

Taking Care Sick Kids' Mary Jo Haddad / **Smarter Traffic** Easing gridlock / **Education for Africa** MasterCard's fellowships
Bon Appetit, Paris A food truck with flair / **Search and Discovery** U of T's changing libraries / **Writing Contest Winners**

UofT Magazine

SUMMER 2013



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Summer 2013

Volume 40, No. 4



38 Taking Care

Mary Jo Haddad came to Sick Kids to care for ill children. As CEO, she helped nurse the whole hospital back to good health

BY CYNTHIA MACDONALD

27 Starting Up

For tech-savvy and creative young grads, entrepreneurship holds growing appeal

BY SCOTT ANDERSON,
PATCHEN BARSS,
LEAH CAMERON, ZOE CORMIER
AND JOHN LORINC

43 Short Story and Poetry Contest Winners

A patient tells of a troubled past in Adam Giles' winning story, "Corduroy." Student Jessie Yao won top prize for her poem "A Missing Child"

Editor and Manager

Scott Anderson

Deputy Editor

Stacey Gibson

Art Direction and Design

The Office of Gilbert Li

Editorial and Advertising Assistant

Nadia Van

Co-Publishers

Ania Lindbergs, Senior Executive Director,
Advancement Communications and Marketing

Barbara Dick, Assistant Vice-President,
Alumni Relations

Editorial Office

T (416) 978-0838, F (416) 978-3958
uoft.magazine@utoronto.ca

Advertising Inquiries

Nadia Van
T (416) 978-0838, F (416) 978-3958
nadia.van@utoronto.ca

All correspondence and undeliverable copies:

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Departments

I'm definitely not going back to banking any time soon

– Entrepreneur Cybill Lui, on her decision to start her own film-producing company, p.33



54 Grad Peter Birkemoe is Toronto's own comic book hero



24 Making green roofs better: the Daniels Faculty's Green Roof Innovation Testing Laboratory



9 A \$22.5-million donation from MasterCard Foundation will bring bright young African students to U of T

3 Letters An Inspiring Champion

4 President's Message
Online Education

5 Calendar The Art of Small Presses

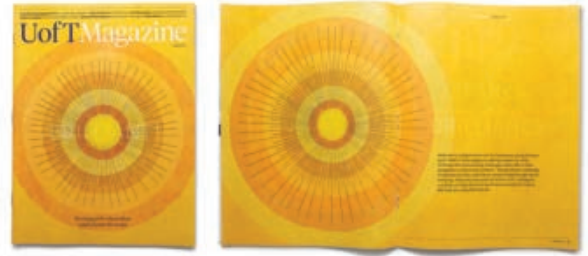
9 Life on Campus African Scholars

19 Leading Edge Housing First

49 All About Alumni Renaissance Man

56 Time Capsule Rooms of Her Own

Letters



I, for one, think that a small carbon tax is a reasonable price to pay to help ensure that future generations have a propitious future

BERNIE TERENTIUS SCALA

BSc 1988, BEd 1989, MA 2001, TORONTO

An Inspiring Champion

The article about Mitzi Hunter, the CEO of CivicAction, is an inspiring success story of a woman who is a child of immigrants to Canada (“Urban Crusader,” Spring 2013). I taught a number of young people in elementary school whose parents were Vietnamese “boat people,” Jewish immigrants and Somalian refugees. Their individual stories are all different, yet very moving. They are to be honoured for their accomplishments and drive.

ALLAN MILLER

BEd 1969 OISE, OTTAWA

Roomie Luck

Unlike the students who were polled for your spring issue about whether they got along with their first-year roommate, I cannot credit a residence survey for my good fortune. Maybe it was fate?

In first year, my original roommate decided to go home after Frosh Week. Back then, you didn’t have to attend U of T to live on campus, so my residence accepted a young lady who had arrived late at Ryerson and was scrambling to find a place.

We couldn’t have been more different: she was in fashion design, and I was a biology student who basically lived in sweatpants. She always had creative sewing projects on the go, and I remember she freaked out when

I brought home a skeleton from my physical anthropology class.

