

Iron Man Fighting malnutrition / Dawn of an Era Canada's first computer / If You Can Play Sport's gay-straight alliance  
Screen Time Online learning goes viral / Whose Values? Parsing Quebec's charter / Get Better, Sooner Mobile health

# UofT Magazine

WINTER 2014



## Town and Gown

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strengthen each other,  
says U of T's new president

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By fortifying two everyday foods, Prof. Levente Diosady aims to reduce malnutrition worldwide

BY MARCIA KAYE

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Online courses are big, bold and potentially game-changing for higher education

BY CYNTHIA MACDONALD

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## Departments

# Athletes should be judged on talent and work ethic, not sexual orientation

– Former Varsity Blues swimmer Taylor Bond, who came out to his team in 2010 and supports U of T's efforts to make university athletics open and welcoming to all, p. 15



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22 Seamless Mobile Health aims to reduce hospital readmissions and save millions in medical costs



53 From the moment she arrived in Canada, Katerina Atanassova was drawn to the Group of Seven. Now she tells the world about their art

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# Letters



## What ethnocentric arrogance to presume that western “talk therapy” is somehow superior to indigenous prayer groups and spiritual healing

**G.V. WHELAN**

BA 1976 TRINITY, MA 1984, TORONTO

### Silent Stars

As part of a team that is developing an instrument to detect flashes of infrared light from deep space – flashes that might indicate the presence of intelligent life – Prof. Shelley Wright was asked how she might feel if an alien signal were to be detected (“First Contact,” Autumn 2013). Her answer was that she didn’t know. I don’t think she has to worry about receiving such signals. Any highly developed civilization that had been studying us would have long ago thrown up its hands in frustration and moved on to more promising planets. Given humanity’s generally unpleasant record of wars, resource misuse, animal abuse and global warming, the only reason they would have to visit is to tell us to knock it off – or else. Our only hope then would be Captain James T. Kirk.

**GEOFF RYTELL**

BEd 1975 OISE, TORONTO

### Reining in the Greens

I was delighted to read Gerald Crawford’s letter (Autumn 2013) about the politics of climate science. I have long maintained that the environmental movement is out of control and needs a serious tune-up before it will ever earn any credibility with the legitimate scientific community. I would refer your readers to Elizabeth Nickson’s book *Eco-Fascists* (2012) as an excellent

primer in environmental initiatives gone wild. And while we’re on the subject, let’s put a stop to the endless jumping on the green bandwagon to sell everything from bananas to beer.

**DAVE WINLOW**

MASc 1986, GRAVENHURST, ONTARIO

### Heartwarming Contribution

After reading the Summer 2013 issue, I recommended the article on Mary Jo Haddad (“Taking Care”) to my granddaughter, who earned a medical degree in India. Ms. Haddad’s achievements in life and her contribution to the growth of The Hospital for Sick Children are truly heartwarming.

**SUBBANARASU DIVAKARAN**

PHD 1966, BANGALORE, INDIA

### Western Arrogance

Regarding the efforts by Prof. Paula Ravitz to increase access to psychiatric treatment in Ethiopia (“Peace of Mind,” Spring 2013), I would think that the last thing the so-called developing world needs is an invasion of western psychiatric “medicine.” What ethnocentric arrogance to presume that western “talk therapy” is somehow superior to indigenous prayer groups and spiritual healing. Our own world is evidencing a steady movement in the opposite direction. Perhaps this is the reason for the outreach, like cigarette companies in need of new markets? And since

when did the psychiatric profession limit itself to talk – traditionally the preserve of psychologists – given that one of its primary roles is the dispensing of antidepressants and other medications on behalf of the pharmaceutical industry. Again, new markets? If you want evidence, seek out the graphs for the rise of antidepressant drug prescription in the west and the steady increase in the length of time for which they are prescribed.

**G.V. WHELAN**

BA 1976 TRINITY, MA 1984, TORONTO

### Prof. Ravitz responds:

Thank you for raising such important issues, ones that we too feel strongly about and struggle with. Our project is not a sudden attempt to bring a western talk therapy to a low-income country. In fact, it is the result of years of work with colleagues in Ethiopia and long discussions about the problem of bringing urban Toronto psychiatry to a low-income country. As a result, we have together culturally adapted a four-session therapy that focuses on loss and grief and disagreements – universal causes of distress that can underlie depression. Currently in health centres and hospitals in Ethiopia the only treatment for mental illness is medication. This co-created talk therapy will offer an alternative. As you point out, all societies have their own way of dealing with these issues. Our work forges a partnership guided and led not only by Ethiopian psychiatrists but by Ethiopian primary health-care workers and traditional healers so that we establish a “local talk therapy” to optimize access for the many thousands of Ethiopians who suffer from mental illness.

## Defying Gravity

### A strategy for maintaining and advancing U of T's global standing



Twentieth, eighth, second, first – and last. This is the paradox that is the University of Toronto.

Twentieth in the world (according to the latest Times Higher Education World University Rankings), eighth in the world in scientific performance (according to the 2013 National Taiwan University Ranking), second in the world in total output of scholarly publications (after Harvard), first in Canada in all of these rankings, and yet last in Canada – and amongst the very lowest in North America – when it comes to public funding per student.

Our ability to achieve these incredible results in the face of such a significant resource handicap is nothing short of remarkable. Simply put, this institution defies gravity. It is Canada's leading research-intensive university in one field after another, spanning the humanities, medicine, engineering, sciences, social sciences, law, social work and many other professional disciplines.

What may be less obvious from our global rankings is that U of T is arguably Canada's most accessible university. Our remarkable student aid policy states: "No student offered admission to a program at the University of Toronto should be unable to enter or complete the program due to lack of financial means." We spend more than \$150 million every year, over and above student aid support from government, to make good on this pledge.

Very few other universities in the world deliver on this dual mandate of research excellence and openness as well as U of T does. It is embodied in the experience of Jessica Yeung, who came to Canada from Hong Kong as a child. A fourth-year undergraduate student in linguistics and the first in her family to attend university, she is working with University Professor Keren Rice, one of the world's leading experts in the linguistic analysis and preservation of aboriginal languages.

Great stories such as Jessica's are found right across this university. They demonstrate that the University of Toronto is a merit-based portal of opportunity for many thousands of academically qualified students.

Our openness is not confined to residents of the Toronto region, Ontario – or even Canada. International students make up 20 per cent of our incoming undergraduate class this year. They are drawn here, in increasing numbers, to learn from – and work with – our leading scholars. And many of them stay in Canada once they graduate, building careers and spurring creativity and innovation in one sector of the economy after another.

Our university, then, is a critical piece of social infrastructure – one that opens up opportunities for newcomers and provides them with the foundation they need to thrive and contribute to the economic and social well-being of Toronto, Ontario and Canada.

As an institution, we have much to be proud of. Here, I must acknowledge the phenomenal contributions of my predecessor David Naylor, who has steered this institution through challenging times with such clear vision, firm resolve, and utter dedication.

As we look to the future, though, we face some increasingly strong headwinds that could threaten our top-20 global standing and prevent us from moving forward.

Public funding – already scarce – could become even more so if the fiscal position of our government partners deteriorates. Institutions of higher learning find themselves under increasing pressure to produce "job-ready" graduates, and to abandon the time-honoured ideal of a broadly based education. And we now face intense competition as the dissemination of knowledge explodes throughout the online world.

How are we going to meet these formidable challenges if we hope to maintain and advance our global standing?

The ingenuity, creativity and efficiency of our faculty, staff and academic leaders will be central to our efforts, of course. The support of our alumni, benefactors and friends has never been more important than it is today, and will become even more so in the next few years.

I believe three strategies will also help ensure our success: leveraging our location more fully; strengthening our



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international partnerships; and re-examining, and perhaps even reinventing, undergraduate education.

It is our great good fortune to be situated in the world's most open, cosmopolitan and globalized city-region. If we are to achieve our full potential in the future, we must leverage our location within this urban region of six million-plus people more fully.

Already, our students engage in learning-by-doing, working with community partners in neighbourhoods right across the GTA. Our faculty also benefit from our location in Greater Toronto. They gain the opportunity to work on urban issues to advance our understanding of how cities develop over time. In this way, they lend their expertise to government agencies, citizens' groups and community-based organizations on major urban policy questions.

But we must seek new opportunities to open up our campuses to the city around us, using our physical spaces to convene public discussions of the most pressing urban issues of the day. We need to identify our most successful examples of community outreach and partnership, and scale them up to generate more opportunities for our students and faculty, and more benefit for our local partners – public, private and non-profit. By working more closely with local groups to meet challenges and seize opportunities together, we will make this region a better place in which to live, work and prosper.

Second, at a time when we are keen to expand our role as a city-building institution at home, it makes particularly good sense for us to leverage our partnerships with other great universities in other great world cities. Many of these institutions are engaging in their own city-building efforts, and can offer us access to their local projects, practices and partnerships. Not only does this open up fantastic research opportunities for our faculty and students and encourage our students to become global citizens, it also allows us to bring this experience and expertise to Toronto.

The third strategy is to build on the transformation in undergraduate education that has occurred at U of T over

the past eight years. We have multiplied small-group learning opportunities. We have pioneered the use of online technologies, and we have learned much about how to use these tools both to substitute for and to complement classroom-based learning. We need to extend this work further, and study the effectiveness of online teaching in real time so that we can reap valuable knowledge from our experience. We also need to support the growing interest in entrepreneurial activity amongst our students, and to provide more opportunities for them to study in professional programs.

At the same time, we need to remind our partners in government and business, as well as the taxpayer, that the value of a university education needs to be measured along many dimensions. In addition to enjoying better employment prospects upon graduation, we know that citizens with a university education are more civically engaged, enjoy healthier and longer lives, accumulate higher lifetime earnings, are less likely to engage in crime or to depend on social assistance, and...they are happier.

There is one further and very important element that will be required: we'll need more support from our government partners, at all levels, if we are to succeed. We are grateful for their support in the past. But if we are to achieve our ambitious goals, we need our public-sector partners to recognize – through their funding and their policies – that institutions like the University of Toronto play a unique and differentiated role within Canadian higher education. Just imagine, if we succeed on all of these fronts, what heights we can reach.

While the challenges we face are great and our need to innovate has never been greater, the opportunities have never been more appealing. I look forward to working closely with all parts of the U of T community to build on our wonderful foundations and move this great good place forward.

*This is an abridged version of U of T President Meric Gertler's installation speech on Nov. 7, 2013. Read the full text here: [president.utoronto.ca/installation-address](http://president.utoronto.ca/installation-address)*

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| <input type="checkbox"/> Bhutan                      | <input type="checkbox"/> Southeast Alaska                 | <input type="checkbox"/> Treasures of East Africa           |
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| <input type="checkbox"/> Cradle of History           | <input type="checkbox"/> Black Sea Serenade               | <input type="checkbox"/> Cruise the Panama Canal            |
| <input type="checkbox"/> Ancient Kingdoms of China   | <input type="checkbox"/> Village Life in Dordogne         |                                                             |



# 2014 ALUMNI TRAVEL

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## Burma

(Myanmar)

**March 3–15**

\$5770 US + air

## Peru featuring

### Machu Picchu

**Mar 6–13**

\$2995 US + air

## Passage to India

(Singapore, Indonesia, Thailand, Sri Lanka, India)

**Apr 2–15**

From \$3299 US + air

## Holland & Belgium

**Apr 11–19**

From \$2495 US + air

## Japan

**Apr 12–23**

\$8400 CAD incl. air

## Bhutan

**Apr 23–May 4**

\$4995 US + air

## Pearls of Antiquity

(Greece, Turkey)

**Apr 25–May 12**

From \$4095 US + air

## Lands & Islands of Mystery

(Japan, Russia, USA)

**May 1–15**

From \$5195 US + air

## Cradle of History

(Turkey, Greece, Cyprus, Israel)

**May 4–15**

From \$3499 US incl. air

## Ancient Kingdoms of China

**May 18–Jun 1**

From \$4195 US + air

## Apulia

(Italy)

**May 20–28**

\$2395 US + air

## Mediterranean Classics

(Spain, France, Italy, Greece, Croatia)

**May 31–Jun 11**

From \$3999 US incl. air

## Celtic Lands

(Scotland, Wales, Ireland, France, England)

**Jun 4–14**

From \$6080 US + air

## Discover Switzerland

**Jun 11–26**

\$4295 US + air

## Baltic Sea

(Denmark, Poland, Estonia, Russia, Finland, Sweden)

**Jun 20–29**

From \$6290 US + air

## Southeast Alaska

(USA)

**Jun 26–Jul 4**

\$5350 CAD + air

## Sorrento

(Italy)

**Sep 3–11**

\$2995 US + air

## Lifestyles

### Explorations in Spain

**Sep 20–Oct 14**

From \$3995 US + air

## Black Sea Serenade

(Turkey, Bulgaria, Romania, Ukraine, Russia)

**Sep 21–Oct 2**

From \$3999 US incl. air

## Village Life in Dordogne

(France)

**Sep 25–Oct 3**

\$3395 US + air

## Normandy

(France)

**Sep 30–Oct 8**

\$2795 US + air

## Trade Routes

### of Coastal Iberia

(Portugal, Spain, Gibraltar, Balearic Islands)

**Oct 3–11**

From \$5240 US + air

## Lifestyles

### Explorations in Italy

**Oct 3–25**

From \$4995 US + air

## Bali & Beyond

(Indonesia)

**Oct 4–18**

\$8500 CAD incl. air

## Grand Danube Passage

(Bulgaria to Czech Republic)

**Oct 4–19**

From \$4595 US + air

## Treasures of East Africa

(Tanzania, Kenya)

**Oct 6–20**

\$6795 US + air

## The Real Galapagos

(Ecuador)

**Nov 2–11**

From \$6895 US + air

## Classical Music in Vienna & Prague

(Austria, Czech Republic)

**Nov 13–23**

\$4695 CAD + air

## Cruise the Panama Canal

(USA to Costa Rica)

**Nov 19–30**

From \$3095 US + air

# Calendar

**MORE EVENTS!**  
Check out the latest campus happenings at [utoronto.ca](http://utoronto.ca).



Parker, a psychology prof at the University of Alberta. Price, time and location to be confirmed.

**February 9**  
**Pinehurst, North Carolina**  
**Brunch with Strangers.** Hosted by alumna Teri Prince. Free. 11 a.m.–2 p.m. Location: a private residence.

**February 11**  
**San Francisco**  
**San Francisco Skule Alumni Reception.** Join engineering colleagues for the annual event. Free. 5:30–7:30 p.m. San Francisco Marriot Marquis Hotel, 780 Mission St. For information [kblanch@ecf.utoronto.ca](mailto:kblanch@ecf.utoronto.ca).

**February 12**  
**San Jose, California**  
**BizSkule Alumni Event.** Skule alumni in California gather to hear industry speakers and to network. \$15. Time to be confirmed. Altera, 101 Innovation Drive. Contact [kblanch@ecf.utoronto.ca](mailto:kblanch@ecf.utoronto.ca).

**March 12**  
**Hart House**  
**Skule Nite Reception.** Mix and mingle before the big show put on by engineering students. Price to be confirmed. 6 p.m. East Common Room, 7 Hart House Circle. Contact Megan Murphy, 416-978-4941, [meganm@ecf.utoronto.ca](mailto:meganm@ecf.utoronto.ca).

FEBRUARY 20 TO 22

## 2014 CIS National Swimming Championships

Come watch the Varsity Blues men's and women's swimming teams vie for national gold in home water at the 2014 CIS championships. U of T men are defending CIS champions; the women won the national bronze medal in 2013. Tickets \$10 (students \$5, children eight and under free). Finals at 6 p.m. nightly, Athletic Centre Varsity Pool, 55 Harbord Street.

To purchase tickets: [varsityblues.ca/tickets](http://varsityblues.ca/tickets). For information: [sports.info@utoronto.ca](mailto:sports.info@utoronto.ca), [@Varsity\\_Blues](https://twitter.com/Varsity_Blues).

### Alumni

For more information about alumni events, please contact, unless otherwise noted, Deirdre Gomes, 416-978-1669, [deirdre.gomes@utoronto.ca](mailto:deirdre.gomes@utoronto.ca), or visit [alumni.utoronto.ca/events/regional](http://alumni.utoronto.ca/events/regional).

#### January to December 2014

**Innis College**  
**Innis College 50th Anniversary.** The college celebrates its half century with events, lectures, dinners and parties. For a complete

schedule, call 416-978-3424 or visit [alumni.innis.utoronto.ca](http://alumni.innis.utoronto.ca).

**January to May**  
**The Toronto Plaza Hotel**  
**Skule Lunch & Learn Speakers Series.** Engineering alumni share memories while enjoying engaging lectures. \$30. **Jan. 8, Feb. 12, Mar. 12, Apr. 9** and **May 14**, 12–2:45 p.m. 1677 Wilson Ave., North York. To register: [alumni.utoronto.ca/skululunchandlearn](http://alumni.utoronto.ca/skululunchandlearn). Contact: Tom Vosper, 416-946-0566, [tomv@ecf.utoronto.ca](mailto:tomv@ecf.utoronto.ca).

