pharmaceutical firms and academic laboratories that are testing innovative new drugs for lung disease, e.g. lung cancer, COVID, cystic fibrosis, etc.



One of the key discoveries of Exvivent is its novel and patented process for creating humanized lung tissue with which to test a drug's effectiveness. The Exvivent system substantially shortens the period of time and cost that it takes to evaluate the efficacy of newly developed drugs, just prior to going to critical animal and human trials.

Why The Hub? "Actually, Exvivent is co-located in two incubators at U of T – The Hub and H2L. "Being at The Hub has been critical for determining our go-to-market strategy, and vital for establishing an investment-ready business model."

Sectors: Medical innovation.  
Award: The Hub Annual Startup Competition, 2020.  
Joined: Fall, 2020.



Great entrepreneurship happens here.



## fittedfast



Keturah Oduro is the founder of Fittedfast, a company that aggregates Toronto's downtown boutiques and stores onto a single online platform for e-commerce shopping.

The idea occurred to Keturah as an alternative to other popular e-commerce platforms, because they were taking sales away from local, urban communities, rather than working strongly with them to build a strong local economy.

Fittedfast launched in the February of 2019, a year before the start of the COVID-19 pandemic. At the time, the launch of the company was aimed at developing local shopping. Of course, since the start of the pandemic and its subsequent lockdown, Fittedfast has been working hard to provide a lifeline to its client companies, increasing their online revenue and helping to offset the loss in sales.

Fittedfast is unusual as an online e-commerce platform. The company seeks to bridge the gap between online and in-store shopping with hopes of leveling the playing field for local businesses against giants like Amazon."

Fittedfast emphasizes shopping local, not internationally, as a means of making urban life sustainable and economically viable.

Why The Hub? "Being at The Hub has been critical for determining a growth strategy. We have an established revenue as proof of concept. The Hub is helping us understand how to grow the business with the aim of investment from venture capital."

Sectors: Retail, E-commerce.  
Award: The Hub Annual Startup Competition, 2020.  
Joined: Fall, 2020.



Great entrepreneurship happens here.



## We automate hard, physical tasks for humans.



Since Sumar Kaya was eight, he enjoyed learning to code with his father and creating smart, effective technology.

Today, the recent MBA from UoT's Rotman School of Management is the founder and CEO of Gradient Robotics, a software and technology company that has taken residence in The Hub.

Fulfillment is the process that occurs after you make an online order, where workers pick, pack, and then deliver items.

With Gradient's robots, workers ride through packed stores and warehouses in a fraction of the time, collecting what they need to assemble an order.



At present, Gradient is completing a pilot project with grocery stores in Turkey. With the help of The Hub, the company plans to open operations in Canada in both the hardware and grocery sectors.

"We are building smart architecture and software to prep for a future that will change the customer experience and how we shop," Kaya said.

Why did he join The Hub? "Says Kaya, "The Hub is absolutely the best choice for Gradient. The network of mentors and friends that we have gained through our association with The Hub has provided us with incredible business advice and support with going to market strategy in Canada."

Sectors: Grocery industry, hardware warehousing.  
Award: The Hub Annual Startup Competition, 2020.  
Joined: Fall, 2020.



Great entrepreneurship happens here.



## EMBODY THE CULTURE



Ibochi started with a vibrant, colourful pair of leggings designed by Ibooma Amaechi. Others noticed the look as something infused with culture and unique in activewear.

Inspired by these reactions, Amaechi founded Ibochi in 2019, an activewear company that designs and sells African-inspired clothing. Herself a longtime volleyball player, she wanted athletic clothing that felt personal, different and cool. "Most clothes were neutral or monotone and I wanted something different and cool; I'm also Nigerian and we are known for wearing lots of prints."

The current collection includes "triple pieces" from West Africa. "There's parts of my culture that the media does not see," Amaechi said. "West Africa is extremely vibrant, extremely rich and extremely colourful."



In the future, Amaechi plans to expand catalogues with clothing that represents more regions within Africa. Ibochi uses fashion to invite people into the culture, beyond Africa and educate others.

Each piece has a meaning that is rooted in culture and celebrations. "I chose prints that represent an attitude or a space that someone can embody when they wear Ibochi. It is about feeling active, healthy and connecting to one's inner self."