Did we get along? Absolutely! We decided to live together again in second year. We became good friends and had tons of fun over the years. Alas, life happens and we’ve drifted apart. But, I still like to surprise her with a phone call on her birthday or Christmas once in a while, and have nothing but fond memories of those years at U of T.

COLLEEN COTTER

BSc 1984, ORLEANS, ONTARIO

Climate Crisis Is Real

Ken Stouffer doubts the veracity of human-induced climate change (Letters, Spring 2013).

While there is no question that climate has changed often and quite dramatically in the past, those changes have occurred over relatively long periods of time. That the unprecedented rapid changes we are witnessing are anthropogenic is as near a statistical certainty as such matters can be. If Stouffer were to pay as close attention, without prejudice, to the overwhelming evidence at hand as he has to the magnolia and fig trees of northern Greenland he would, I think, come to the same conclusion as nearly the entire global scientific community.

I, for one, think that a small carbon tax is a reasonable price to pay to help ensure that future generations, and

indeed the entire biosphere as we know it, have a more propitious future than the one forecast by nearly every computer model based on present trends.

BERNIE TERENTIUS SCALA

BSc 1988, BEd 1989, MA 2001, TORONTO

Buddha’s Insights

I agree with Suwanda H.J. Sugunasiri (Letters, Spring 2013) that *U of T Magazine* should publish an article on Buddhist philosophy and psychology. Perhaps U of T researchers could design an experiment based on studies from adept and well-known masters, scientists, monks and yogis in this field instead of mainstream popular practitioners. When taken seriously and understood properly, Buddhist practices can help foster stable mental health among young people.

ABHA HUMENIUK

MLAND, ONTARIO

Disrespecting the Bard?

Surely Vincent Massey would turn over in his grave if he knew what was going on in Hart House Theatre, with “male actors,” “penis jokes,” “homoerotic horseplay” and “masturbatory gestures” (“Enter Stage Left,” Winter 2013). Does U of T endorse such disrespect of Shakespeare, a great deceased author who can no longer defend his work? A university should promote the understanding of the past achievements of mankind and not tolerate obscenities.

WARREN KIRKENDALE

BA 1955 UC, ROME

CORRECTION: Barbara Chernin, who was identified as an alumna in the Spring 2013 Letters section, did not attend U of T.

Online and In Person Digital synergy for higher education



In less than two decades, the digital revolution has transformed entire sectors of the economy and our culture – from music to movies to journalism. Many observers believe a similarly radical change is in store for higher education.

Exhibit A is the advent of “massive open online courses,” or MOOCs. The typical MOOC is free of charge, open to anyone around the world through the Internet and capped by a certificate of completion rather than a formal university credit. Faculty who teach MOOCs are motivated not just by the ideal of enhanced access to higher education. They report that developing MOOCs has given them new insights about learning and teaching in our digital age.

Moreover, the field is evolving fast. Just a few weeks ago, Georgia Tech broke the no-charge/no-credit mould for MOOCs by launching an online master’s degree in computer science for US\$7,000. Skeptics argue that Georgia Tech is creating a two-tiered system for its students and credentials. But few observers doubt that a revolution of some type is brewing – and U of T is part of it.

Your alma mater was the first Canadian partner in Coursera, a leading platform for MOOCs that now includes many of North America’s finest universities. Our first five courses have attracted more than 400,000 students in computer science, social work, psychology, statistics and education – a number equalling almost 80 per cent of U of T’s entire living alumni. We have since joined a second platform, EDx, created by Harvard and MIT.

U of T has yet to launch any full-credit MOOCs. But consistent with experience elsewhere, MOOCs are changing the way our professors teach “traditional” classes. For example, Jennifer Campbell and Paul Gries teach “Learning to Program” as an entry-level computer science course. It’s also a very popular MOOC. Using videos created for the MOOC, Gries and Campbell “inverted” the classroom experience for their 500 U of T students. Students watch the lectures whenever they like, repeatedly or in segments if it helps them absorb the material. In class, they focus on assignments and interactive activities, where their instructors can address selected material in depth, according to the students’ needs.