**January 31**  
**Oakland, California**  
**Neutrino Hunters** with U of T professor Ray Jayawardhana. Find out the secrets of the mysterious, tiny particles that might be able to travel faster than light and reveal the early universe. From \$20 to \$29. Chabot Space and Science Center, 10000 Skyline Blvd.

**February 8**  
**Edmonton**  
**Addiction: How the Brain Responds** with alumnus Timothy

### Events

**March 10 to 14**  
**St. George Campus**  
**Jr. DEEP at March Break and DEEP Math at March Break.** U of T's Engineering Outreach Office teaches pre-university courses on cutting-edge topics in science, technology, engineering and math. Jr. DEEP at March Break (Grades 3–8) \$280, DEEP Math at March Break (Grades 9–12) \$280. 9 a.m.–4 p.m., Mon.–Fri. For info: 416-946-0816, [outreach@ecf.utoronto.ca](mailto:outreach@ecf.utoronto.ca) or [uoft.me/engmarchbreak](http://uoft.me/engmarchbreak). To join mailing list: [uoft.me/englist](http://uoft.me/englist).



John Howlin's acrylic painting "New Order #17" is on display in "A Thousand Works in Eighty Spaces," January 14 to March 8



## March 21

### Convocation Hall

#### 2014 Dunlap Prize Lecture.

Presented by Neil deGrasse Tyson, the popular science speaker and winner of the Dunlap Institute's inaugural prize for excellence in astronomy. Free, but registration required. 8 p.m. 31 King's College Circle. For info: uoft.me/1Gj.

## Exhibitions

### January 13 to February 14

#### Eric Arthur Gallery

**Out There, Now.** View works by recent Visual Studies graduates. Free. Mon. to Fri. 9 a.m. -5 p.m. 230 College St. For info: 416-978-7003 ext. 114, pamelawalls@daniels.utoronto.ca or daniels.utoronto.ca/events.

### January 14 to March 8

#### University of Toronto Art Centre

#### Framing Narratives: Renaissance to Modernism.

Former UTAC director Niamh O'Laoghaire and students curate works from the western canon, including pieces by Picasso, Matisse and Klee. The exhibition explores the process of curation. Free. Tues. to Fri. 12-5 p.m., Wed. 12-8 p.m., Sat. 12-4 p.m. 15 King's College Circle. For info: 416-946-7089, maureen.smith@utoronto.ca.

### January 14 to March 8

#### St. George Campus

#### A Thousand Works in Eighty Spaces: The Art on Campus

**Program** highlights the diversity and depth of the University of Toronto Art Collection, and presents works of art that are available for loan to campus borrowers, including pieces by Carl Beam, Ray Mead, Ulayu Pingwartuk and Richard Gorman. Currently 1,100 works are displayed in 86 buildings. They enrich the university and provide an opportunity for scholarship by U of T students. Free. For info: 416-946-7089, maureen.smith@utoronto.ca or utac.utoronto.ca.

### January 27 to May 2

#### Thomas Fisher Rare Book Library

#### We Will Do Our Part: The University of Toronto and the Great War.

This exhibition, mounted by the University of Toronto Archives, examines the role the university played in the First World War. Free. Mon.-Fri. 9 a.m.-5 p.m., Thurs. to 8 p.m. 120 St. George Street. 416-978-5285 or fisher.library.utoronto.ca/events-exhibits

## Lectures and Symposia

### January 8 to April 2

#### Faculty Club

#### Senior College Weekly Program.

Presentation and discussion sessions. Free. 2-4 p.m. 41 Willcocks St. 416-978-7553, senior.college@utoronto.ca or faculty.utoronto.ca/arc/college

### January 16, March 6

#### Daniels Faculty

#### Building, Ecology, Science and Technology (B.E.S.T.) Lecture

#### Series. Jan. 16, Jennifer Drake

on low-impact development techniques that lessen environmental impacts. **Mar. 6, Green Roof Gurus Panel** on how to get green roofs right. Free. All talks 6:30 p.m. Rm 103, 230 College St. For info: 416-978-7003 ext. 114, pamelawalls@daniels.utoronto.ca or daniels.utoronto.ca/events.

### February 25

#### Munk School of Global Affairs

#### The Wiegand Memorial Foundation

#### Lecture.

Anthropologist Terrence W. Deacon of the University of California, Berkeley speaks in the series that explores links between science and the non-rational. Free, general seating. 6 p.m. 1 Devonshire Place. For info: 416-946-5937, events@artsci.utoronto.ca.

### April 8

#### Faculty Club

#### Senior College Annual Symposium.

Day of presentations and discussions on "World Hotspots." Modest

fee to be confirmed. 9 a.m.-4 p.m.

41 Willcocks St. 416-978-7553, senior.college@utoronto.ca or faculty.utoronto.ca/arc/college

## Music

### January 20

#### Walter Hall

#### Shauna Rolston and Friends.

A star-studded chamber music concert performed by Canada's leading string players. \$40 (seniors \$25, students \$10). 7 p.m. 80 Queen's Pk. Tickets: 416-408-0208. Info: music.utoronto.ca.

### January 21 to 24

#### Walter Hall

#### Stephanie Blythe.

The renowned mezzo-soprano is U of T's John R. Stratton Visitor in Music. **Jan. 21,** 7 p.m., Master Class: Art Song. **Jan. 23,** 12:10 p.m., Master Class: Opera Arias. **Jan. 24,** 7:30 p.m., An Evening of English Song. All events free. 80 Queen's Pk. Info: music.utoronto.ca.

### January 25 to February 2

#### Faculty of Music

#### New Music Festival.

The week opens with a concert of music written by Gabriel Prokofiev, the Roger D. Moore Distinguished Visitor in Composition. Full schedule: music.utoronto.ca/events/nmf.

### January 26

#### Trinity College Chapel

#### The Coronation of King George II.

Schola Cantorum and the Theatre of Early Music reconstruct the pomp of an 18<sup>th</sup>-century spectacle, mining the libraries of the Chapel Royal and Westminster Abbey for 'old' and 'new' music. \$30 (seniors \$20, students \$10). 7:30 p.m. 6 Hoskin Ave. Tickets: 416-408-0208. Info: music.utoronto.ca.

### March 20 to 23

#### MacMillan Theatre

#### Albert Herring.

Celebrating the first opera produced in the theatre, in 1964, with a new production.

Thurs. to Sat., 7:30 p.m. Sun.,

2:30 p.m. \$40 (seniors \$25, students \$10). 80 Queen's Pk. Tickets: 416-408-0208.

## March 27

#### MacMillan Theatre

#### Mike Holober.

UTJO and 11 O'Clock Jazz Orchestra play with the respected jazz composer. Pay what you can; concertgoers contributing \$20 or more receive UTJO's new CD, *Reflections*. 7:30 p.m. 80 Queen's Pk. Info: music.utoronto.ca.

## Theatre

### January 10 to 25

#### Hart House Theatre

#### The Wedding Singer.

The musical, based on the popular film starring Adam Sandler, is chock full of salutes to 80s pop culture. Week 1: Fri. and Sat., 8 p.m. Week 2: Wed. to Sat., 8 p.m. Week 3: Wed. to Sat., 8 p.m. and Sat., 2 p.m. Post-show chats: Jan. 11 and 16. Preshow chat: Jan. 25, 1 p.m. Adults \$28, seniors \$17, students \$15 (students \$10 every Wed.). Alumni \$17 every Thurs. 416-978-8849, uofttix.ca

### February 28 to March 8

#### Hart House Theatre

#### Goodnight Desdemona (Good

#### Morning Juliet).

Shakespeare's heroines appear in a new light as they untangle issues of identity, sexuality and self-worth. Week 1: Fri. and Sat., 8 p.m. Week 2: Wed. to Sat., 8 p.m. and Sat., 2 p.m. Postshow chats: Mar. 1 and 6. Preshow chat: Mar. 8, 1 p.m. Adults \$28, seniors \$17, students \$15 (students \$10 every Wed.). Alumni \$17 every Thurs. 416-978-8849, uofttix.ca

### March 12 to 15

#### Hart House Theatre

#### Skule Nite 1T4.

The world-famous engineering musical and sketch comedy revue. \$20. 8 p.m. nightly. 7 Hart House Circle. For tickets and info: Megan Murphy, 416-978-4941, meganm@ecf.utoronto.ca.

# GO BACK TO SCHOOL FOR THE WEEKEND

Spring Reunion 2014

May 28–June 1



*If you graduated in a year ending in 9 or 4, save the date now for a jam-packed weekend of lectures and lunches, tours and talks, dinners and dialogue. This is your Spring Reunion and here's what we're planning for you:*

## U of T-wide Signature Events for Alumni of Every Description

### WEDNESDAY, MAY 28

SHAKER for Young Alumni

### THURSDAY, MAY 29

LGBTQ Spring Soirée

### FRIDAY, MAY 30

Chancellor's Circle Medal  
Ceremonies for 55<sup>th</sup> to 80<sup>th</sup>  
Anniversaries

50<sup>th</sup> Anniversary Ceremony

Stress-Free Degree Lectures

*With speakers known for expanding minds*

### SATURDAY, MAY 31

Stress-Free Degree Lectures,  
campus tours and other events

University of Toronto  
Alumni Association (UTAA)  
Annual General Meeting

*Followed by Keynote Speaker*

Alumni BBQ

*Sponsored by your UTAA*

## Events at Your College or Faculty

Every U of T college, faculty and department creates opportunities for its own alumni to reconnect.

Registration for all events opens on February 28, 2014 at:

[springreunion.utoronto.ca](http://springreunion.utoronto.ca)



UNIVERSITY OF  
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Find out more: 1-888-738-8876 416-978-5881 [spring.reunion@utoronto.ca](mailto:spring.reunion@utoronto.ca) [springreunion.utoronto.ca](http://springreunion.utoronto.ca)



# Life on Campus

**“Where armed groups get their money from really shapes how they behave”**

Prof. Aisha Ahmad  
on the economics  
of modern wars

p.16



From left: Students Katharine Ball and Mohamed Farid Abdel Hadi, President Meric Gertler, Chair of Governing Council Judy Goldring

## Welcome, President Gertler

U of T must strengthen local and global partnerships and enrich undergraduate education, Gertler says in speech

**IN A CEREMONY THAT DREW** on almost two centuries of tradition, renowned urban scholar Meric Gertler was installed as the University of Toronto’s 16<sup>th</sup> president on November 7. Students, alumni, faculty, staff and members of the community gathered in Convocation Hall for the time-honoured ritual. After Gertler swore the oath of office, students helped the new president into his official robes: blue silk damask trimmed with 31 silver ornaments handcrafted in India.

Stepping to the podium, Gertler told the crowd that U of T must leverage its location in a globally important city, deepen and focus its international partnerships and enrich its undergraduate teaching and learning. (To read a condensed version of Gertler’s speech, see page 4.)

“Our university is a critical piece of social infrastructure,” said Gertler. He emphasized the significance of the relationship between the university and the urban region and hailed U of T’s hands-on partnerships with community development organizations in Toronto, Scarborough and Mississauga.

Gertler also focused on the importance of strengthening international partnerships with other great universities in other major world cities, including São Paulo, Paris, New York and Beijing. “It makes sense for us to deepen and develop these relationships to foster not just student mobility and faculty exchanges, but also joint research projects, joint ▶



U of T's best subject in the 2013 global university rankings? A stellar 5<sup>th</sup> in the world in clinical medicine from the National Taiwan University assessment

## U of T : Canada's Best University



U of T



UBC



McGill



	U of T		UBC		McGill	
Times Higher Education World University Rankings	20 <sup>th</sup>	1 <sup>st</sup>	31 <sup>st</sup>	2 <sup>nd</sup>	35 <sup>th</sup>	3 <sup>rd</sup>
QS World University Rankings	17 <sup>th</sup>	1 <sup>st</sup>	49 <sup>th</sup>	3 <sup>rd</sup>	21 <sup>st</sup>	2 <sup>nd</sup>
Shanghai Jiao Tong University's Academic Ranking of World Universities	28 <sup>th</sup>	1 <sup>st</sup>	40 <sup>th</sup>	2 <sup>nd</sup>	58 <sup>th</sup>	3 <sup>rd</sup>
National Taiwan University Ranking	8 <sup>th</sup>	1 <sup>st</sup>	27 <sup>th</sup>	2 <sup>nd</sup>	34 <sup>th</sup>	3 <sup>rd</sup>

U of T's stellar research and innovation record propelled the university to a sweep of the four most prestigious university rankings in 2013. All four placed U of T first in Canada and in the top 30 globally.

The Times Higher Education World University Rankings noted that U of T was one of only eight universities (including Oxford, Cambridge and Stanford) to score in the top 30 in all six subject areas in the survey: humanities, medicine, physical sciences, social sciences, life sciences and engineering. The Times also praised U of T's invention disclosure rate – first in Canada and third among public universities in North America – and its five Nobel laureate alumni, the most of any Canadian university.

Visit [magazine.utoronto.ca](http://magazine.utoronto.ca) to see how 30 individual U of T departments ranked globally and nationally.

### EPHEMERA



The University of Toronto celebrated its fourth year as host of the CIBC Run for the Cure on October 6. More than 17,000 people turned out to support the Canadian Breast Cancer Foundation, which sponsors research projects at U of T. Some sported a pink ribbon – a symbol for breast cancer awareness – while others wore pink shirts and wristbands. “The event is a wonderful opportunity to work towards an incredible cause,” says Gina Trubiani (BSc 2003 St. Michael's, PhD 2008), whose team of U of T staff members raised more than \$9,000.

– NADIA VAN

conferences, joint teaching and, yes, perhaps joint degrees,” he said.

The new president made a point of naming and celebrating several alumni and students at the ceremony for whom the university offered a life-changing opportunity. Expanding on his strategy for re-examining and perhaps even reinventing undergraduate education, Gertler explained that this reinvention may include increasing support for the growing interest in entrepreneurial activity among students and providing more opportunities to study in professional programs.

Gertler concluded his address with a call for increased funding for the university. “There is no escaping the hard truth that we'll need more support from our government partners, at all levels, if we are to succeed,” he said. The new president also saluted “the sheer dedication, creativity and commitment of U of T's faculty and staff,” and the “ingenuity, energy and passion of our wonderful students.”

Gertler's appointment is the result of an international

search to find a successor to Dr. David Naylor that began in June 2012. Gertler has been on the U of T faculty since 1983 and served as dean of the Faculty of Arts and Science – U of T's largest and most diverse academic division – from December 2008 until May 2013.

Chancellor Michael Wilson invited several speakers to welcome the new president, representing university partners, faculty, students and alumni: the Lieutenant Governor of Ontario, David C. Onley; Reza Moridi, Minister of Research and Innovation for Ontario; Mary Jo Haddad, president and CEO of The Hospital for Sick Children and representing the Toronto Academic Health Science Network hospitals; Adrian De Leon, student member of the Governing Council; Vice-President and Provost Cheryl Regehr; Suzanne Fortier, principal and vice-chancellor of McGill University; Lenna Bradburn, president of the University of Toronto Alumni Association; Louis Charpentier, secretary of the Governing Council; and President Emeritus Robert Prichard. – STAFF





Canadians suffer 94,000 concussions every year. Nearly one-third occur in teens aged 12 to 19.



Sandhya (left) and Swapna Mylabathula

## Concussion Solution

### U of T students call on Ottawa to do more to protect athletes

**OVER THE PAST THREE YEARS,** University of Toronto students Sandhya and Swapna Mylabathula have worked with Member of Parliament Kirsty Duncan to develop a private member’s bill to address concussions.

The bill was inspired by Sandhya and Swapna’s dual loves of science and hockey – and their confluence in sports medicine. It focuses on prevention, awareness, diagnosis and management for anyone affected by concussion. While concussions have often been considered a relatively harmless part of rough-and-tumble sports, new research has indicated that they may lead to more lasting brain injury. The new bill proposes three federal government initiatives: a National Concussion Awareness Week; a national strategy for addressing concussion-related issues; and the establishment of a Centre for Excellence in Concussion Research. “We haven’t

met anyone yet who thinks this is a bad idea,” says Sandhya. “There are a lot of gaps in what’s available to Canadians.”

To prepare the bill, the Mylabathulas started with a literature review, and then traveled to conferences both across Canada and abroad to meet with academics, health-care professionals and people who have been directly affected by concussions. The biggest challenge, says Swapna, has been the slowness of the political process. “We’ve heard many personal stories from Canadians who didn’t have anywhere to turn for help or support, and it was difficult to not be able to speed up the process to more quickly help [them].” Sandhya and Swapna have also been collecting signatures on a series of petitions calling for the bill’s measures to be implemented.

Duncan has already started presenting the petitions in the House of Commons, as a precursor to the first reading of the bill. While very few private member’s bills ever pass into law, Sandhya and Swapna hope that their initiative will serve as a push for the government to take more action on concussions. Ottawa’s November announcement of millions of dollars in funding to study the impact of concussion on developing brains is a great start, but the Mylabathulas are working for much more.

The Mylabathulas both hope to pursue sports medicine – Sandhya is currently working on a master’s in exercise science and Swapna is in medical school – but they haven’t ruled out an eventual (and no doubt tandem) run for public office. “They are top-notch students, but they are also beautiful people,” says Duncan (a professor of health studies currently on leave from UTSC). “Everything they do is about helping others.”