Sectors: Fashion, sportswear.  
Award: The Hub Annual Startup Competition, 2019.  
Joined: Fall, 2019.



Great entrepreneurship happens here.



## NORM

Made in Canada with nothing but natural ingredients.



Charvon Riley has a passion for natural beauty products.

As a recently graduated chemist, he was drawn to building his company, Natural Organic Matters (NORM). The company itself launched during U of T's Time Blue Showcase at MaRS in 2019 with its first product, a natural body balm made of fruit, almond, and hazelnut oils.

Says Riley, "What we do is use natural ingredients to form different products for different ethnic groups, ages and purposes, such as acne, wrinkle-dim, exema, burns, and more."

Various of NORM's customer testimonials speak to the quality of the natural products, comparing them favourably to competitors. Customers tend to like the consistency of the products and their fragrances, indicating that there is an excellent balance in the formulation.

Says Riley, "Our customers benefit from our transparency, and the knowledge that we stand for the same things they do: health, sustainability, and general kindness towards our planet and those who inhabit it."

Riley is working hard to have NORM take off, to provide a number of natural beauty products to its Canadian customers. He aims to build the company, where it will grow and eventually provide a substantial source of revenue for himself and others.

Currently, he is building his sales team, and forming his online store. Look for NORM products, available online at the company's website: [www.naturalorganicmatters.ca](http://www.naturalorganicmatters.ca).

Sectors: Beauty products, cosmetics.  
Award: The Hub Annual Startup Competition, 2019.  
Joined: Fall 2019.



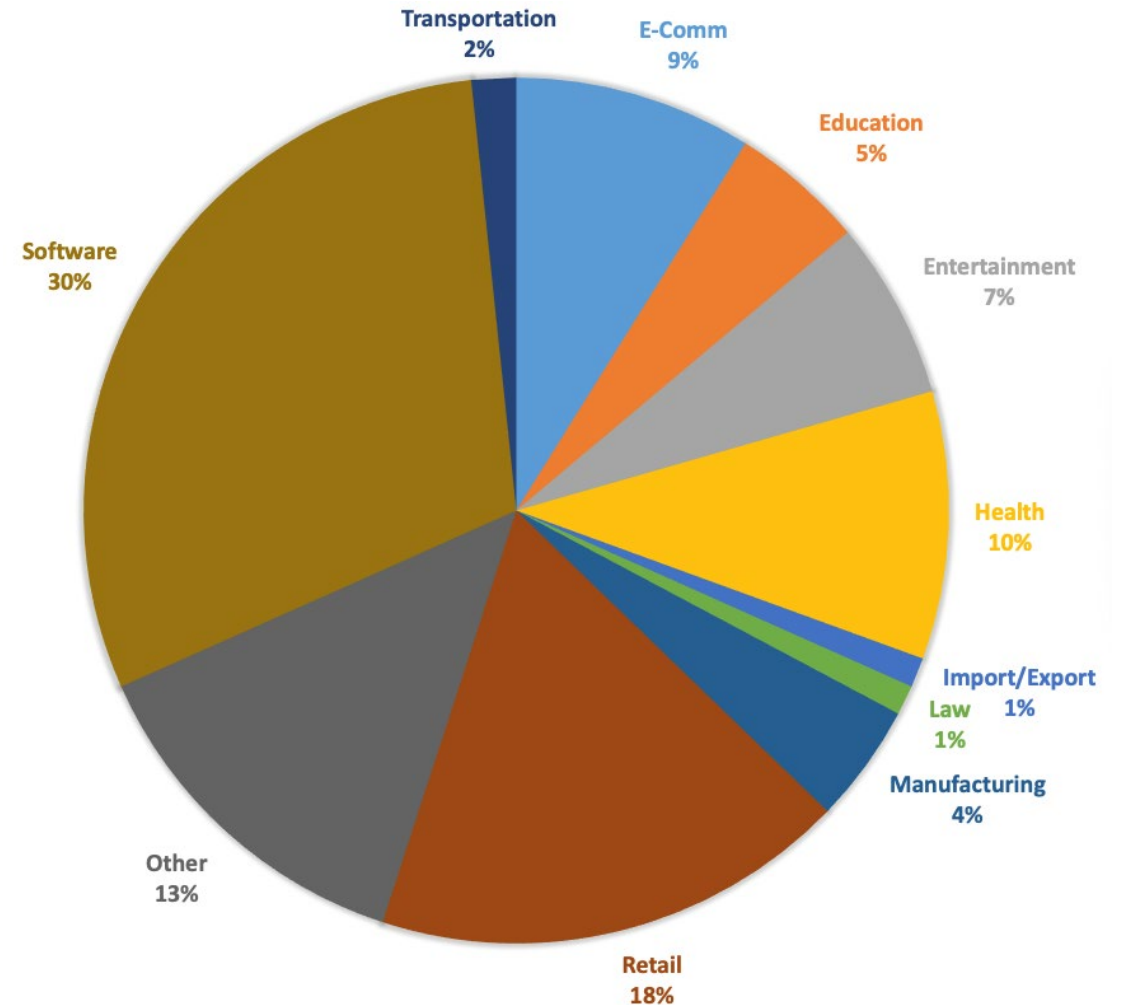
Great entrepreneurship happens here.