Charmaine Williams, from the Factor-Inwentash Faculty of Social Work, teaches a MOOC on the social context of

mental health. She points to the benefit online students gain through interaction with global peers. Students in her MOOC, representing 90 different nations, have exchanged information – and opinions – about their health-care systems and how mental illnesses are handled in their countries. This type of transcultural learning is priceless.

In brief, we already have lots of evidence that digital tools will greatly enrich higher education and rapidly widen access to its opportunities and challenges. And it may also be possible for students to acquire many skills faster and better with digitally assisted learning methods.

Now, the caveats. Many educators are asking hard questions about the consequences of a too-narrow focus on technical skills that can rapidly become obsolete. At U of T, recent curriculum reforms have deliberately leavened academic and technical skills with what one might call “renewable competencies,” such as critical thinking, effective writing and communications, problem-solving, teamwork, and ethical and social reasoning. These are competencies for a lifetime, for any job and for every citizen. (They also figured strongly in Arts and Science on the decadal watch of my esteemed successor, Meric Gertler, and have drawn close attention in many other divisions.)

It’s hard to imagine nurturing such attributes effectively without some in-person interactions. It’s even harder to imagine how traits such as resilience or emotional self-awareness can be developed in an online cocoon with its pseudo-socialization. In contrast, if student A debates student B in a seminar, neither can reboot as their pet arguments get shredded. And the good news is that they might thereafter engage in civil discourse and discover the most important piece of human geography: common ground.

Please don’t take this as a Luddite turn. I firmly believe that digital tools will make a hugely positive difference to higher education in the decades ahead. But I also believe that in-person education – and the competencies fostered by interpersonal exchanges – will be irreplaceable on our hot and crowded planet for a very long time.

Sincerely,
David Naylor

Calendar

MORE EVENTS!
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A View of Early Printing, a tunnel book by William Rueter of the Aliquando Press



TO AUGUST 30

A death greatly exaggerated: Canada's thriving small and fine press

In an age when e-readers are generating buzz, questions swirl around the future of the printed book. But the last decade has been a flourishing period for Canada's small book makers. *A death greatly exaggerated: Canada's thriving small and fine press* explores some of the best examples of the craft since 2000, along with a quick nod to the small press's past. Exhibition by John Shoesmith. Free. Mon. to Fri., 9 a.m.–5 p.m. 120 St. George St.

For info: 416-978-5285 or fisher.library.utoronto.ca/events-exhibits/current-exhibition

Alumni

Visit alumni.utoronto.ca/events/regional.

June 26 Calgary

Young Alumni and Friends Shaker.

A casual summer reception for young U of T grads and friends. Complimentary appetizers and half-price drinks. Free. 5:30–7:30 p.m. Double Zero, 751 4th St. SW, Calgary. Contact Deirdre Gomes at 416-978-1669, deirdre.gomes@utoronto.ca.

June 27

Vancouver

Summer Alumni Book Club Meeting: Bill Gaston's *The World*. Please bring an appetizer and beverage to share. Free. 7–9 p.m. Location is a private residence. 416-978-1669, deirdre.gomes@utoronto.ca or alumni.utoronto.ca/events/regional.

July

Soldiers' Tower

Carillon recitals will be held on July 1 (Canada Day), from 1–2 p.m., and on July 10, 17, 24 and 31, from 5–6 p.m. These are outdoor events. Soldiers' Tower, beside Hart House, 7 Hart House Circle. For more info: 416-978-3485 or soldiers.tower@utoronto.ca.

July 13–14

Vancouver

Summer Alumni and Friends

Weekend. July 13: Cheer on baseball's Vancouver Canadians at Nat Bailey Stadium, and enjoy an all-you-can-eat BBQ and fireworks. \$37. 6 p.m. Nat Bailey Stadium, 4601 Ontario St. **July 14:** A guided tour of the historic Port Metro Vancouver. Contact Deirdre Gomes, 416-978-1669 or deirdre.gomes@utoronto.ca. Visit alumni.utoronto.ca/events/regional.

July 18

San Francisco

Wine and Cheese Reception.

Enjoy a selection of California's finest wine and cheese with fellow grads in the Bay Area. Free. 6–8 p.m. Location to be confirmed. Contact Deirdre Gomes, 416-978-1669 or deirdre.gomes@utoronto.ca. Visit alumni.utoronto.ca/events/regional.