Late on a Friday afternoon, Sandhya and Swapna have no plans to knock off early. Instead, they pull out their petitions and prepare to hustle for more signatures. “There are a lot more things on our radar,” says Swapna, “and it’s amazing to have a chance put your little piece forward in the world.”

– SARAH TRELEAVEN

NAMECHECK

## Teefy Hall



Teefy Hall, on the west side of St. Michael’s College, is named after John Read Teefy, a professor of mathematics, philosophy and English who played a pivotal role in the early days of the University of Toronto.

Father Teefy graduated from University College in 1871 and later taught at St. Michael’s College. In 1881, he was the driving force behind the affiliation of St. Mike’s with U of T, which included an agreement that allowed St. Mike’s to teach philosophy and history courses. Undergraduate degrees, however, were taken through University College until 1910, when St. Mike’s gained full degree-granting status.

Father Teefy wanted to create “a great Catholic university,” said U of T historian Martin Friedland, “bearing the same relation to modern times that the University of Salamanca did to medieval.” Teefy died in 1911, but it would not be until the Pontifical Institute of Medieval Studies was founded in 1929 that the college would reach the stature that he envisioned.

Teefy Hall was built in 1936 as a mixed-use space, and is part of a complex of buildings that includes the Pontifical Institute and two other residences. Today, Teefy Hall is home to classrooms and faculty offices as well as dorms. – NADIA VAN



All but two of the 27 moons of the planet Uranus are named after Shakespeare characters



The Shakespeare at Play company shine a spotlight on *Hamlet*

**The Play's the Thing**

The eBard of Avon? Absolutely, thanks to a project just launched by PhD candidate Noam Lior (BA 2005 Woodsworth, MA 2009) and alumni partners. Lior met business associate Tim Chisholm when they were both drama undergrads at University College; years later they've teamed up to create ebook versions of Shakespeare's plays that integrate video with the text. Not merely clips, but full-length performances of every scene. The reader can use a split-screen view to follow both performance and written play simultaneously; icons link to audio synopses or character lists while embedded notes

explore staging tips or recurring themes. A free smartphone app offers the text alone.

"Each play was made to live on its feet, in a live performance," explains Lior, who is writing his dissertation on editing Shakespeare. The partners hired actors, including Daina Valiulis (BA 2005 UC) and Trevor Jablonowski (BA 2007 Woodsworth) who later joined the team as co-producers. Their intended audience is high-school students, so of course their first three projects, available now at [shakespeareatplay.ca](http://shakespeareatplay.ca), were *Romeo and Juliet*, *Macbeth* and *Hamlet*. *Othello* and *A Midsummer Night's Dream* are up next. - JANET ROWE

**SOUND BITES**

What's the coolest thing you've learned in your U of T classes?

**Just talked to someone doing a master's in Egyptology who can read hieroglyphics. This campus is so rad sometimes.**

Hilary Barlow

**Why Russian History is fantastic: the Beard Tax. It's exactly what it sounds like.**

Jasmine Foster

**That awesome moment when they blow the whole system in morning bio lecture. #heatgun #demo**

Matt Izquierdo

**There is an orchid that mimics a female bee of a particular species chemically and physically, to attract males to transfer pollen.**

Ross Vernon Dias

Join the conversation at [twitter.com/uoftmagazine](https://twitter.com/uoftmagazine).

**Poll | Do you prefer textbooks in print or electronic form?**

We may have replaced CDs and DVDs with iTunes and Netflix, but 81 per cent of U of T students are still clinging to their paper textbooks. Students feel that print textbooks make it easier to scribble notes on the page and bookmark or highlight important passages – functions that aren't readily available when reading online. Ten per cent of the students surveyed also switched from electronic to print texts during the school year because they experienced technical difficulties and long loading times for digital devices.

Of the minority that preferred e-textbooks, some pointed to environmental concerns and the heftier expense of producing and purchasing physical textbooks. For most of these students, however, increased portability was the most important factor. "You carry your mobile device everywhere anyways, so it's easy to access," says Kian Farshadi, a second-year mathematics student. "You also don't have to worry about damaging your paper textbooks, lugging them around or forgetting them at home." - NADIA VAN

This highly unscientific poll of 100 U of T students was conducted on the St. George campus in October.



**19%**  
**Electronic**

**81%**  
**Print**





U of T held the university's first ever Queer Orientation in September 2013. Hundreds of students participated

## Speaking Out

### U of T is working on multiple initiatives to combat homophobia in sport



Former Varsity Blues swimmer Taylor Bond

**PROFESSIONAL ATHLETES STILL** encounter homophobia in sport. But university-level athletes have seen a positive shift in sport culture over the last 10 years – though the fight is far from over, says Bruce Kidd, a professor in the Faculty of Kinesiology and Physical Education and Warden of Hart House.

“At U of T, the expectation is that if you wear the blue and white uniform, you have to be supportive of your teammates,” he says. “With respect to LGBT, most have accepted that.” Kidd is optimistic for the future as well, with student-driven grassroots initiatives springing up and with the university beginning to implement diversity training for all athletes and staff.

Taylor Bond competed on the

Varsity Blues men’s swim team for four years (he was team captain from 2011 to 2012). He recalls his first trip to campus, when head coach Byron MacDonald and a few team members made him confident U of T would be an inclusive space. A year later, he decided to come out. “You always have doubts about it, especially with an all-male team, but by then I already felt very comfortable with my teammates,” says Bond. “And the response has been unbelievably positive.”

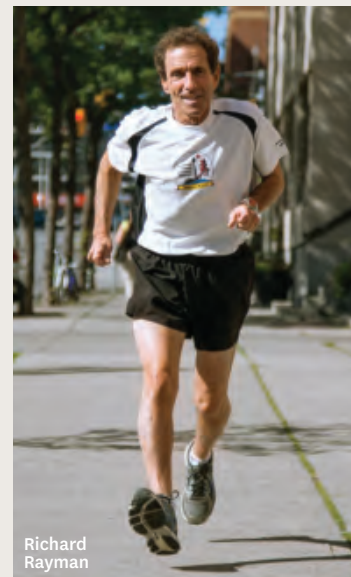
Last February, during U of T’s first-ever Athlete Ally week, athletes spoke out against homophobia and wore a sticker to show their support for an LGBT-positive space in sports. The awareness week takes place again early in the new year. Last year, Blues athletes also showed “You Can Play” videos at their annual banquet. “The idea is that athletes should be judged on talent and work ethic, not sexual orientation,” says Bond.

Barb Besharat (BPHE 2005) recently facilitated a campus discussion on gender and sports. “U of T has always been well ahead of the curve with its diversity policies and practices for LGBT athletes,” she says. “But they’ve really taken off in the last few years. They have staff members dedicated to equity initiatives in sport – that’s different from when I was a student, and different from many other schools today.”

U of T’s St. George and Scarborough campuses have made a commitment to integrate Pride House elements into the 2015 Pan Am and Parapan Am Games. Michelle Brownrigg, director of physical activity and equity in the Faculty of Kinesiology and Physical Education, is developing student engagement opportunities that could help make the next major international games a positive experience for all athletes. “We want to address everything from homophobic language in the locker room to slurs on the field,” she says. “Our goal is to foster a positive space in sport culture.”

Now focusing on his last year of studies, Bond still wants to get involved with both on- and off-campus initiatives. With the Sochi Olympic Games on the horizon, LGBT support is more needed than ever, he says. “Events like Athlete Ally have gay and straight athletes working together to send out the same message,” he says. “And that message is, ‘Hey, when I’m on the hockey rink with you or in the swimming pool with you, you are who you are – no matter what your sexual orientation is.’” – **NADIA VAN**

## People



Richard Rayman

Dentistry prof **Richard Rayman** ran his 300<sup>th</sup> marathon in October, the Scotiabank Toronto Waterfront Marathon, raising funds for the dental clinic at Princess Margaret Hospital.

The Royal Society of Canada recently welcomed nine U of T profs as follows: **Jonathan Abbatt** and **Andrei K. Yudin** (chemistry), **Joseph Heath** and **Evan Thompson** (philosophy), **Emanuel Adler** (political science), **Ato Quayson** (English), **Sali A. Tagliamonte** (linguistics), **Jutta Brunnée** (law) and **Katherine Siminovitch** (immunology).

Eighteen U of T professors have been named fellows of the Canadian Academy of Health Sciences: **Prabhat Jha** and **Patricia O’Campo** of the Dalla Lana School of Public Health, **J. Paul Santerre** of Dentistry, **Muhammad Mamdani** of the Leslie Dan Faculty of Pharmacy and **Philip Berger**, **Dina Brooks**, **Paul Dorian**, **Herbert Gaisano**, **Rita Kandel**, **Stephen Lye**, **Philip Marsden**, **John Marshall**, **Avery Nathens**, **Thomas Parker**, **Paula Rochon**, **Sean Rourke**, **Sharon Straus** and **James Wright** of Medicine.

Law prof **Kent Roach** has won a \$225,000 Trudeau Foundation Fellowship to research wrongful convictions.

Dr. **Kevin Imrie** of the department of medicine has been elected president of the Royal College of Physicians and Surgeons of Canada.



Somalia, Afghanistan and North Korea are the most corrupt countries in the world, according to Transparency International

POV

## The Price of War

International aid fuels corruption in a conflict zone and may keep war going, says political science professor Aisha Ahmad.



Aisha Ahmad's work explores how money affects conflicts, particularly in the Muslim world. Below, she talks to deputy editor **Stacey Gibson** about the forces behind war.

**We tend to think of wars as ideological conflicts. Why is money often key?** Outside of a conflict zone, people talk about culture and religion. Inside a war zone, everyone talks about money. The availability of resources drives the trajectory of a conflict and the motivation of its actors. War is expensive. Money enters conflict zones through many channels: business communities, trade, humanitarian aid, criminality, extortion networks and covert military assistance. Each has a role to play in perpetuating the conflict. And where armed groups get their money from really shapes how they behave.

**Can you give an example?** In 2006 in Somalia, a grassroots social movement called the Islamic Courts Union (ICU) took control of 90 per cent of the countryside. They essentially won the civil war, until the international community forced them out of power in 2007.

However, the ICU actually came to power in Somalia because it received significant financial support from the Mogadishu business community, who were fed up with the

high price of clan-based warlords. For every \$100 that the business community had to pay to the warlords for "protection," they could give \$35 to the ICU to remove the warlords. So between 2004 and 2006, business elites collectively decided to invest in the courts.

With this financial support, the ICU was able to beat the heavily entrenched warlords that had dominated Mogadishu for 15 years. Within six months, they took over the country. The real kingmakers in that competition were the people with the money. And when you look at the ongoing situation in Somalia today, the exact same rational, economic processes are still driving the conflict.

**What is the role of international aid in transforming a conflict environment?** Aid fosters dependency and fuels corruption networks in a conflict zone. When resources come from the outside, the state floats above its population with no accountability to its citizens. Aid-dependent states also learn that you get a paycheck if there is a crisis – and therefore if you actually resolve your crisis, you're out of money. So the aid industry actually incentivizes the perpetuation of humanitarian crises. The solution isn't aid; it's legitimate business and smart taxation.

**Can you tell me about your new course, International Relations of Ethnic Conflict?** Ethnic conflict is often considered a domestic politics issue. But ethnic wars often affect the entire regional neighbourhood through the spread of small arms, the flow of refugees, and incitement of violence across borders. Ethnic conflicts spread; they're contagious. The course puts civil wars in an international context.

**What do you hope students will take away from your work?** A lot of students say they want to make the world a better place. I always tell them you have to know something before you do something. Knowledge without action is unjust, but action without knowledge is criminal. A world-class research university is a great place to start that learning process.

## Incredible Progress

### A CENTURY OF MEDICINE AT U OF T

In the 1930s, anatomy lectures at U of T may have been low-tech, but they were as entertaining as any multimedia presentation. According to a new book about the history of the Faculty of Medicine, professor John Grant used to "draw the intricate organs of the body on the blackboard in living colour ambidex-

trously, both hands moving in sync at once." This is just one of the colourful details Edward Shorter recounts in *Partnership for Excellence: Medicine at the University of Toronto and Academic Hospitals* (2013).

Shorter's engaging volume covers more than 100 years in the faculty's history, relating stories about students, professors, the partner research hospitals and untold research discoveries, from insulin to stem cells.

A decade after completing his PhD in history, Shorter enrolled in the Faculty of Medicine for

two years to qualify him to write about medical topics. Today he is cross-appointed to both the history and psychiatry departments in recognition of his expertise. He hopes this book will illustrate why U of T Medicine has become a global leader: the unique collaboration with multiple hospitals right next to campus. "Nothing else quite like this exists," he says.

- JANET ROWE

To read an excerpt about the discovery of stem cells at U of T, visit [magazine.utoronto.ca](http://magazine.utoronto.ca)



Environmental studies at U of T date back to a 19<sup>th</sup>-century experimental farm on the current site of Hart House



Professor Marney Isaac (PhD 2008) teaches students about nutrient cycles and plant-soil interactions

## Gift on the Ground

### A \$1-million donation supports environmental research in Scarborough's Rouge Park

and graduate students in the departments of physical and environmental sciences and biological sciences – specifically to perform fieldwork in Rouge National Urban Park. Located on the border between Scarborough and Pickering and on the doorstep of UTSC, the 47-square-kilometre park features forests, meadows, ponds, wetlands and sandy beaches. As UTSC is the primary research and education partner of Parks Canada in the Rouge River valley, faculty and students enjoy extensive opportunities to study the park's biodiversity. Past undergraduate research initiatives have focused on identifying flora and fauna, testing soil and water quality, and assessing the impact of invasive plant species. The 40 undergraduate scholarships funded by the gift – worth \$5,000 each – will let students work with faculty members on similar projects. Meanwhile, 20 graduate scholarships, each worth \$10,000, will enable master's and doctoral students to pursue research on sustaining natural environments located near urban areas.

As well, the donation will create a \$100,000-per-annum specialized professorship in urban forest conservation and biology. The chosen prof will be an environmental or biological science expert, and will lead all programs, research and student placements associated with the park. TD's commitment also includes support for community-university initiatives, such as environmental workshops for local youths, science talks and community garden allotments.

“Through this gift, students and faculty will develop a better understanding of the benefits of this kind of local ecosystem and the importance of preserving it,” says Andrew Mason, chair of the department of biological sciences. “They will have access to something that can advance their degrees and connect them to what they are studying in the classroom.” – SHARON ASCHAIK

**STUDENTS AND FACULTY** in the natural sciences programs at University of Toronto Scarborough will enjoy more opportunities to study a local nature reserve in hands-on ways, thanks to a \$1 million gift from TD Bank Group.

The gift will fund research scholarships for undergraduate

## Why I Give



Susanne Priest (BScP 1976) was a community pharmacist for 30 years, then an executive at Shoppers Drug Mart. She recently gave \$25,000 to support the new Centre for Pharmacy Management, Research and Innovation at the Leslie Dan Faculty of Pharmacy – an initiative she believes will be crucial to developing a more efficient health-care system in Canada.

“I think this is a transformational moment for pharmacy in Ontario and in Canada. Pharmacists are taking a more active role in primary health care and are helping to support a health-care system that is beginning to sag under the growing needs of the baby boomers. Pharmacists are delivering new services to patients at the pharmacy counter, such as influenza immunization and the diagnosis of minor ailments. This is giving family physicians more time to deal with patients that have more serious illnesses.

“I believe that pharmacists today need to have a good understanding of not only the practice and profession of pharmacy, but also of how pharmacy will support new health-care models in the future. Certainly, patient care is as important as ever, but pharmacists must understand the economic aspects as well. A joint pharmacy doctorate and MBA program being developed at the Centre will offer an exciting opportunity in this regard for both pharmacy students and practitioners.”

As told to Scott Anderson.





A library computer glitch for many years miscategorized Ernest Sirluck's writings as by Luck, Ernest Sir



IN MEMORIAM

## Anthony Pawson

### Targeted drugs exist because Pawson discovered how cells communicate

**THOUGH A MAN OF STELLAR ACCOMPLISHMENTS**, Tony Pawson was also a dreamer. And therein lay much of his success.

Pawson, who died last August of unspecified causes at age 60, was a true titan of science: the cell biologist won scores of international awards (though the Nobel Prize eluded him, he was nominated fully eight times). He ran his own lab at Mount Sinai Hospital's Lunenfeld-Tanenbaum Research Institute, and was a professor of molecular genetics at U of T.

"He was a great supporter of curiosity," says Jim Woodgett, current director of research at the Lunenfeld-Tanenbaum institute. Pawson believed that scientists should be given space and time to follow an educated hunch over a period of years. The journey toward his own big breakthrough began in the 1970s in his native England, and took almost 20 years to pay off.

"The process of scientific discovery is rather like exploring for new continents in the age of sailing ships," he said in 2008, upon acceptance of Japan's prestigious Kyoto Prize. Though one must spend a long time adrift, "it is that moment of first seeing the land in the distance, of first realizing that one has a thread of evidence for a new way of looking at the world, that provides the most excitement."