## THE HUB – SINCE 2015

- 181 startups formed (299 Founders)
- Majority of Founders from Computer Science
- Almost all departments represented; broad appeal across campus
- 33% incorporated
- Combined valuation of companies at graduation – \$16 million
- Combined valuation today of top 5 companies – over \$54 million (based on investment)

Startups by Industry, 2015 to present



## THE HUB – CURRENT YEAR

### Shift to ZOOM

- Participation up 40%
- Increased diversity programming

### Startups: 61 companies in residence

- Accelerate: 18 (22 students)
- Incubate: 43 (75 students)

### Events:

- 797 participants attended virtual events

Celebrating Leaders, Black Women in Business  
International Women's Day Panel  Wed, March 10th, 2021 at 6:00-7:30pm



Naki Osutei      Fennella Bruce      Daphne Magna



Cassels



Entrepreneurship

*The process followed by The Hub is to create a funnel, engaging students primarily via virtual events during the pandemic. A pool of 200 highly motivated students is identified. There is a conversion rate of 30% that draws them into The Hub, where they focus on building their prototype of their idea, attending workshops and group advising sessions. Roughly 33% go on to accelerate their company.*

## THE HUB – CURRENT YEAR

- **Women Entrepreneurs**
- 40% of this year's founders in The Hub are women entrepreneurs.
- **Inclusivity**
- The vast majority of founders in The Hub self-identify as racialized, people of colour.
- **Featured Hub Entrepreneur**
- Keturah Osinde, Fittedfast

*Keturah Osinde is the Founder of Fittedfast, a company that provides an aggregated online e-commerce platform for Toronto's fashion stores and boutiques.*



## OVPRI STRATEGY

- Faculty training and research proposal development services and support
- Dedicated support for the pursuit of large-scale, cross-divisional initiatives that involve interdisciplinary teams of researchers and partners to address grand challenges and pursue bold ideas
- Seed funding to enhance, stimulate and promote faculty research
- Recognition and promotion of faculty research excellence
- Support student entrepreneurship and innovation activities (The Hub and The Bridge)



# ASSOCIATE VICE-PRINCIPAL RESEARCH–STRATEGIC INITIATIVES



- A new senior academic administrative position has been established in the OVPRI: Associate Vice-Principal Research–Strategic Initiatives (AVPR-SI).
- The AVPR-SI will provide leadership for strategic research and innovation initiatives at UTSC, including UTSC’s new Clusters of Scholarly Prominence Program (CSPP) and the creation of new research institutes.
- Professor Grace Skogstad kindly agreed to serve as Interim AVPR-SI for the period of July 1, 2020 – June 30, 2021.

# ENHANCING OVPRI RESOURCES TO FURTHER SUPPORT THE UTSC RESEARCH & INNOVATION ENTERPRISE

- Since 2019 the OVPRI has added a number of full-time, permanent positions to its staffing complement in order to enhance the level and types of support that it provides to the UTSC research and innovation community, including:
  - Associate Vice-Principal Research–Strategic Initiatives (Senior Academic Administrator)
  - Manager, Research Services and Partnerships
  - Research Partnerships and Business Development Officers (2)
  - Research Services Officer
  - Awards and Honours Officer
- The OVPRI is also currently in the process of recruiting:
  - a Research Computing Support Officer (in conjunction with IITS)
  - an Embedded Research Officer