August 23

Edmonton

Dinner with Strangers hosted by Prof. Ray Jayawardhana of astronomy and astrophysics. Free. 6–8 p.m. Location to be confirmed. Contact Teo Salgado, 416-978-2368 or teo.salgado@utoronto.ca. Visit alumni.utoronto.ca/events/regional.

September 17

Vancouver

Vancouver Art Gallery Tour. Join alumni and friends to explore the gallery. Cost TBD. 6–8 p.m. Contact Deirdre Gomes, 416-978-1669 or deirdre.gomes@utoronto.ca. Visit alumni.utoronto.ca/events/regional.

September 24

New York

Young Alumni and Friends Shaker. Network with recent U of T grads in New York. Friends are welcome. Complimentary appetizers and half-price drinks. Free. Location TBD. 6–8 p.m. 416-978-1669, deirdre.gomes@utoronto.ca or alumni.utoronto.ca/events/regional

September 28

Washington

All Canadian University Alumni

Brunch. Share a meal of Indian food with fellow grads and Canadians living in Washington. \$25 (includes tax and tip). Indique Heights, 2 Wisconsin Circle, Chevy Chase, MD. 1–3 p.m. 416-978-1669, deirdre.gomes@utoronto.ca or alumni.utoronto.ca/events/regional

November 24

Hong Kong

Asia-Pacific Graduation Ceremony

for alumni in 2011 and 2012. 11 a.m. The Ritz-Carlton, Hong Kong, International Commerce Centre, 1 Austin Rd W., Kowloon. 416-978-2368, teo.salgado@utoronto.ca or alumni.utoronto.ca/events/regional

Special Events

August 1

Hart House Quad

Hart House Craft Beer Festival.

Beer from small craft breweries and BBQ fare. New: guided beer class. Tickets: \$35 plus tax (students, \$30 plus tax). Beer class and festival: \$50 plus HST (students, \$40 plus HST). 7 p.m. 7 Hart House Circle. www.harthouse.ca

Sports

August 25

Varsity Centre

Varsity Blues Football Home

Opener. The Blues take on the Western Mustangs. 1 p.m. 299 Bloor St. W. For ticket info, visit varsityblues.ca/tickets.

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(France)

Sep 25–Oct 3

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Lifestyles

Explorations in Italy

Oct 3–25

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(Indonesia)

Oct 4–18

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Oct 4–19

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Life on Campus

“Practising gratitude makes you healthier, more resilient and more compassionate”

Day Milman, Hart House program co-ordinator

p. 10



Supporting African Scholars

A \$22.5-million donation from MasterCard Foundation will bring bright young students to U of T

A NUMBER OF YOUTHS from economically disadvantaged communities in sub-Saharan Africa will have their life prospects improve, thanks to a MasterCard Foundation scholarship that will fund their education at the University of Toronto.

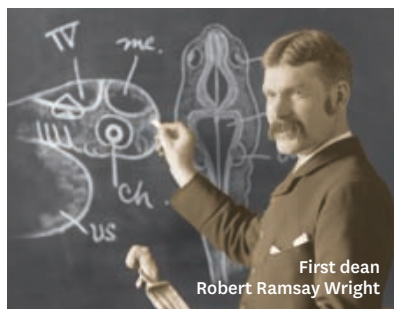
A US\$22.5-million donation from the MasterCard Foundation Scholars Program will enable 67 African high school grads to complete an engineering or arts and science undergraduate

degree at U of T. The program is designed to help participants achieve their full potential and enhance economic and social circumstances in their home communities. “Our applicants already have a record of demonstrated academic abilities and talents. At U of T, they will be developing the skills and focus that, when they go back, allow them to emerge as leaders,” says Jill Matus, U of T’s vice-provost of students.