The "sailing ship" that was Tony Pawson's career took him from post-doctoral research in California, to teaching microbiology at the University of British Columbia, to his laboratory in Toronto. It docked magnificently in 1990, when he cracked the unique code by which cells communicate with one another, a process known as signal transduction.

Pawson and his team at Mount Sinai observed that a key piece of a cellular protein, known as a domain, could send messages to other cells, thereby controlling their behaviour. They also saw that breakdowns in this messaging system could cause instructions to get scrambled – resulting in harmful cell division, and the onset of diseases such as cancer or Alzheimer's. Though Pawson worked specifically with a group of proteins known as tyrosine kinases, other types of cells were later discovered to communicate in the same way.

The curing of illness is but one positive outcome of Pawson's work, affirms Woodgett: "It's also helping us to understand evolution, among other things." And in showing how a protein's "instruction set" can be manipulated, the discovery has led to the development of exciting new cancer drugs such as Gleevec, Herceptin and Avastin. "These are far more targeted than conventional chemotherapy drugs, which cause damage to DNA," says Woodgett. "Because they're more specific, they have far fewer side effects."

Woodgett remembers Pawson as a devoted father and a great friend; a team leader who ably combined enthusiasm with erudition. "Part of his impact was being able to distil information and convert it into a form others could appreciate," Woodgett says. "It was difficult to come out of a meeting with him without being inspired." - **CYNTHIA MACDONALD**

IN MEMORIAM

## Ernest Sirluck



If you've ever found just the book you needed at Robarts, thank Ernest Sirluck. During his eight years at U of T in the 60s, the then-dean of the School of Graduate Studies spearheaded an ambitious 50-year-plan for the university's library system that included acquiring five million books – and building the giant concrete structure to shelve them all. He also oversaw a doubling of the number of grad students admitted to the university.

Sirluck grew up in Manitoba and came to U of T during the Second World War for graduate school, where he became the first Jewish person ever

appointed to teach English at a Canadian university. (Mid-appointment, he took a break to serve in France with Canadian military intelligence.) His U of T dissertation launched his reputation, later honed at the University of Chicago, as a respected scholar of Milton. After a stint as president of the University of Manitoba, Sirluck returned to Toronto. He died on September 4 at age 95. "Not only a great scholar and gifted administrator, he was a man of remarkable courage and the greatest integrity," said Paul Stevens, currently acting chair of the English department. - **JANET ROWE**

“I don’t think I could have gone to university, let alone play varsity field hockey, without alumni support.”

**Justine Branco**  
Bachelor of Kinesiology, 2014



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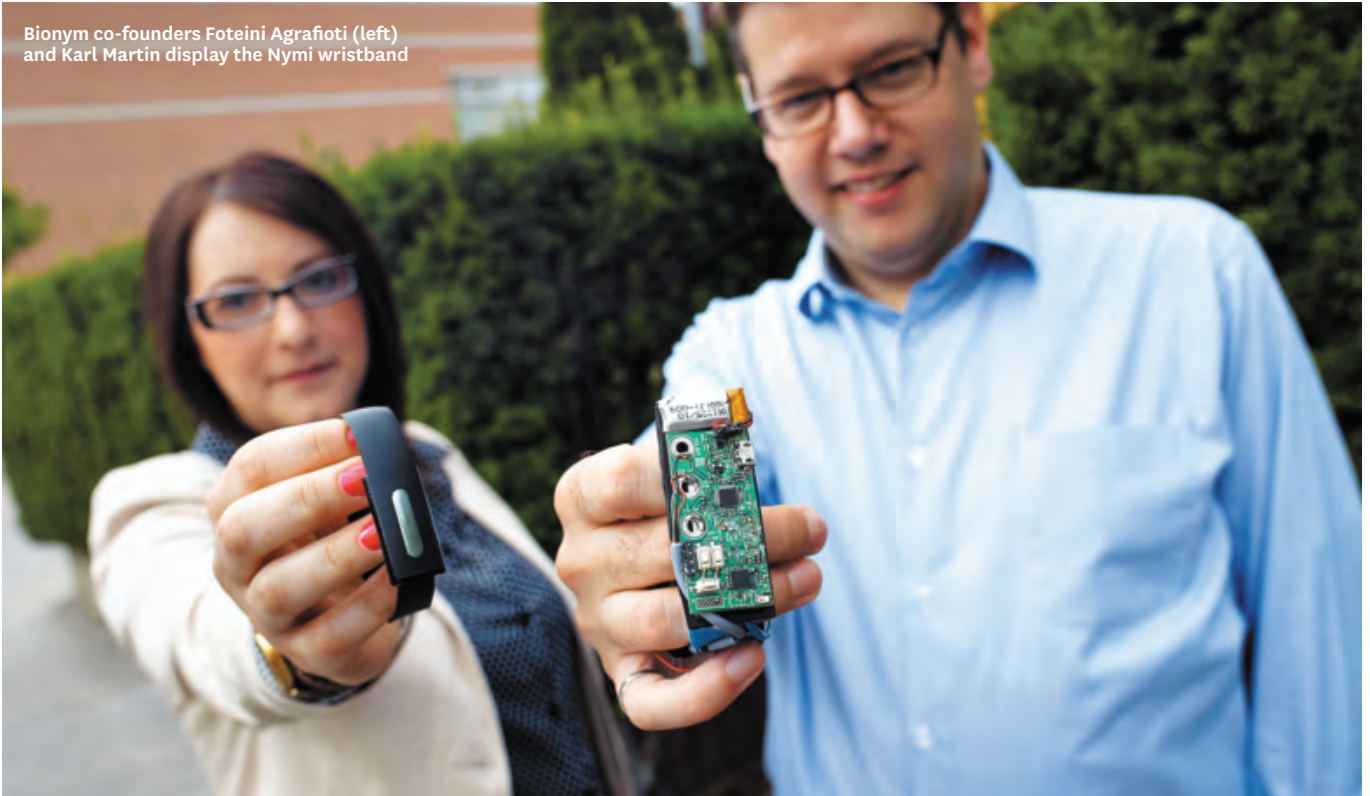
# Leading Edge

**“There’s a real tension in Canada between being proud of our multicultural heritage and being fearful of immigration”**

Political science prof  
Melissa Williams on the  
Charter of Quebec Values

p. 25

Bionym co-founders Foteini Agrafioti (left) and Karl Martin display the Nymi wristband



## Security in a Heartbeat

Tired of typing in passwords?  
A new device can identify you  
by your unique cardiac rhythm

**TWO UNIVERSITY OF TORONTO** engineering graduates have found that creating stronger computer security can be as simple as listening to your heart.

Foteini Agrafioti and Karl Martin have invented the Nymi wristband – the world’s first wearable security device that detects a person’s unique cardiac rhythm to authenticate their identity and allow access to their digital devices. They say the wristband is more convenient and secure than passwords, keys and swipe cards. They also believe it is superior to other biometric solutions, such as fingerprint, iris and face

recognition, which require careful body positioning for an accurate scan, and which can be easier to imitate than the peaks and valleys of one’s cardiac signal. Since its launch this past fall, their technology has generated significant buzz among security companies, tech developers and investors.

Activating the Nymi requires touching its electrocardiogram sensor so it can identify your cardiac rhythm, which varies in each person according to factors such as the heart muscle’s size and its location in the thorax. The technology works even when your heartbeat fluctuates from exercise or stress, and it can learn a new heart rhythm after a heart attack or other cardiac event. Agrafioti (MAsc 2008, PhD 2010) says that it is extremely difficult to spoof the system with a fake heartbeat.

Once authenticated, the system communicates via Bluetooth to the Nymi software app operating on a designated device. While wearing the wristband, you can seamlessly unlock and use your smartphone, tablet or computer; removing the wristband automatically locks ➤



Canadians spent about \$207 billion on health care in 2012 – 29 per cent on hospitals, 16 per cent on drugs and 14 per cent on physicians

➤ linked devices. Future versions may unlock cars or homes, facilitate online banking, track fitness activity and control smart home appliances.

The algorithm for the wristband's HeartID software evolved from Agrafioti's doctoral research in electrical and computer engineering. Martin (BASc 2001, MASc 2003, PhD 2011) was exploring how to enhance the privacy of biometric data. Their complementary research interests led them to become business partners in spring 2011, when they co-founded Bionym.

Bionym is a good example of a U of T startup that benefited from the university's flourishing entrepreneurial ecosystem. The company's first office was at U of T's Banting and Best Centre for Innovation and Entrepreneurship. The university's Innovations and Partnerships Office assisted with filing a patent, advised on commercialization options and helped write grant applications. The company secured about \$300,000 in government grants, which it used to hire staff and continue research.

In fall 2012, Rotman School of Management's Creative Destruction Lab, a year-long business accelerator program for startups, offered Bionym a spot. The program provided connections to business faculty, MBA students and successful entrepreneurs, and free legal and accounting services, among other things. Bionym also got help attracting \$1.4 million in seed money, which it used to rent an office in downtown Toronto, hire more staff, purchase equipment, develop a prototype and create a website.

Working in Bionym's favour are two fast-growing markets: wearable technology and biometrics, the latter of which got a boost after Apple included a fingerprint sensor in its latest iPhone. Since September, Bionym has sold about 7,000 units of the \$79 Nymi (with an early 2014 shipping date). It has also attracted much interest from software developers with application ideas, and from companies – including every major smartphone manufacturer – about licensing or integrating the technology.

"We need to prove our identities every day to the world," says Agrafioti, now Bionym's chief technology officer. "This is a way to do that efficiently and securely." – SHARON ASCHAIK

## Get Better, Sooner

### Seamless Mobile Health aims to reduce hospital readmissions and save millions in medical costs



**SURGICAL PROCEDURES HELP** half a million Canadians each year – but what happens after many operations can cause problems for patients and boost health-care costs.

According to the Canadian Institute for Health Information, nine per cent of acute-care patients unnecessarily return to hospital within 30 days of discharge, costing provinces \$1.8 billion annually. In the U.S., preventable hospital readmissions cost \$25 billion a year. Many of these additional visits are triggered by post-surgical complications – primarily wound infections – that are a result of inadequate patient follow-up care.

Joshua Liu (MD 2013) observed the issue first-hand during his medical training – and he has since developed a way to address it. Liu and partners Philip Chen (BASc 2013) and Willie Kwok, a UBC computer science graduate, have invented Seamless Mobile Health, a technological platform that allows patients to monitor their symptoms and lets health-care providers catch complications earlier and prevent readmission.

Liu's team interviewed surgeons, nurses, health IT professionals and patients at Toronto hospitals to understand common problems during surgical recovery. They learned that health professionals have little time to fully educate patients about the healing process, and that after discharge patients often forget recovery instructions.

With Seamless Mobile Health, patients receive reminders about care instructions on their smartphone or tablet; some hospitals may lend post-surgical patients mobile devices so they can use the app. These prompts let patients manage their recovery more independently. Patients can also complete health questionnaires and submit photos of their surgical incision for inspection. Depending on the information they provide, they may receive additional care measures and, only when necessary, get referred to hospital.

Liu's team is preparing to pilot the platform at Baylor College of Medicine in Texas and at several U of T partner hospitals, with testing to conclude next year. Their innovation won first place at Canada's e-Health 2013 conference. – SHARON ASCHAIK



Kodjo Afate Enikou of Togo has built a 3-D printer mostly from discarded electronics parts worth about \$100, according to *Fast Company*.

THE BIG IDEA

## A Foot in Two Worlds

3-D printing is allowing for new, highly customized products as digital and physical realms blur



Prof. Matt Ratto holds a conventional prosthetic socket (left) and one his lab printed

**A U O F T LAB IS PARTNERING** with an international NGO and a Ugandan hospital to use 3-D scanning and printing to speed the process of creating and fitting prosthetic sockets for artificial limbs.

While three-dimensional printing has been around for some time, a new generation of fast, cheap 3-D printers offers up a world of possibilities for highly customized products.

Prosthetic limbs are a natural application for the technology. Although they can be mass-produced, a prosthesis must be customized to suit a recipient’s individual physiology. Traditional assessing and fitting procedures take many days or weeks, and require specialized knowledge of an on-site prosthetic technician. “The major issue with prosthetics in the developing world is not access to the materials of prosthetics; it is access to the expert knowledge required to form and create them,” says Matt Ratto, a professor in the Faculty of Information. “We’re lacking prosthetic technicians, not prosthetics themselves.”

Today, though, a 3-D scan of a Ugandan’s residual limb can be sent abroad within seconds where a prosthetist can digitally design a replacement, sending that file back to Africa to be printed. Printers are increasingly sophisticated, capable of using a wide range of resins and polymers to create three-dimensional objects.

The implications of such a system are many, but one is the capacity to make a prosthetic socket in less than 24 hours. For many Ugandans, speed is more than a matter of convenience; it’s the difference between getting a prosthetic limb or not. “The underserved population is largely rural,” says ginger coons (who spells her name in lower case), a PhD student in Ratto’s lab. “People come to the hospital to get prosthetics. Few can afford the long stay. We want to make their stay a lot shorter.”

Ratto and coons hope that what they learn from the Uganda project will help them develop similar solutions in other parts of the world.

Their research also explores the increasing blurriness between physical and virtual realms. While the loss of a leg and its replacement with an artificial limb are bodily experiences, the body scans and prosthetic designs are digital.

This raises questions that are central to Ratto’s research and the Critical Making Lab he directs: Who owns the scan of the patient’s body and the digital model of the prosthesis? How can a patient control medical information about their person once it has been digitized? Is it an issue if the skilled parts of the job happen somewhere other than Uganda?

For Ratto, this project exemplifies exactly what “critical making” – understanding new technologies through first-person experiences of creating things with them – is best at. “As a society, we’ve developed practices that are different digitally and physically,” Ratto says. “But we are starting to lose the separation. Digital and physical modes are getting entangled. That’s something that needs to be thought about. The prosthetics project is an example of how to explore these ideas.” – **PATCHEN BARSS**

LINGO

### Nudging



We can all use reminders occasionally to do the right thing. When we’re growing up, these prompts – such as to eat healthy food or finish homework – often come from our parents. But as adults, we sometimes let things slide: we don’t always pay our taxes on time or we forget to have a yearly medical checkup. Lately, Dilip Soman, a professor of marketing at the Rotman

School of Management, and his colleagues have been investigating how behavioural economics can be used to “nudge” people to behave in socially beneficial ways. (Companies also use nudging to influence consumers.)

In one experiment, Soman and his colleagues found that randomly assigning people a doctor’s appointment and asking them to call if they *couldn’t* make it

quadrupled the likelihood they would see their doctor compared to those who were left to schedule an appointment themselves. “We make a distinction between a nudge from a ‘superior authority’ such as the government, or something that you would normally do yourself,” says Soman. “Then you don’t get into arguments about ‘who are you to decide what’s good for me.’”





The American Federal Aviation Administration estimates there will be 30,000 drones flying in U.S. skies by 2020.

## Pictures from Above

### Remote-controlled drone makes aerial cinematography much faster and cheaper



Denis Loboda (left) and Peter Izraelski

**AERIAL CINEMATOGRAPHY** has traditionally been a spectacular but costly component of film and television, but that could change thanks to an unmanned aerial vehicle, or drone, called Air Xposure.

The device, which was codeveloped by a U of T student and a recent graduate, has sufficient power and stability to carry a high-end movie camera up to 120 metres aloft. It shoots footage that its creators say is as good as what comes from a piloted helicopter or movie crane, but at a fraction of the cost and prep time.

Measuring only a few feet across, the Air Xposure drone is highly maneuverable, quick to set up, and as steady as if it were mounted on a dolly. “Most of the development was in the stabilization of movement,” says Denis Loboda, a 2013 mechanical engineering grad, who

created the device with fifth-year student Peter Izraelski. “When people think about stabilization, they think of the Steadicam, which is based on gravity. Ours is different because it’s actively driven by motors.”

The stabilizer uses a gyroscope and an accelerometer (similar to what is found in many smartphones) to take more than 2,000 readings per second. Any bounce, jounce or shift sends an instantaneous message to the control system to compensate. The result, says Loboda: shake- and vibration-free, professional quality footage. The director can attach any movie camera to the stabilizer, and the same machines that keep the shot steady can also be used to control pan and yaw.

Air Xposure’s six helicopter rotors allow the craft to remain perfectly stationary, or to move slowly in a desired direction. It can be operated by remote control and is precise within a foot, Loboda says. A traditional crane shot can take a couple of hours to set up – more in uneven terrain. In contrast Loboda says Air Xposure can be airborne in “two minutes.”

Loboda and Izraelski are now pitching their device to movie and television companies around the world. Loboda says they have to move quickly. Competing drones can’t yet match Air Xposure’s stability, but that advantage won’t last long.

The pair started developing the device this past May. With a mentor from the Faculty of Applied Science and Engineering’s Entrepreneurship Hatchery, they conducted extensive market research and are hoping to have an established clientele by early 2014, well in time for summer – high season for movie and television shoots.

Even as he works toward taking Hollywood by remote-controlled storm, Loboda says he and his team are already discovering unexpected applications for their device. “We have been told Air Xposure would be very useful for the construction industry,” Loboda says. “If they were building a condo tower, we could provide them with shots of what the view would look like from the top of that building.” – **PATCHEN BARSS**

## Findings

### Distracted Drivers



Plans to provide high-speed Internet access in vehicles could use some sobering second thoughts, says a U of T psychology prof. “Many people assume that talking to a voice-operated device is as safe as using a hands-free cell phone, but neither is safe,” says Prof. Ian Spence.

Spence and a team of researchers asked subjects to repeatedly identify the random location of an object in visual clutter displayed on a computer monitor. Poor performance on the test is a good predictor of unsafe driving. Subjects performed the test while carrying out other tasks involving listening or speaking or both – or in silence.

Subjects who completed the test coupled with other tasks were as accurate as those who completed the test in silence. However, they responded as much as one second slower as the difficulty increased. A delay in braking by as much as one second is a significant threat to safe driving, says Spence. – **SEAN BETTAM**

### Protecting the Heart



The flu vaccine may not only ward off influenza, it may also reduce the risk of heart attack or stroke by more than 50 per cent among people who have had a heart attack. And the vaccine’s ability to protect the heart may be even greater among those who receive a more potent vaccine.

Dr. Jacob Udell, a U of T clinician-scientist and a cardiologist at Women’s College Hospital, led a study that reviewed six clinical trials on heart health in people who received the flu vaccine; these trials included 6,700 patients with a history of heart disease. Udell called the findings “intriguing,” but says a large clinical trial is necessary to confirm the vaccine’s safety and effectiveness in reducing the risk of heart attack or stroke in people with heart disease.

– **JULIE SACCONE**

# Q&A

## Whose Values?

### Does the proposed Quebec Charter guarantee a secular society, or more votes for the Parti Québécois?

Earlier this year, the Parti Québécois proposed a Charter of Quebec Values. If implemented, it would forbid public employees from wearing “conspicuous” religious symbols and require people to have their face uncovered while providing or receiving a government service. Critics called the Charter an attack on minority religious rights. **Scott Anderson** asked **Melissa Williams**, a professor of political science, for her thoughts on the issue.

#### **Why did the Parti Québécois bring forward the Charter now?**

I can’t help but see the timing of this issue as electoral calculus. The PQ have a minority, they were looking to get a majority, and the Charter was a way to gain an edge over the Coalition Avenir Québec in certain constituencies. It also seems calculated to draw attention away from economic issues, on which the PQ is not very well positioned.

**Do you think this is an effective tactic?** It’s a dangerous kind of politics. It’s dangerous not only because, if successful, it would represent a violation of rights to religious freedom under both Canadian and Quebec rights charters. It’s also dangerous because it stirs up negative sentiments about minorities and emboldens xenophobic attacks. Thankfully, I haven’t read of any physical violence directed against Quebec minorities, but there have been a number of recent incidents of harassment and verbal attacks. We know historically that whenever elites stir up these issues, attacks on minorities increase. I think this is very irresponsible of the leaders.

**Are any other provinces likely to follow Quebec’s lead?** It’s important to note that public opinion polls show there is ambivalence about these issues right across Canada. I think we often congratulate ourselves on being multicultural and tolerant but in fact a significant minority of Canadians are supportive of the introduction of something like the Quebec Charter in their own province.



#### **Does this signify that Canada is no longer a mosaic, where immigrants are encouraged to keep their own traditions?**

I think there has been a shift since 9-11. It’s not that anti-Muslim attitudes, in particular, weren’t there prior to 9-11, but it has become more socially acceptable to express them. Multiculturalism is something that distinguishes Canadian society and something of which Canadians have been rightly proud. But there’s also a real tension in Canada between being proud of our multicultural heritage on the one hand and being fearful of immigration on the other.

#### **Do you see a connection between the Quebec Charter and Jacques Parizeau’s infamous claim that the 1995 referendum was defeated by “money and the ethnic vote”?**

I do, though it’s ironic that Parizeau opposes this Charter. The problem sovereigntists have with multiculturalism and minority accommodation is that they fear they obscure Quebec’s unique status as the island of francophone identity in a sea of anglophone culture. And I think that’s a valid concern. But it’s a very difficult line to walk, given that Quebec is also an immigrant society and benefits from immigration.

**It seems like a risky strategy if only a minority of Quebecers support this kind of thinking.** There are strange bedfellows involved in this issue. There are the secularists, who are arguing for a strong secular public sphere, there are feminists and there are traditional nationalists. Distinct arguments in support of the Quebec Charter flow from each of those positions. It doesn’t make for a coherent set of arguments as a whole. And when we explore each of those arguments it runs into difficulty. Nonetheless, intellectual coherence isn’t something that political strategists tend to worry about. My guess is that the PQ’s immediate goal is to gain a majority in the National Assembly and, once that is achieved, they can put the Charter on the back burner. But I don’t think the issue is going to go away.



## Aging Cities



Milan, Italy, is a grey city but this has nothing to do with the weather. One in four residents is over 65 – a situation that will occur in many Canadian cities and others around the world in coming decades as the global population ages.

A new report from U of T's Global City Indicators Facility (GCIF) and Philips, the multinational Dutch company, estimates that between now and 2050, the number of seniors in the world will triple – a fact that has profound implications for urban planners worldwide. Cities will need more care facilities, certainly, but how will they also meet the surging demand for walkable neighbourhoods, affordable housing, accessible public transit and other needs of older people?

The GCIF is collecting data from 250 participating cities around the world to inform and guide city leaders as they deal with such challenges – and to help develop what the facility's director, Prof. Patricia McCarney, calls an "age-friendly city policy." As she notes, the challenges are even more complex in developing nations, which must also deal with poverty, and where the aging trend, surprisingly, is no less pronounced. – **SCOTT ANDERSON**

## What the Red Army Did

Soviet officers' attitudes during the Holocaust depended on where they were stationed, grad student finds



**VOJIN MAJSTOROVIĆ IS ON A MISSION** to broaden the public's understanding of the Soviet Red Army and its operations during the Second World War. "Up until the fall of the Soviet Union, most of the information we had came from the Germans," says Majstorović, a U of T doctoral candidate in history. "It gives an incomplete, biased picture."

Majstorović, who immigrated to Canada from Serbia while in middle school, has been a history buff since childhood. He became fascinated with the Red Army because of its youth.

The Soviets had one of the youngest officer corps in the Second World War, largely due to the high casualty rate resulting from the German invasion of the Soviet Union in 1941.

"In the first eight months of the invasion, nearly five million Soviet soldiers were killed or captured, virtually its entire pre-war standing army," Majstorović says. "The Soviets rebuilt the army with some older, experienced officers, but they also rapidly trained young men who were loyal to the Soviet system to be officers."

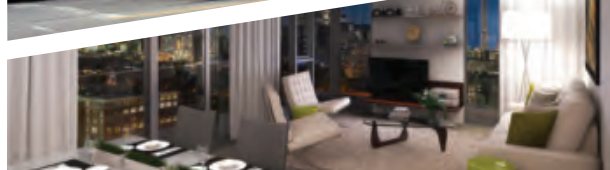
One outcome of Majstorović's research is the discovery that how a Red Army officer viewed the Holocaust depended on whether he was stationed in a country that was sympathetic to the Soviets, such as Bulgaria, or in a place where the population was hostile to the Red Army, such as Hungary. "In countries that were friendly to the Soviet Union, the Red Army generally ignored the involvement of the local people in the extermination of the Jews," says Majstorović. "In countries hostile toward the Red Army and where the Soviets committed atrocities of their own, they were much more critical."

Majstorović recently presented his findings at a conference held at U of T as part of the annual meeting of the International Holocaust Remembrance Alliance. – **ELAINE SMITH**



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By John Lorinc  
Photography by Christopher Wahl

# TOWN & GOWN

A dynamic, world-class city and a top-ranked, global university have a lot to gain from each other, says U of T's new president, Meric Gertler

**MERIC GERTLER, THE UNIVERSITY OF TORONTO'S 16<sup>th</sup> PRESIDENT** and an economic geographer by training, has spent his career trying to understand why some regions prosper and others don't. He's probed the question of how – and why – capital and talented people tend to gravitate toward those cities that value qualities such as tolerance, education and culture. And he's devoted many hours to sharing these insights not just with other academics, but also with the corporate leaders, policy-makers and politicians who can translate those findings into policies meant to stoke a region's economic growth.

Given that decidedly urban-minded background, does Gertler feel like he's suddenly become the mayor of U of T? On a gusty afternoon a few weeks before his installation ceremony in early November, Gertler relaxes at a small table in a spare Simcoe Hall office. He chuckles briefly at the suggestion but quickly picks up the thread. "Well, you know, we have 80,000 students and more than 10,000 faculty and staff. It's a mid-sized city." He rhymes off the parallels to a large and thriving metropolis: "We have all the advantages of being large and at the same time there are these small





communities that take a very large place and make it intelligible and friendly and approachable.” The obvious analogy, he adds, is Toronto itself: “The U of T is also a city of villages.”

As Gertler moves from being an astute observer of the urban condition to presiding over one of the city’s leading institutions, he has braced himself to confront the daunting challenges that come with serving as chief magistrate.

Job one: reversing what he sees as a worrisome deterioration in public funding that could threaten U of T’s hard-won status as one of the world’s top universities. “Our position is already compromised, globally and nationally,” Gertler warns. With limited funding for international graduate students, for example, U of T has no choice but to restrict admissions despite the deluge of interest abroad in the university’s research programs.

He comes in with a mandate to complete the university’s ambitious \$2-billion fundraising campaign. Judy Goldring, chair of Governing Council, adds that the new president – whose appointment was announced last March after a search for a successor to former president David Naylor – will continue to look for ways to further improve the student experience. He won’t get much downtime. Goldring notes that Gertler’s new role “is one of the toughest jobs. It is literally a 24–7 job.”

For his part, Gertler, who until this spring served for five years as dean of the Faculty of Arts and Science, wants to build on the transformation of undergraduate teaching and learning in recent years and forge broader institutional relationships with international universities. He also believes that U of T must become much more actively engaged with the affairs of the Toronto region, establishing more partnerships with public- and private-sector organizations, other

post-secondary institutions and civil society groups. “We need to acknowledge and embrace our role as a city-builder, in the three parts of the metropolitan region in which we reside,” he says.

Indeed, after years spent scrutinizing the way creative city-regions function, Gertler feels that it’s crucial for educators, researchers and academic institutions to be able to tap into the informal knowledge that exists in Toronto’s diverse communities and draw on the city’s vibrancy. In his view, the university’s relationship with the region is mutually reinforcing. “U of T would not be the success it is today were it not situated in one of the world’s great cities.”

The university, he adds, has thousands of students “thirsting”

for experiential learning programs that could be expanded and augmented in conjunction with local groups. U of T, meanwhile, can also serve as a venue for public debates and discussions about a wide array of city-related issues – everything from electoral reform and income disparity to the suitability of casinos in waterfront settings. “I think a lot of my academic colleagues are drawn to these questions because they are inherently so compelling,” Gertler says. “Toronto is a great lab.”

**G**ertler, who’s 58, has built an international academic reputation in a red-hot discipline, and proved himself as a determined administrator through his stint as dean of Arts and Science. He’s lived for years in the Annex with his partner Joanna, who is director of marketing and communications for Canada’s National Ballet School. The couple has two children – a 23-year-old son who has a degree in architecture and is planning to go to grad school and a 26-year-old daughter who works in advertising research.

Despite a new role that places him at the very pinnacle of Canada’s post-secondary universe (and which will be accompanied by a move to the president’s official residence in Rosedale), Gertler comes across as unassuming, approachable and imperturbable – traits that colleagues say have helped him build an extensive network of peers in a wide range of disciplines, as well as influential contacts outside the halls of academe.

David Wolfe, the Royal Bank Chair in Public and Economic Policy at U of T Mississauga and Gertler’s long-time research partner, says that the new president’s most conspicuous skill is his ability to synthesize and distill the large swaths of

information that flow into major academic projects. After absorbing detailed presentations from his research teams, Gertler will step in and lay out the accepted facts and identify points of agreement and disagreement. “I’ve seen him do it countless times in a research network setting,” says Wolfe, who adds that Gertler frequently reminds him of the late David Pecaut, a management consultant and skilled communicator who created a multi-stakeholder advocacy group to push for urban reforms in Toronto. “There’s a process of thought leadership involved.”

“He understands the give and take,” adds Roger Martin, former dean of the Rotman School of Management, who credits Gertler for showing leadership as dean of Arts and Science. “But he plays to win.”

## “U of T would not be the success it is today were it not situated in one of the world’s great cities”

Enid Slack, an expert at the Institute on Municipal Finance and Governance at the Munk School of Global Affairs, notes that while Gertler never shies away from articulating his own perspective, he does so in a collegial manner. “If he agrees with you, he’ll tell you, and if he doesn’t agree, he’ll tell you in a very respectful way.”

Slack points out that the university’s many urban scholars are particularly enthusiastic about Gertler’s appointment to the presidency, which coincides with this fall’s launch of

U of T’s Global Cities Institute, as well as the creation of a significantly expanded urban studies hub in the John H. Daniels Faculty of Architecture, Landscape and Design. “His commitment to cities, and cities in a global context, means so much for advancing the cities agenda in a meaningful way,” says Patricia McCarney, director of the Global Cities Institute.

**U** of T’s new president was born in Edmonton and grew up in Toronto, St. Catharines and Waterloo, Ontario. As a young man, his father, Leonard (Len), tried his hand at filmmaking, but later trained as an urban planner. He went on to work for local governments, including a seven-year stint as a deputy commissioner of planning for the City of Toronto. In 1966, he relocated to the University of Waterloo to found its planning program, and is best known for writing a groundbreaking land-use report that led to the protection of the Niagara Escarpment.

The subject of urban planning was a much-discussed topic in the Gertler home, recalls Meric. “It was certainly dinner table conversation from the earliest days.” But he says that his own fascination with cities developed organically as he began to discover Toronto as a boy. In the mid-1960s, Gertler recalls, it was very easy for him and his friends to use transit to travel around the city and explore.

He adds that he became even more acutely aware of Toronto’s cosmopolitanism after the Gertler family relocated to Waterloo. At the time, the university was very new, and Waterloo – its economy built around insurance and agriculture – lacked the tech-hub vibrancy it enjoys today. The town-gown divide was pronounced. And from the perspective of a teenager, the dearth of transit service in Waterloo proved oppressive: if Gertler wanted to go anywhere, he had to rely on his parents for a drive. He realized, with the benefit of hindsight, how much freedom the big city conferred.

## An Urban Science Partnership in New York City

One of the most closely watched developments in higher education has been playing out in New York over the past three years, as outgoing mayor Michael Bloomberg embarked on a fierce push to attract internationally renowned technology institutions to set up an applied sciences research hub in the Big Apple.

The project, which saw New York City offer

\$100 million and land as part of an international request for proposals, was meant to create a world-class tech hub in a city that didn’t have a leading engineering faculty, such as the one at MIT. The upshot is that two new campuses are currently under development – one, on Roosevelt Island, is a \$2-billion joint venture between Cornell and the Technion-Israel Institute of Technology.

The other is the Center for Urban Science and Progress (CUSP), a multi-partner research facility based in a reconstructed government building in Brooklyn, with a mandate to probe the science of cities; U of T is one of six university partners, along with NYU, Carnegie Mellon and others.

CUSP will offer graduate-level programs in fields such as urban science and informatics,

and will foster research into the use of big data – from transportation networks, buildings and energy sources – to improve both municipal infrastructure and social services.

“It’s a fantastic opportunity for us,” says University of Toronto President Meric Gertler, who has followed New York’s applied science project closely since it surfaced in 2011. The CUSP experiment, he adds, provides “an idea of things we could be doing with other institutions around the world.”

As president, he will likely be pondering whether the CUSP model could be applicable here. “People have said to me, ‘Why don’t we do something like CUSP in Toronto?’ One of the great side effects of the New York project is that it stimulates people’s thinking.”

– JOHN LORINC

## “The university is a crucial actor in making places more open and diverse”

“That was kind of an epiphany.”

With the urban exploration and the moves came a growing curiosity about why some cities work and others don't, and why some neighbourhoods are more engaging than others. “These questions were very much on my mind from an early age,” recalls Gertler. The move to Waterloo, he adds, “got me thinking about what drives cities and what creates the dynamism of a certain place.”

After high school, he went to McMaster University to study geography, and then enrolled in a master's of urban planning at the University of California, Berkeley, in 1977. At a 2005 memorial service for his father, Gertler pointed out that “Len never cajoled or coaxed me.” Yet, as Sandra Martin noted in a *Globe and Mail* obituary, Meric was drawn inexorably to the profession because Len's work was “so damned interesting. [It made] a difference to the quality of our lives and our communities at a time when public interest in ‘the environment’ and all things ‘urban’ was enjoying its first real flowering in this country.”

After graduating from Berkeley, Gertler spent a year working as a policy analyst with the Ontario government's ministry of industry and tourism. He says the experience was an “eye-opener.” The job “gave me a ringside seat to how various interest groups try to shape decision-making.” He eventually came to regard the horse-trading as an integral part of the democratic process.