U of T is one of several educational institutions and non-profit organizations worldwide participating in MasterCard’s \$500-million, 10-year program that launched last September. The initiative is focused on educating youths to strengthen the workforce of sub-Saharan Africa, which has the lowest education rates in the world: according to a 2010 UNESCO study, only seven per cent of youths enrol in post-secondary school. ➤

Blasts from the Past

Fascinating characters populate a new history of the Faculty of Arts and Science at U of T



First dean
Robert Ramsay Wright

ONE OF THE INTRIGUING PEOPLE mentioned in *Arts & Science at Toronto: A History, 1827–1990* comes from author Craig Brown’s own department of history. “I came to U of T to do a master’s degree in 1957. One of my professors was Donald McDougall, who was blinded at the Somme, in 1916,” says Brown, a professor emeritus who has also served as vice-dean of the Faculty of Arts and Science. “He took a course at Hart House to learn massage – a program that had been set up to help wounded soldiers carry on after the war.”

McDougall started taking history classes on the side, and eventually became a professor in 1929. Three decades later, “I used to read to him, every week,” says Brown. “Mostly new books and monographs in his specialization, early modern British constitutional history. He was a great man.”

Intriguing characters such as McDougall populate the pages of the book. Brown tells the story of John McLennan, chair of physics, whose stay

in England to develop anti-submarine mines – with a 12-person staff – from 1917 to 1919 was fully funded by the university. During the Second World War, Prof. Elizabeth Allin of physics taught 500 would-be radio technicians at the university. Forty years later, when Arts and Science chairs refused to co-operate with budget cuts, President James Ham called the faculty an “ungovernable collection of barons and thieves.”

Brown was inspired by Martin Friedland’s book *The University of Toronto: A History*, which was just released in a second edition in paperback, with a new 40-page introduction summarizing the events of 2000–2012. “Because Marty’s book had to be so comprehensive,” says Brown, “it doesn’t really deal in detail with Arts and Science. I hope to make a contribution there, that readers can appreciate the very interesting people who’ve passed through these halls.” - JANET ROWE

➤ At U of T, the students will arrive in cohorts over the next five years starting this fall. They will receive full coverage for tuition and accommodation at Woodsworth College or New College for four years. Both colleges, along with the Faculty of Arts and Science and the Centre for International Experience, will provide mentorships, career counselling and life-skills coaching. They will also hold events to help the students adapt to the social and cultural aspects of life on campus and in Toronto. Woodsworth offers assistance in math, writing and learning strategies. At New College, students will be able to take courses in African studies and participate in an African studies writing group. “With globally focused academic programs, we have a number of faculty members who can mentor the young scholars,” says Yves Roberge, principal of New College. “Our International Foundation Program also offers unique expertise in

transitioning international students to U of T and preparing them for success in their chosen programs of study.”

“The students will get to learn at a globally recognized institution, have opportunities to learn from their peers and gain exposure to our fantastic multicultural society,” says Joe Desloges, principal of Woodsworth College.

Students will also participate in two three-month internships – one in Toronto and one in Africa – to gain skills in areas that could make a difference in their community of origin, such as microfinance, food security or public health. After graduation, they will have access to a network of alumni, both from U of T and the scholarship program.

“It’s a terrific opportunity for us to learn from each other and to enhance our understanding of life in Africa,” says Desloges. “It will enrich student life and the academic experience.” - SHARON ASCHAIK

EPHEMERA



A handmade card to remind ourselves of what we’re grateful for: this was the theme of a therapeutic arts session held at Hart House in May. The activity was part of MindFest, an all-day fair promoting mental health awareness, hosted by U of T’s psychiatry department. Using origami paper, glitter glue and colourful confetti, 16 participants designed a card and recorded thoughts about what they’re thankful for.

The cards will be mailed back to participants a few months from now, as a friendly reminder of the positive things in life. “One of the greatest barriers to a grateful mindset is forgetfulness,” says Day Milman, the session’s organizer. “Practising gratitude makes you healthier, more resilient and more compassionate.” - NADIA VAN

A Boundless Milestone

U of T's historic fundraising campaign reaches \$1.3 billion raised from more than 80,000 donors toward its \$2 billion goal

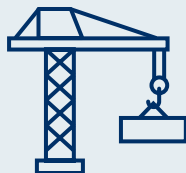
On the strength of a record-breaking year for donations, the University of Toronto would like to thank all those who have so generously

volunteered their time or made a gift to the Boundless campaign. The Boundless campaign provides crucial funding that fuels our pursuit of excellence and our commitment to accessibility. While funding from tuition and government helps support U of T's core operations and sustainability, generous alumni and friends are creating countless new opportunities for students, supporting important research discoveries and innovations that will create a better future in Ontario and Canada, and strengthening U of T's standing among the best universities in the world. Here are some numbers that help tell the Boundless story.