By the time he began his PhD at Harvard University's Graduate School of Design, Gertler's personal, academic and professional experiences began to coalesce into a serious focus on regional economic development, and how places reinvent themselves from centres of older economic activity to newer forms.

In 1983, soon after completing his thesis, Gertler joined U of T's geography department. Urban economic geographer Larry Bourne, who was on the hiring committee, recalls the new professor as being “mature beyond his years,” with the confidence and intellectual rigour to move quickly to the forefront of a department that had developed, since the 1960s, a global reputation among urban experts.

Over two decades, Gertler has worked closely with David Wolfe, studying why regions such as Silicon Valley attract vibrant technology- and innovation-driven industries. This research has overlapped with Gertler's other major focus – how cities attract and foster talent, a.k.a. the “creative class,” a phrase made famous by urbanist Richard Florida, who joined U of T in 2007 to head the Martin Prosperity Institute at the Rotman School of Management. “Meric was on the cutting edge of understanding why clusters of firms are important to innovation,” says Florida, who met Gertler at an academic conference in the mid-1980s. Long before he published *The Rise of the Creative Class* (2002), Florida recalls that Gertler would press him to come up to Toronto for conferences, whereupon he'd show off the city's walkable neighbourhoods, dim sum eateries and steamer-tray restaurants.

As they joined forces to map the geography of specialized clusters and creative-class cities, Gertler and Florida came to realize that Toronto wasn't just a good place to go out for international food and a stroll. The city's surging economy, the influx of newcomers and an array of thriving sectors suggested that the Toronto region had figured out how to bring together the so-called “three Ts” – talent, technology

## London's Insight into International Students

How do international students contribute to a regional economy? After London Higher was established, the post-secondary education umbrella group set out to answer that very question. The results are eye-opening: According to a 2011 study conducted by PA Consulting

Group, among the 43 publicly funded institutions of higher education in London, and the almost 400 other institutions or privately accredited education providers, international students account for a growing proportion of enrolment. They inject significant sums into the London economy via fees, housing and living outlays, and visits from parents and friends. They add about £5.7 billion annually into the London economy, and create 94,000 direct and indirect jobs.

But, the report noted, “There are also many other wider economic impacts which should be taken into account when considering the dividend from international students in London.” The report states that international students improve the global reputation of an institution and its ability to attract research funding and

partnerships with overseas institutions; they are an important source of skilled labour for London employers; and some of them start up their own enterprises in London, generating spin-off benefits for the city.

University of Toronto President Meric Gertler points out that a fifth of U of T's undergrads are international students, and his conclusions about their role in the city's future well-being echo those of the PA study: “They are drawn here, in increasing numbers, for the same reason: to learn from – and work with – our leading scholars. And many of them stay in Canada once they graduate, building careers, spurring creativity and innovation in one sector of the economy after another, catalyzing entrepreneurial activity, and strengthening our society in countless ways.” – JOHN LORINC



and tolerance. “I think we’re all inspired by the very interesting case study around us in the Toronto region,” says Gertler. “It’s been a great setting in which to encourage people to work on these issues.”

Not surprisingly, Gertler’s mapping of the geography of creativity and innovation has come to include post-secondary institutions and their role in the evolution of regional clusters and knowledge-driven urban economies. As part of Bob Rae’s 2005 review of post-secondary education in Ontario, Gertler authored a study that situated universities in a broader context of regional economic development. By attracting talented researchers and graduate students from around the world, universities advance not just innovation but also a range of broader social objectives. From a policy perspective, Gertler noted, universities should not be seen as mere “knowledge factories.” “The university,” he wrote, “can act as a catalyst for economic development, but – more importantly – the university is also a crucial actor in making places more open and diverse, thereby contributing to wider goals of social inclusion and cohesion within Canadian society.”

David Wolfe, in fact, suggests that this essay, published in 2004, is something akin to a personal manifesto. “If someone wants a clue to Meric’s thinking, that paper might be the first thing you’d read.”

**I**n the months following his appointment as president, Gertler decided to take a road trip, visiting a series of cities with thriving universities to examine how those institutions engage with their host communities. The journey took him to global centres such as London and Chicago. But it also took him to Baltimore, where Johns Hopkins University is participating in an ambitious partnership to redevelop some of the city’s lowest-income communities that fan out from near the downtown campus. (Johns Hopkins president, Ron Daniels, is a former dean of law at U of T.)

London’s story is even more interesting, Gertler says. There, more than 40 universities, colleges and other educational institutions, representing 420,000 students and consuming £1.2 billion in public funds, have banded together in an umbrella organization called “London Higher,” with the goal of promoting the “influence and capacity” of the region’s higher education sector. The group has commissioned studies on student housing, the relationship between post-secondary



President Meric Gertler visited the Mississauga campus in mid-November, where he met with vice-president Deep Saini (right) and Paul Donoghue, UTM’s chief administrative officer. On the same day, Gertler also paid a visit to U of T’s Scarborough campus.

institutions and the London job market, and the economic contribution of international students (see facing page).

“They’ve been very effective,” Gertler says, noting that one of the group’s recent successes involved persuading the national government to adjust funding levels to London’s post-secondary institutions to reflect the city’s high cost of living. The approach, he adds, “is an idea worth exploring.” Indeed, Gertler and former president David Naylor gathered in a Toronto bistro recently to informally discuss such ideas with Ryerson University president Sheldon Levy, York University president Mamdouh Shoukri and some of Toronto’s other post-secondary leaders.

Florida argues that the university ought to forge even deeper policy ties with the city and the Greater Toronto area, positioning itself as an “honest broker” in broader conversations about governance, regional planning issues and the economic development goals of Canada’s largest urban region. “Toronto is at kind of an inflection point,” he says. “The university could use its urban capabilities to rethink these issues.”

Gertler agrees, and argues that the university has an “enlightened self-interest” in the mutually reinforcing relationship between a healthy city-region and the well-being of its post-secondary institutions. And he has the data to prove it.

**Journalist and author John Lorinc (BSc 1987) writes about politics and urban issues for *The Globe and Mail*, *The Walrus* and *Spacing* magazine. He is the author of *The New City: How the Crisis in Canada’s Urban Centres is Reshaping the Nation* (2006).**







Online courses are big, bold and  
potentially game-changing for higher education



**STEVE JOORDENS ABSOLUTELY LOVES** teaching large classes. “I like to think of them being akin to the NASA space program,” says the U of T Scarborough psychology professor. “In order to make something work in very challenging conditions, one is pushed to be innovative and to come up with unique solutions.”

Good thing, then, that Joordens teaches Introductory Psychology. It’s always been the Woodstock of university courses – the one guaranteed every year to attract vast hordes of young people deeply curious about the workings of their own minds.

Joordens is the kind of infectiously happy prof who would probably fill a room no matter what he taught. The recipient

of numerous teaching awards, he’s a devoted vegetarian who zips around town on a motorcycle, plays in a rock band and looks much younger than his 48 years. It’s no surprise that his Intro Psych class normally packs in almost 2,000 students. “The more people in the crowd,” he says, “the more energy you have to work with and shape.”

Of course, Joordens’ love of crowds runs counter to received educational wisdom. Giant classes are often scorned as a bad thing, for student and teacher alike. So you might ask why, this past spring, he chose to make his class size *even bigger*. How big? Try 40,000 students.

Joordens is one of several U of T professors now teaching a “massive open online course,” or MOOC. MOOCs are shorter,





## One has to wonder: could MOOCs be a truly disruptive technology – higher education’s version of Kindle and Napster?

video-based versions of regular university courses, and they’re often completely free. With a single mouse click, a prospective student anywhere in the world can now sign up for a class taught by a U of T professor on psychology, computer science, statistics, education or social work – and that’s just for starters. Nine U of T MOOCs have “gone live” since fall 2012; three more are being launched over the next several months.

“A MOOC is more a form of public outreach than it is a traditional university course,” says Cheryl Regehr, U of T’s provost. “We see this as a way of giving the world access to some of our finest instructors.” To do this, the university signed deals with two well-known providers of MOOC software – the for-profit Coursera, and the not-for-profit EdX. MOOCs “provide incredible access to universities for people who ordinarily wouldn’t have it,” says Charmaine Williams, who teaches a social work course on mental health. “They reach people at all different levels, in all kinds of different places.”

The term “MOOC” was coined in 2008 by a group of academics in Manitoba and P.E.I. who were interested in expanding the possibilities of online learning. The first class, offered by the University of Manitoba, bore the name “Connectivism and Connective Learning,” and boasted some 2,300 students. Faculty and administrators at three of North America’s most prestigious universities took note and created their own online learning platforms – Coursera was started by computer science professors at Stanford; EdX at Harvard and MIT. Now, schools around the world are signing on: whether you’re sitting on a park bench or snuggled in bed, you can now return to class at U of T, attend Harvard or study at a university in India or Hong Kong.

Venture capitalists are hugely enthusiastic about investing in MOOCs: so far, Coursera says it has raised some \$65 million. Bill Gates is a big supporter. EdX president Anant Agarwal, an electrical engineer, somewhat grandly likens the MOOC revolution to the invention of the printing press, while Andrew Ng, one of Coursera’s co-founders, crows that it’s growing “faster than Facebook” did when it started.

Ng and Agarwal talk about changing the face of higher education – and on the surface, it looks like they might be right. But they are still searching for a viable business model.

U of T’s MOOCs, like most others, are really mini-courses: four- to eight-week versions of the real thing, with no formal credit provided at the end. But some institutions are beginning to experiment with MOOCs that substitute for traditional university courses. This fall, the Georgia Institute of Technology, for example, is offering a MOOC master’s degree in computer science at one-sixth the price of a conventional one. And in Canada, the University of Alberta has just launched a for-credit paleontology course; it costs half of what an in-person course does. One has to wonder: could MOOCs be a truly disruptive technology – higher education’s version of Kindle and Napster?

It’s doubtful. Even the professors who teach MOOCs say they are unconvinced of this. First, there’s the problem of community. MOOCs boast lively discussion boards, but “I don’t see them replacing universities,” says Paul Gries, a computer science professor whose Learn to Program course (taught with Jennifer Campbell) is so far U of T’s largest, with an initial enrolment of 70,000 learners. “I think students really enjoy being connected to a human being. It’s so important to be able to say ‘I don’t understand this line,’ and have somebody sit down and explain it to you.”

Then there’s the infamously low completion rate, which averages from seven to 10 per cent. “It’s very easy to register – and then your life takes over,” says Laurie Harrison, U of T’s director of online learning strategies. Joordens thinks MOOCs are more about process than product: “a lot of people told me they didn’t want the certificate of completion,” he says. “There are some people who say, ‘I watched every lecture, I learned a lot and that’s what I came here for. I wasn’t looking for formal accreditation; I was just looking for the knowledge.’”

It’s also a challenge to ensure academic integrity in a setup involving one professor and thousands of students – and in this respect some courses are more difficult than others. “Plagiarism could be a problem in any MOOC where there’s writing involved,” warns Charmaine Williams. This includes her own social work course. (Registrants to any MOOC are asked to click on an honour code, which, for all its old-fashioned charm, is hardly a guarantee that everyone will follow it).

Further, marking is tough. Because a single instructor can't possibly be expected to mark the work of a student population twice the size of Yellowknife, many lecturers will use computer-graded tests or support additional learning by having the students grade themselves. You simply submit your assignment to up to five other students and they mark it according to guidelines provided, sometimes with additional comments. But is a fellow student's evaluation as valuable as a professor's?

Finally, MOOCs cater to an unusually broad group of learners, and it's sometimes difficult for professors to know exactly who's out there. Technical snafus can occur: says Gries of his final exam, "you could start it any time you wanted, but you had to finish it in three hours. And we had people posting from Ghana saying sorry – I don't have electricity for three hours straight, let alone an Internet connection!" He also had to extend his course by a week because of difficulties posed by Hurricane Sandy.

The university's research suggests that the typical MOOC student is a motivated, curious adult who already has at least one degree. The age range is vast, spanning anywhere from 12 on up. The data also show that more than half of U of T MOOC students are not native anglophones, and Paul Gries says one student actually took his course to improve his English. "He was already a computer programmer. The English was more accessible to him because it was contextualized in a domain he was familiar with."

So while U of T faculty and administrators are as keen as anyone to know what will happen with MOOCs ("there's a lot of fog of war around them," sighs Joordens), few believe they will leave "brick-and-mortar" institutions in their dust – which isn't to say they aren't a perfectly interesting complement to the educational landscape.

MOOCs represent the kind of fast and easy learning that seems to herald not only a changed university, but a changed brain. Lectures are divided into 10- to 15-minute nuggets and placed on video; they cater perfectly to the YouTube generation – or indeed to any of us who might find a subject interesting, but are intimidated by our lack of background in,

say, science or math (not to mention tired after a day spent at our regular jobs).

This past summer, I registered for Charmaine Williams' course, the Social Context of Mental Health and Illness. The resource material was excellent – the readings were varied and surprising, and Williams was an enthusiastic, smart and friendly lecturer. The MOOC community lacks that person-to-person *je ne sais quoi*, but I found the online discussions fascinating nonetheless. In her introduction, Williams asks students to describe how mental health is treated in their own countries; the information gleaned from her global survey (readily available on the discussion boards) makes for wonderful reading. Students around the world seemed to make common cause; for example, a mother in Bogota, Colombia, frustrated with the treatment of her child's ADD, found ready counterparts in other countries.

Joordens' Intro Psych students are especially spirited. They started calling themselves the "Cognitive Cannibals," picking up on a phrase in his introductory video, and even created their own flag. It's an important point: MOOCs are fun. They seem to bring university professors down to earth, transforming them from theatrical Laurence Oliviers into televised Jon Stewarts. MOOCs also demystify profs. Williams says that many of her international students are taking a university course for the first time; when they hear PhD, they envision a gallery of pipe-puffing, white-haired, white men. "I don't fault them for thinking that's what a university professor is, because that's what I mostly saw when I went to university," she says. Part of her motivation for teaching a MOOC was to be "a black woman out there, representing an elite university with elite instructors."

Like other MOOC instructors, Williams has attained a greater measure of celebrity than she'd otherwise have. People now approach her on the street, and her already overstuffed email inbox now contains 800 more messages each day during the MOOC's run. As for Joordens, he was able – in response to his adoring fans – to livestream his band's gig to the worldwide Intro Psych community. And to some degree, he's attained professional immortality. Once a MOOC's done, it's preserved

## Online Learning through U of T

Since September 2012, U of T has offered nine MOOCs in topics ranging from computer programming to statistics and psychology. Three more are currently in development and will be offered between now and next May. Anyone can sign up for these courses for free at [coursera.org](http://coursera.org) or [edx.org](http://edx.org).

### Bioinformatic Methods I and II (Coursera)

Professor Nicholas Provart,  
Department of Cell Systems  
and Biology

January 2014

This course focuses on employing existing bioinformatic resources – web-based programs and databases – to answer questions relevant to the average biologist.

### Death 101: Measuring Global Causes of Death (EdX)

Dr. Prabhat Jha,  
Dalla Lana School of Public Health

May 2014

Students will learn how to investigate health problems affecting large populations. By tracking mortality around the world we can direct public health policy more effectively to help the living.

### Library Advocacy Un-Shushed: Values, Evidence, and Action (EdX)

Professor Wendy Newman,  
iSchool

date TBD

This course takes a strategic, evidence-based approach to advocacy for the future of libraries and librarianship in strengthening communities.



Earlier this year, Jennifer Campbell and Paul Gries of U of T's computer science department taught Learn to Program, which attracted an initial enrolment of 70,000 learners. Typically, only a small percentage of MOOC students complete a course

for all time in the cloud, and can be repeated even after the instructor dies or retires.

It's the kind of reward that makes the onerous task of setting up a MOOC seem worth it. In the future, the laborious process of recording lectures on video, mounting and monitoring discussion forums, and placing PowerPoint lectures online will surely be streamlined. But the future hasn't happened yet.

Gries says that recording 10 minutes of video takes him between four and eight hours to do each time, and Williams says her family felt like she "disappeared for a long time." But, on the positive side, she notes: "I've developed a whole set of skills that I didn't have before."

For all of this, many professors would prefer not to mount MOOCs; the thought of immortality scares rather than excites them. This is because MOOC materials are not only used by lifelong learners in their pyjamas – they are making their way into regular classrooms, too. In a recent edition of *The New Yorker*, Peter Burgard, a professor of German at Harvard University, articulated his disdain for this latest development. "Imagine you're at South Dakota State," he said, "and they're cash-strapped, and they say, 'Oh! There are these HarvardX courses. We'll hire an adjunct for \$3,000 a semester, and we'll have the students watch this TV show.' Their faculty is going to dwindle very quickly."

This will not happen at U of T, senior administrators assure. Cheryl Regehr says that while U of T is not averse to letting other schools use their MOOCs, they will not import material from other schools. "We are only using MOOC content created by University of Toronto professors in our inverted classroom pilots," she says.

The "inverted classroom" is where MOOCs may well have the biggest impact on higher education. Alison Gibbs teaches

a MOOC on statistics, which she's decided to use in her regular second-year course as well. In the "inverted classroom," students watch Gibbs' lectures on video at home and tackle problem-solving in class. "Real learning happens when you're grappling through a problem set – but you typically do that at home, without the guidance of an instructor. So we're going to actively engage students in class. And the more passive stuff where they're just watching and taking in information, they'll do *that* at home."

The technological innovations that Joordens is honing within his own MOOC – such as peer assessment and a research instruction tool called the "Digital Labcoat" – can also be used in his regular Intro Psych class; after all, at nearly 2,000 strong, it's practically a MOOC itself. And he has added features to his online course to better ensure students are actively absorbing material – features that can certainly be used to improve learning capacity across the board.

At U of T, exploration and evaluation of the MOOC experience is ongoing. Researchers are attempting to understand the appeal and potential of these new online course formats. They are also examining the range of teaching strategies that MOOCs make possible, such as peer assessment and the inverted classroom model.

So it's difficult to argue that MOOCs won't positively change education, especially if they're used to improve rather than replace traditional education. And for those outside the classroom (including U of T alumni eager to learn something they missed the first time) online learning could be the next best thing. "My dad used to brag that his son taught over 1,500 students," Joordens writes in a note on his course blog. "I wish he had lived to see all this!"

Cynthia Macdonald (BA 1986 St. Michael's) is a writer in Toronto.





**MARIANA JARDIM**

Part-time Master of Information student  
Full-time U of T employee at OISE  
Dance aficionado

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**The deadline is 5:00 p.m.  
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**UNIVERSITY OF**  
**TORONTO**

By Marcia Kaye  
Photography by Chris Thomaidis



**BY FORTIFYING TWO EVERYDAY FOODS,  
PROF. LEVENTE DIOSADY AIMS TO REDUCE MALNUTRITION WORLDWIDE**



**T**ake a mental tour through your kitchen cupboards and fridge, and you'll likely find the usual staples: breakfast cereal, flour, milk, salt. But only when you look more closely at the package labels will you notice the tiny, hidden extras that have been added. The cereal is fortified with iron and B vitamins, the flour with folic acid, the milk with vitamin D, the salt with iodine. In our society, focused as we are on calories, fats and carbs, we may scarcely be aware of these smaller micronutrients. Yet they have a crucial role to play in preventing devastating deficiencies that can cause disease and death.

Now consider the food supplies of a family subsisting in a developing country, perhaps in a rural area, desert or jungle. Almost everything is grown or homemade. The people may have enough to eat, but the food may have been grown in depleted soil and the diet may lack variety. We might think that a natural, unprocessed diet is healthy, but if essential micronutrients are missing, this creates a different kind of malnutrition – a hidden hunger. Fortifying homegrown foods with micronutrients is impossible, as they undergo no processing. But in many areas, especially in South Asia, there are two candidates for fortification, two items almost everyone buys rather than growing: salt and tea.

It's these two everyday foods that are the focus of the work by Levente Diosady (pronounced Dee-o-shaw-dee), professor emeritus in the department of chemical engineering and applied chemistry. Having successfully developed a way to add iron to salt, he is now studying methods for adding iron to tea. The implications are huge. While there are not as many people dying of starvation anymore, Diosady says, "They now die of micronutrient deficiencies."

The most common is iron deficiency, which affects a staggering 30 per cent of the world – two billion people – and is a leading cause of disability and premature death. The World Health Organization calls iron deficiency a public health condition of epidemic proportions, causing nearly 700,000 deaths of infants and new mothers every year, producing ill health in millions of others, and dramatically lowering school and work performance by up to 40 per cent. People who are weak, ailing and lethargic have little hope of ever climbing out of poverty.

Those most likely to be deficient in the mineral are the ones who need the most and get the least: women. "In many developing countries, women's status is lower than men's, so their quality of food is lower," Diosady says. The best sources of iron are meat, poultry and fish, but these foods are often



costly and scarce. “If there’s any meat on the table, the woman is not the one who’s going to get it.” In addition, some regions, such as South India, are largely vegetarian. While iron does exist in legumes and some vegetables, it’s less readily absorbed than from animal sources. For instance, we absorb very little iron from spinach. (“Popeye is fooling you,” Diosady says.) Since iron is necessary for making hemoglobin, the protein in red blood cells that carries oxygen, women who lose blood monthly need more than twice the iron of men. A pregnant woman, whose blood supply increases dramatically, needs more than triple the amount. Iron deficiency leads to much higher risks of hemorrhages, stillbirths, premature delivery, babies who fail to thrive and children who never reach their full potential.

But although pregnant women in many developing countries don’t eat a high-quality diet, one thing they do get daily is tea. Tea is inexpensive, safe, easily available and an integral part of the social and cultural life of millions of families. This makes the humble drink a good potential target for iron fortification. Diosady’s efforts in this area are gaining international attention. In July, he was the lone Canadian among 22 global innovators who received grants from Saving Lives at Birth: A Grand Challenge for Development. This partnership, which asks for groundbreaking, inexpensive, workable ideas to prevent infant and maternal deaths and this year received more than 400 submissions, includes the Bill & Melinda Gates Foundation, the U.S. Agency for International Development, the U.K.’s Department for International Development, the Norwegian Ministry of Foreign Affairs, and Grand Challenges Canada, funded by the Government of Canada. Diosady received a \$250,000 seed grant to continue his research into iron-fortified tea. Peter Singer, CEO of Grand Challenges Canada and a U of T professor of medicine, recalls the enthusiasm around Diosady’s presentation in Washington D.C. “He’s an archetypal inventor with a change-the-world attitude.”

**D**iosady, 70, hadn’t set out to change the world through tea. In fact, he hadn’t set out to work with food at all. “Some of these things happen by serendipity, by luck, by divine design – I’m not sure which,” he says. Growing up in Budapest, Hungary, he knew from the age of five that he wanted to be a chemical engineer like his father. Diosady Senior designed large industrial plants in Hungary and eventually, after moving his family to Toronto in 1957, became chief scientist for Ontario’s ministry of the environment. While still a high-school student, Diosady Junior began his association with U of T by starting a summer job at the Banting Institute. He completed all three of his degrees at U of T, including a doctorate in chemistry, and joined a Saskatoon-based engineering firm that was later bought out by a food company. “I had to learn about food in a big hurry,” says Diosady, who was researching trans fats in the 1970s, long before most people had heard of them.

When a former supervisor called him back into academia at U of T in 1979, Diosady began working in food engineering. One day his post-doc introduced him to Venkatesh Mannar, then a consultant to UNICEF on salt iodization. Mannar’s family had been producing salt in India for five generations, and his ancestors were part of Mahatma Gandhi’s movement that helped instigate India’s freedom from colonial rule. “I was fascinated with the idea of using salt, a universally consumed condiment, as a vehicle to deliver micronutrients,” says Mannar, who is now a chemical engineer and executive director of the Micronutrient Initiative, an Ottawa-based NGO with offices throughout Asia and Africa. Fortifying salt with iodine was one of the great public health successes of the 20<sup>th</sup> century, Mannar says, drastically slashing iodine-deficiency disorders such as thyroid problems in adults and mental disabilities in children. Iodized salt now reaches more than 70 per cent of the world. Making it is simple and inexpensive, involving spraying a solution of potassium iodide or iodate onto the salt.

Mannar talked to Diosady, who now had a reputation as a pre-eminent food engineer, about the possibility of adding iron to salt along with iodine, making double-fortified salt. It made perfect sense: the amount of salt people eat is surprisingly uniform, the addition of iron would cost only pennies per person per year, and unlike iron supplements concentrated in pill form, iron in food does not cause constipation. “We thought double-fortifying salt with iron and iodine should be reasonably easy,” Diosady recalls. “But we did a few experiments and decided it wasn’t that easy at all.”

The problems were many. The added iron reacted with the iodine, causing the iron to disappear. Also, certain types of iron turned the salt canary yellow or dark brown, or made it smell like the water from rusty pipes. It quickly became obvious that the iron needed a physical barrier around it. Diosady developed a microencapsulation technique that starts with salt-sized particles of a very dark-coloured type of iron called ferrous fumarate, which is absorbed more easily by the body than other types of iron. The amount of this iron was set at 30 per cent of the average person’s daily iron requirement, or enough to lift people out of the danger zone. It wasn’t set at 100 per cent, because this could cause people who eat a lot of meat to get too much iron, which can cause liver and heart damage.

Because these dark particles appeared unappetizing in the white salt, Diosady developed the idea of colouring them with minute amounts of titanium dioxide, a white compound often used in toothpaste, pill coatings and non-dairy creamers, to make the particles much less noticeable. (While safety concerns have been raised about titanium dioxide, especially with regard to inhaling large amounts of its dust, there is no scientific evidence that ingesting it is harmful to human health. Diosady says, “The amount we put in salt is less than one-thousandth of the allowed limit in Canada.”)

**ALTHOUGH PREGNANT WOMEN IN MANY DEVELOPING COUNTRIES DON'T EAT A HIGH-QUALITY DIET, ONE THING THEY DO GET DAILY IS TEA. THIS MAKES THE HUMBLE DRINK A POTENTIAL TARGET FOR IRON FORTIFICATION.**



Then, to ensure that moisture can't get in even in very humid climates, the particles are coated with tiny amounts of hardened soybean oil (it's 100 per cent vegetarian, to comply with many religious and cultural laws). These particles are then mixed in with regular iodized salt, making a product that's doubly fortified. When this salt is added to soup or other warm food, the coating on the microencapsulated particles melts, releasing the precious iron inside and allowing the body to absorb it. Early in their research, until they got the coating just right, Diosady and his team had some unexpected results, such as the time the salt turned a warm banana dish bright blue.

"This is what double-fortified salt looks like," says Diosady excitedly, taking down a small glass bowl from a shelf in his office in the basement of the Wallberg Building. The mixture looks very similar to ordinary salt that's perhaps had some light-coloured pepper sprinkled in – those barely visible specks are the microencapsulated iron particles – and it tastes like regular salt.

Following lab trials in Toronto, field tests in 2008 delivered brilliant results. A study in Bangalore, India, showed a significant reduction in anemia rates among children who received double-fortified salt on a daily basis. These results suggest that iron-deficiency anemia could be eliminated in 1.6 million of the 5.4 million children who now receive double-fortified salt through their school meal. India wants to expand the initiative to all 300 million children enrolled in the country's school lunch program.

Problem solved? Not quite. There are many places in the developing world where children don't receive school lunches, or go to school at all. Nor does a school program reach parents, young women or any other family members. While double-fortified salt is now a proven strategy, it will take time to reach entire populations, so in the meantime, more sources of supplemental iron are needed. The clear choice is tea. Much of the developing world drinks it, and people drink a consistent amount, averaging two cups a day. So, Diosady reasoned, if salt and tea each provided an average of 30 per cent of the daily iron requirement, even those with only one source would be lifted out of anemia, and those with sources including fortified salt, fortified tea and iron-rich foods such as meat would still be well within safe limits. (Even double the daily requirement is safe for most people, Diosady says.)

Diosady's research into fortifying tea is still in the early stages, as technological obstacles are even more challenging than with salt. First, iron turns a cobalt-blue colour in tea. It may sound pretty, but Diosady says, "When combined with brown it's an ugly-looking mess." Second, iron binds with tannins, the healthy antioxidants in tea, and becomes unavailable to the body. As in salt, the iron must be encapsulated, but since people don't eat tea leaves, there must also be a way for the iron to be released.

Diosady's team includes fellow chemical engineering professors Yu-Ling Cheng, a drug delivery expert, and Edgar Acosta, a microemulsions specialist, as well as a host of graduate students and visiting professors from Mexico, Brazil, France, China, Iran, Sri Lanka, Chile and Canada. Based on the success of his salt research, Diosady hopes to have the tea project fully developed within five years, with a product available at a cost of two or three cents per person per year.

Diosady himself still works on his research every day, although he only goes into the lab a couple of days a week. He says he has no plans to retire. As for the prospect of improving the health of hundreds of millions of children in India, he takes a humble tone: "It's very satisfying for a researcher sitting in Toronto who knows nothing about medicine."

If successful, Diosady could be eligible for a further \$2 million from Saving Lives at Birth to roll the tea project out into the field. It could prove a worthy investment: in 2012 the Copenhagen Consensus, an expert panel that studies the best ways for governments to spend aid and development money, put micronutrient fortification in the number one spot. It estimates that for every dollar invested in micronutrient fortification, the returns are between \$7 and \$39. "Professor Diosady's research is impactful and inspiring," says Cheng, director of U of T's Centre for Global Engineering. "His work has already impacted millions of people, and not too many researchers can say that."

**Marcia Kaye (marciakaye.com) of Aurora, Ont., is an award-winning health writer.**

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## Megan Nelles

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Megan holds a PhD in Medical Biophysics  
and is a Scientific Associate with the Ontario  
Cancer Institute, University Health Network.

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“After completing a graduate  
degree, I chose to study  
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# All About Alumni

**“If discovery is no longer interesting, we should just go home and watch reality television”**

“Leech guy” Mark Siddall

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## Championing Canadian Art

From the moment she arrived in Canada, Katerina Atanassova was drawn to the Group of Seven

**WHEN KATERINA ATANASSOVA** first came to Canada from Sofia, Bulgaria in 1990, some Toronto locals took her to the Eaton Centre. “I didn’t spend a lot of time in the shops, but I was drawn to the collection of paintings in The Bay,” Atanassova says. “I still remember the painting by [F.H.] Varley, *The Immigrants*, with a woman and her children coming off a ship into a new country. What was she thinking, what did she have to do to make a new home?”

This was the beginning of an unlikely love affair between

Atanassova (MA 1994), an expert in medieval icon-painting, and Canadian art – one that has led her, after a few zigs and zags, to become the chief curator of the McMichael Canadian Art Collection in Kleinburg, Ontario. Her initial attraction only deepened during her U of T studies. “As a graduate student, I worked with U of T’s Malcove Collection which included early medieval and Byzantine art. That was what I knew, but I found myself drawn also to the University College Art Collection, with its alumni donations from the Group of Seven and their contemporaries.”

And so, in 1999 she applied to direct the education programs at the Varley Art Gallery in Unionville, Ontario, going at it with her customary passion – she dances flamenco, she *commits*. Where there had been five art classes, suddenly there were 25 – “oil, acrylic, medieval bookbinding, manuscript illumination, ceramics, you name it.” Soon enough, she began curating, jazzing up a show on the early itinerant ►





F.H. Varley is one of six Group of Seven artists who are buried on the grounds of the McMichael Canadian Art Collection

## Diplomatic Frontier

### Mark McDowell is Canada's first ambassador to Myanmar



UNTIL THREE YEARS AGO, Myanmar's ruling military junta quashed protests, jailed dissidents and oversaw a political system propped up by sham elections. Since 2010, however, the country has been evolving toward fledgling democracy. The rapid reforms have opened the gates for diplomat Mark McDowell's new role: Canada's first resident ambassador to Myanmar.

"I arrived here at the end of June, and I was struck by the changes to civic freedoms," says McDowell (BA 1988 Innis, MA 1990). "Former political prisoner Aung San Suu Kyi was on the cover of many newspapers, taxis

had National League for Democracy stickers. That was unthinkable a few years ago."

McDowell's interest in Southeast Asia was nurtured at U of T, during professor Richard Stubbs' fourth-year seminar. As a diplomat, he has served in New York, Taipei, Beijing and Bangkok (from where he visited Myanmar frequently).

"As ambassador, I'm a matchmaker, helping countries to co-operate," says McDowell. "I see mutually beneficial projects in a variety of fields from birth to fruition. It's the right time for Canada to engage. We want to assist with the path to democracy. It's important to build our network to better understand Burmese decision-makers."

During his appointment, McDowell will oversee the creation of a full-service Canadian embassy, set to open in the new year. "It's like a tech startup," he says. "We have a large amount of energy and a huge amount of work to do." That work will also include supporting trade and investment opportunities and advocating for Canadian interests, such as respect for human rights.

"This was the job I wanted," says McDowell. "It's a rare occasion to open an embassy, especially in a country that is changing so significantly. It's exciting to watch those changes unfold, and even more exciting to be a part of them." - **AMY STUPAVSKY**

## OVERHEARD



A key benefit of the internet is the migration of private thought into the public realm. We now have the ability, when we have a question or a creative thought, to broadcast that out to the world. The connections and conversations that come out of it are new for most people. It's seismic.



Technology writer and journalist Clive Thompson (BA 1992 Victoria) on CBC Radio's Q debate "Is the internet making us smarter or stupider?" on October 23.

► portrait artist William Berczy with mannequins in period garb, and quotes from the artist in big vinyl letters on the wall. "The voice of the artist is key," she says.

And an exhibition she curated helped show, convincingly, that her beloved Varley was less a landscape artist, and more a portraitist: "He wrote to his sisters, 'I am so moved by nature, but I am eager to portray the human figure.' We followed that further. I'd love to show him some day with Augustus John and William Orpen, who also painted portraits."

Raising Canada's profile internationally has been a top priority for Atanassova at the McMichael, and a 2012 exhibit she co-curated with various European museum heads, *Painting Canada: Tom Thomson and the Group of Seven*,

was a hit: 100,000 came to London's Dulwich Gallery, more than 50,000 to the Netherlands show. "While hanging it, I had this shiver, of anxiety, of responsibility: imagine coming to France and being asked to hang the van Goghs, the Monets."