Since the start of the Boundless campaign, your gifts have supported:



- World-class faculty committed to excellence in teaching and research
- Best and brightest students through enhanced student life and financial aid programs
- New and renovated facilities that enhance research and learning
- New knowledge and pioneering research



20

critically needed capital renewal projects have begun construction across our three campuses thanks to the Boundless campaign



80,812

alumni and friends have made gifts to the Boundless campaign



79%
donated less than \$1,000

42%

were first-time donors



1,455

scholarships and fellowships, which help U of T students reach their potential as leaders of tomorrow, have been created or enhanced through the Boundless campaign



38,000+

students have received financial aid or scholarships each year during the Boundless campaign



50+

chairs and professorships, which help professors and their students advance knowledge and make discoveries, have been supported by the Boundless campaign

Alumni and friends living in

85

countries, from Australia to Vietnam, have supported the Boundless campaign

Donors to the Boundless campaign range in age from

17 to 103



3,983

donors have made a pledge in every year of the Boundless campaign



120,000+

guests have been welcomed at U of T events in Canada and around the world since the start of Boundless



5,350

volunteers support the University of Toronto and help advance its mission



University Women's Association lectures in the early 1900s included "Emancipation," "Efficiency as Applied to the Work of the Home" and "Man"



Club members make sphagnum moss dressings for soldiers, in U of T's Physics Building in 1915

Canada's First University Women's Club

In 1903, 22 women started a club for a very rare type of female: the university graduate. The group, then called the University Women's Association, focused on social events, lectures and community advocacy. "Women were not considered persons until 1929, so it was amazing that these women earned degrees, and began this club," says current president, Judith Lewis.

The group is still going strong: In April, the University Women's Club of Toronto celebrated its 110th anniversary. While the club is not affiliated with U of T – it's open to any female university graduate – its home base has been the Faculty Club since 2010. And about 90 per cent of its members are U of T grads; prominent alumni have included Dr. Augusta Stowe-Gullen (MD 1883 VIC, MDCM 1887 TRIN), the first woman to graduate in

medicine from a Canadian university, and Madam Justice Mabel Van Camp (BA 1941 VIC), the first woman appointed to the Supreme Court of Ontario.

During its early years, the club served as a powerful impetus for change in the community. Members helped establish supervised children's playgrounds and school lunches in Toronto in the early 1900s. During the Great War, they raised money and prepared surgical dressings and kit bags for the Red Cross and the U of T Hospital Association.

Today, a primary focus of the club is higher education for young women: a sub-group raises money for first-year university scholarships. The club also lobbies for government change in areas such as gun control and child welfare. And while it is the oldest university women's club in Canada, it is no longer a rare creature: hundreds exist internationally – from Ethiopia to Pakistan. - **STACEY GIBSON**

SOUND BITES

Four years, 140 characters: How would you sum up your time at U of T?

My experience at UTM was so special that I never left. Now, as a recruitment officer, I share my story with new students.
@UTMLauren

I'm Chinese-Canadian. I majored in English, but my favourite courses were Czech language. U of T opens minds to diversity and the world!
JaclynLaw

My U of T years bookended my cancer battle. The classes were great, but the caring U of T community during my illness has my heart.
@VMichele25

Best years I've ever spent – meeting people from all walks of life who came together to form a knowledge community.
@racheltrnt