This fall and winter, she's featured two working artists who challenge and complement the McMichael's landscape-heavy collection. Edward Burtynsky's photographs show some of the liberties we have taken with the land, and canvases by Kim Dorland, painted in response to Tom Thomson, are hung among some of the McMichael's Thomson holdings. "We recreated their studios. I like to try to make them vivid, these artists who gave us, who give us a vision. Where they work, what tools they use, who they are." - **ALEC SCOTT**



U of T Libraries contain more than 650 videos and 47,000 books on Second World War topics



figures prominent during his lifetime, from Romanian poet Paul Celan to Albert Einstein and Helen Keller. “You can’t understand someone unless you can understand their historical moment,” says Michaels.

Sharing that belief is the book’s illustrator, Bernice Eisenstein. Eisenstein’s acclaimed autobiography, *I Was a Child of Holocaust Survivors*, explores how her identity was shaped by her parents, who met in Auschwitz.

“Bernice and I had an immediate understanding,” Michaels says. “We shared a strong feeling that each person whose portrait is in the book derives some shelter by being there. And since writers spend so much time alone with what they’re thinking of, it was a solace for me to collaborate with someone who understood what I was thinking about.”

Michaels is no stranger to aloneness, especially in the dark of night. Working on her second novel, *The Winter Vault*, when her children were small, she could only find time to write between 1 and 5 a.m. “That lasted for 10 years until I realized I was destroying my health,” she says.

This intensely private author seldom steps into public view, except at U of T. Michaels founded the long-distance creative writing program in the School of Continuing Studies and for five years has been an adjunct professor at University College, mentoring one creative writing student a year. She says that the architecture on the St. George campus creates a “sense of community,” and her fondness bubbles up in her writing. In her award-winning first novel, *Fugitive Pieces*, Michaels rescues a lead character, Athos Roussos, from wartorn Greece and tenderly places him in the University of Toronto geography department. – **SUSAN PEDWELL**

## Playbook

### Inner worlds unfold in Anne Michaels’ new poem

**ANNE MICHAELS’ LATEST BOOK**, *Correspondences*, opens like an accordion. “Read it any way you like,” she suggests. “Move the pages so they rest by different pictures. Unfold the book into a circle and you’ll find the first and last words are the same – ‘the wet earth.’”

Michaels (BA 1980 UC) composed the book-length poem – an elegy for her father – as a way to explore how we remember people. The slim volume is illustrated with portraits of

## Uncomforted

### Second World War rape survivors still call for apology



Nearly 70 years have passed since some 200,000 so-called “comfort women” were forced into sexual slavery by the Japanese army during the Second World War. The few living survivors continue to wait for a state apology and compensation.

News anchor Jennifer Moon (BA 2005 Innis) was inspired to highlight the issue after delivering news reports on the deaths of some South Korean survivors in late 2012. To show how widespread the atrocities were, she decided to produce a Pan-Asian version of their story. Arirang TV, a global network based in Seoul, first aired Moon’s documentary “*Comfort Women*” *One Last Cry* on March 1, 2013 – the date commemorates the 1919 Korean independence movement. The film begins in South Korea and moves on to the Philippines, China and Australia.

Moon’s greatest challenge was convincing the survivors to talk about their most painful memories. Many of them were adolescent girls

– some as young as 12 – when they were taken by Japanese soldiers. For some, the ongoing lack of recompense makes it feel as if efforts to recount their stories are in vain. “I’ve told my story more than 100 times,” says Ha Sang-suk, whom Moon interviewed in Wuhan, China. “What has changed? Nothing.”

Moon won Best Scriptwriter and the film won an award of excellence at the 2013 International Film Festival for Peace, Inspiration and Equality. Although there are other productions on the topic of “comfort women,” Moon still hopes hers will contribute to the long battle for justice. “I felt like it was my duty to march on and document their stories well,” says Moon. “This way, their wish for a sincere apology from the Japanese government may come true.”

– **NADIA VAN**

To watch “*Comfort Women*” *One Last Cry*, visit [magazine.utoronto.ca](http://magazine.utoronto.ca)



At official international beach volleyball tournaments, the sand is supplied and tested by a Canadian company, Hutcheson Sand

THE TWO OF US  
**Learning Together**

For Jim and Sheila Latimer of Wasaga Beach, Ontario, a shared commitment to education helped cement their five-decade bond



**JIM (CBUS 1976):** I dropped out of high school in 1947 when I was 15. I wanted to be an accountant but my parents couldn't afford for me to be in school – I was from a family of eight kids, and my dad had hardly any jobs through the Depression. I worked factory jobs for a few years, and then went to work in the post office. Sheila trained as a nurse in Edinburgh, Scotland, and then came over here in 1959. I met her at a screening of *Ben-Hur* in 1960. I found her cheeky and very

much a feminist. Smart, too. We met in March and got married in October, and we've been married 53 years now. We love to travel together, and we've been around the world a couple of times, visiting Vancouver, Hawaii, Fiji, Australia, Singapore, Thailand and then England. I have no idea why she puts up with me, but I guess we were just compatible from the start. I just figured that if I was ever going to marry anyone, it would be Sheila – I never felt this way about any of the other girls I went with.

**SHEILA (CPHN 1965, BSCN 1975, MED 1984):** I was from a working-class family of four kids. My dad was a barber and my mum stayed at home, and we were quite poor. I started going to night classes for nursing and then I moved to Canada and finished my initial nursing education at U of T. Jim and I have both worked full time all our lives. When we both went back to school part time in our thirties – Jim for business administration and me for nursing – we really supported each other. We went to school together, just like we did a lot of things together, and Jim would pick me up after class. I think we've been together for over 50 years because we each let the other go their own way – within reason. We're tolerant of each other's foibles. When I do something impossible, he just shrugs his shoulders. And now, after all these years, we rarely make a move without each other.

Laura Inward (left) and teammate Wanda Guenette in Sydney in 2009



**Golden Glow**

Three times now, Laura Inward has brought a gold medal home for Canada. Inward (BPHE 1992) and her teammate, Wanda Guenette of Winnipeg, topped the podium in women's beach volleyball at the World Masters Games – the largest multi-sport event in the world – in Torino, Italy, this past August. The shiny memento joins her souvenirs from the Games in Sydney (2009) and Edmonton (2005).

Victory was just as sweet this time around, but the motivation for competing had changed. "The first time was all about winning," says Inward, 45. "In 2009 it was more about recognizing I was getting older, yet that sport could continue to be a part of my life." Then, Guenette was diagnosed with rheumatoid arthritis and could barely walk. "So the 2013 Games were more about my partner and how the goal and message behind sport can help you overcome life's challenges."

Inward played five years for the Varsity Blues indoor volleyball team and stays involved: she's been a member of the team's fundraising committee since 2000 and an assistant coach since 2010. She's grateful for her continued connection with athletics. "As I embarked on my new real estate career I worried whether I would be successful," she says. "I forced myself to stay connected to the process and trust that the outcome would take care of itself. I ended up using the lessons that I share with my athletes on myself."

– WENDY GRAVES





Calgary Mayor Naheed Nenshi won a second mandate in October 2013 – pulling in 74% of the popular vote



FIRST PERSON

## Time to Talk

### Helen Walsh has an answer to political polarization and crisis: genuine conversation

**“I’M WEARING PINKO** for all the pinkos out there that ride bicycles and everything,” I remember Don Cherry saying during his address at Rob Ford’s swearing-in as mayor of Toronto in 2010, in which Cherry summed up his thoughts on the recent election. “Put that in your pipe you left-wing kooks.”

Recent years have not been kind to those of us who believe in the importance of a lively, robust public square that is also constructive and respectful. It’s not just the famously abrasive Cherry. Watching question periods on Parliament Hill or debates at Toronto City Hall has left me shaking my head, wondering if Canada risks becoming steeped in the same kind of mutual distrust and partisan rhetoric that makes constructive policy dialogue impossible south of the border. One need only listen to the comments made by supporters of the proposed Charter of Quebec Values to worry about the impact that divisive dialogue is having on Canadians.

Is this the kind of society in which we want to live?

This worry about the country’s direction moved me to the point of action in 2011, and motivated me to build a new cross-Canada initiative called Spur.

At a time when public interest in municipal issues had been rising, evidenced by the popularity of media such as *Spacing*, *blogTO*, *Torontoist* and *urbantoronto.ca*, the City

**Action is where solutions are found, but action is impossible without dialogue**

of Toronto invited residents to make presentations to city council about their priorities for Toronto. A remarkable number of people took time to attend and put forward thoughtful comments – including a 14-year-old student from Scarborough who waited until 2 a.m.

to speak. Many were mocked and ridiculed as “the usual suspects” by elected politicians who held different views.

If the City of Toronto spending review was the negative impetus for me to create Spur, the positive catalyst was Calgary mayor Naheed Nenshi. Rather than attacking his election opponents, he first ran, in 2010, on a platform of ideas for a better Calgary. The campaign strategy was to inspire Calgaryans with a positive message and motivate the large numbers of voters who normally boycott the ballot box. His team believed, as I do, that conversation leads to engagement and ultimately to solutions. Action is where solutions are found, but that action is impossible without dialogue that counters polarization and inspires people to change.

Spur festivals include debates and conversations, lectures and readings, literary cabarets and artist-led walking tours. They feature commentators from across the political spectrum, including strategists, artists, architects, environmentalists, academics, aboriginal leaders and students. Research and writing fellowships and initiatives anchor the festival in robust, year-round programming.

Spur 2013 editions took place in Vancouver, Winnipeg and Toronto. One wouldn’t expect conservative strategist Jaime Watt (who worked on the campaigns of Alison Redford and Mike Harris) and liberal strategist David Herle (Paul Martin, John Turner campaigns) to find common ground, but their debate turned into a fascinating conversation for two reasons: their refusal to let the audience off the hook during a Q&A about the public’s complicity in making negative advertising effective, and their insightful shared commentary on the need to believe in your candidate.

There were many moments that challenged conventional thinking, and as we build toward Spur 2014 festivals in Vancouver, Calgary, Winnipeg, Toronto and Ottawa, I’m getting excited about the fruitful dialogue to take place.

I believe strongly that Canadians across the country, across ages, backgrounds and political ideologies, want a better and more effective dialogue. As a society, we must be deliberate about creating opportunity for all of us to feel our contributions are important, and that we’re heard. Change can bring great opportunity – if it is harnessed positively.

Helen Walsh (BA 1990 UC) is the president of the Literary Review of Canada Charitable Organization and the founder of Spur. To join the conversation, visit [spurfestival.ca](http://spurfestival.ca).



Medicinal leeches are regulated by Health Canada. They are raised on a special electrolyte solution so they don't acquire dangerous bacteria prior to use

60 SECONDS WITH

## Mark Siddall

### The Leech Guy



**Mark Siddall** (BSc 1988 St. Michael's, MSc 1991, PhD 1994) is a molecular evolutionary biology and biodiversity specialist at the American Museum of Natural History in New York who takes a passionate interest in creatures most of us strive to avoid: leeches. Here, he tells **Janet Rowe** about coming to grips with these unappreciated little suckers.

**Why leeches? Were all the cute critters taken?** No, few had bothered with these cute critters yet!

**So... you wade through the Amazon barefoot...?** It's fieldwork in remote places, yes. But actually, the job is not just about discovering species. It used to happen a lot that several different people would find something and describe a new species and it turns out it's the same one,

and now it's got three names. Sorting that out is also part of the job, and this is why natural history museums are important. They are libraries of biodiversity.

**Why is it important to study even unloved animals, such as leeches, and promote biodiversity?** Because we don't want to live in a world that's just full of pandas and pine trees. That's boring. And quite frankly, the movement towards any and all research having to be directed toward some sort of economic goal, I think is – can I use the word asinine? If discovery is no longer interesting, we should just go home and watch reality television.

**Why are people scared of leeches?** It's learned. If someone screams "Oh my God, you've got a leech on you," you automatically have negative thoughts associated with it. My daughter has grown up with leeches and she thinks they're awesome.

**So tell me some awesome stuff about leeches.** They're incredibly beautiful swimmers, they have gorgeous colour patterns. Their ability to detect movement from huge distances is really quite powerful. And when they're feeding, their whole body goes limp. It's like they're paralyzed.

**Why?** I don't know! I've asked them and they don't answer.

**Why does salt work, to get leeches off?** You're basically dehydrating the leech. It's a very bad idea, though.

**For the leech?** For you. The research we've done has demonstrated that leeches have bacteria that live in their gut. If you salt the leech, in addition to the unhappy eventuality that you've just poured salt into a wound, it could cause the leech to regurgitate into the wound and establish an infection. Just let them finish, or push their face – at the skinny end – to the side and then peel off the sucker at the fat end.

**When you name a leech species, do you name it after your enemies?** I don't have any enemies! I've named one after my daughter, Ali, because she found it: *Placobdella ali*. Then there's *Tyrannobdella rex*; we named it so we could say that T. rex was alive and well, feeding on children in the Amazon.

## Milestones



Sara Seager


**Sara Seager** (BSc 1994 UC) is officially a genius. The astrophysicist (now at MIT) has won a \$650,000 MacArthur Fellowship, popularly known as a "genius grant," to further her research into exoplanets.

Right on target, two-time Olympic competitor **Crispin Duenas** (BSc 2011 Victoria, BEd 2013) took the bronze medal at the World Archery Championships in Turkey in October.

The Arbor Awards honour U of T community members who offer outstanding volunteer service to the university. For 2013, the awards recognized more than 75 alumni, including these seven:

**Ted Maulucci** (BASC 1989) co-founded non-profit One Million Acts of Innovation to help U of T students (and others) transform ideas into marketable products. **Helen Katz** (BA 1973 UC, MLS 1975) built a job-shadowing program for students in the Faculty of Information. **Martin J. Hunter** (BA 1955 Trinity, MA 1967) has dedicated more than 60 years to volunteering at and mentoring the staff of Hart House Theatre. **Hans C. Fischer** (BASC 2003, PhD 2010) coaches (and competes for) the Varsity Blues Nordic ski team. **Karim Nawaz Alidina** (MBA 2007) volunteers at the Rotman Career Centre and co-developed a course: Personal Branding for Financial Services. **Kirran Bakhshi** (BSc 2010 Innis) created the Strangers in England dinner program. **Matthew R. Chapman** (MBA 2000) provided leadership as president of the University of Toronto Alumni Association. For a complete list of winners, see alumni.utoronto.ca/arbor-awards.



A close-up portrait of a young woman with long, dark brown hair, smiling warmly at the camera. She is wearing a light blue top. The background is a plain, light color.

“This scholarship meant I had time to serve on student government, where I learned the skills I’m now using at law school.”

**Lina Nikolova**  
BA 2012, JD 2015

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**BOUNDLESSLEGACY**





Professor Calvin Gotlieb (with bow tie) and CN Telegraph officials look on as programmer Audrey Bates makes computer history

### PAVING THE WAY FOR THE INFORMATION HIGHWAY

## Dec. 15, 1955

U of T profs are the first to send computer data across Canada

Research data from the University of Saskatchewan arrived on paper tape, falling from the teletype in fanciful swirls onto an office floor in the Sandford Fleming Building. When the transmission ended, U of T professors Calvin Gotlieb and J.N. Patterson Hume grabbed the tape, ran down the hall and fed it into an 800-pound computer. The behemoth spewed out its complex calculations on more ribbon, and the team transmitted the answers to Saskatoon over telegraph lines.

The whole process was lickety-split, taking only six hours. Previously, scientists wanting to use U of T's computer had to mail their data and programming, then wait for U of T to process the job and mail the data back, a procedure that took up to four months. This exchange was not only fast, but no stamps were licked. Historians have since come to regard this transmission of computer data across three provinces as a forerunner to the Internet.

This historic event is just one of the firsts that U of T's department of computer science is marking as it celebrates its 50<sup>th</sup> anniversary in 2014. Consider the processor that spewed the data: it was Canada's first electronic computer. The Ferranti Electric Company in England shipped the machine to Toronto – in pieces! It arrived in spring 1952, Gotlieb and Hume spent the summer assembling it, and by fall Ferut (an abbreviation of “Ferranti University of Toronto”) was playing checkers.

Hume and Prof. Beatrice Worsley, considered Canada's first female computer scientist, pioneered software called Transcode for Ferut. This precursor to Fortran revolutionized programming by making it so simple that just about anyone could write a computer program.

In 1964, U of T created the department of computer science (with Gotlieb as its first chair) and began offering Canada's first doctorate in the subject. – **SUSAN PEDWELL**

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# Alumni Portraits

Visit the new Alumni Portraits website to learn about the outstanding contributions being made by your fellow alumni – members of a worldwide community of leaders and change makers. View short video interviews that profile their accomplishments and explore how U of T helped shape their personalities, develop their interests, and put them on the path to success.

Our alumni are the university's most enthusiastic ambassadors, supporters and citizens. We salute you!

[alumni.utoronto.ca/portraits](http://alumni.utoronto.ca/portraits)