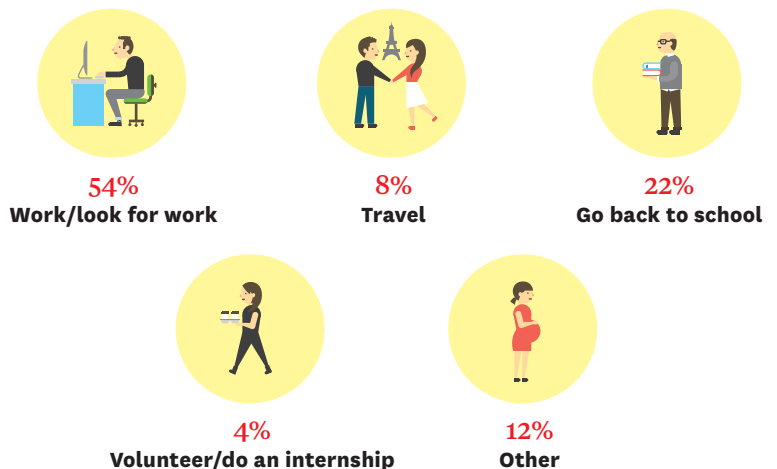
Join the conversation at twitter.com/uoftmagazine.

Poll | What are your plans after graduation?

As convocation season comes to an end, the majority of new U of T grads will either re-enter the classroom or dive straight into the job market. Some intend to return to school after gaining practical work experience, while others feel that immediately continuing their education will give them a competitive edge.

On the flip side, a few students are keeping their options open and seeing what opportunities arise. "I may decide to travel, but I have no concrete plans so far," says Hongmin Chen, a mechanical engineering graduate. "I'm just going to take it one day at a time and see what happens."
- **NADIA VAN**

This highly unscientific poll was conducted at the U of T Next Steps Conference on St. George Campus in May.





Jane Goodall's love of animals started with her father: he gave her a chimpanzee toy, Jubilee, when she was a little girl, and it sits on her dresser today

Into the Wild

U of T partners with the Jane Goodall Institute to send students to Uganda to study endangered wildlife



STUDENTS ARE LEARNING FIRST-HAND about protecting some of the world's endangered species and habitat through U of T's innovative collaboration between the School of the Environment and the Jane Goodall Institute of Canada.

Last summer, two students took part in JGI Canada's first field internships, spending three months in western Uganda assessing the impact of its environmental initiatives. "My internship allowed me to fully engage in both the practice and theory of anthropology and conservation," says intern Emma Cancelliere. "It gave me the opportunity to try so many new things and really push myself outside my limits to grow as a person and as an academic."

In a presentation at the university last November, Cancelliere, a biological anthropology undergrad, shared her findings on how villagers

feel about nearby primates and JGI's conservation activities. In a survey she conducted, she learned that most villagers have a good understanding of local environmental issues, but have poor attitudes toward primates, largely viewing them as a threat to their safety and their crops.

"There's nothing like getting out to Africa for that first-hand experience and gaining a global perspective on these issues," says Don Jackson, interim director at the School of the Environment and a professor in the department of ecology and evolutionary biology. "There's also the potential for joint research between the institute and faculty, which will provide opportunities for collaborative work with undergraduate and graduate students."

The institute, which has partnered with U of T's School of the Environment since 2007, enables students and faculty to learn about and preserve at-risk wildlife and habitat in Congo, Uganda and Tanzania. Focusing on primate research, forest restoration, community-based conservation and sustainable development, the programs have sparked teaching, volunteer and field education experiences.

"It's a good fit for us to be here because we have common goals with the school, and we can offer students hands-on experience working with an environmental NGO," says Jane Lawton, CEO of JGI Canada. The institute, which is located at the School of the Environment, is one of several offices of the 36-year-old global organization.

"There's nothing like getting out to Africa for that first-hand experience"

Students can engage in JGI Canada's projects by volunteering or working at its office. The organization also awards an annual scholarship worth about \$1,000 to a student with high marks and a strong interest in environmentalism and eco-friendly development. - SHARON ASCHAIK

People



Cheryl Regehr

Prof. **Cheryl Regehr** has been appointed vice-president and provost of U of T. She currently serves as vice-provost, academic programs, and was formerly dean of the Factor-Inwentash Faculty of Social Work. She will begin her new role in September.

U of T chancellor **Michael Wilson** received the Canadian Club of Toronto's 2013 Lifetime Achievement Award for his contribution to Canada and dedication to community causes. Wilson, chairman of Barclays Capital Canada, has been active in such organizations as Brain Canada and the Centre for Addiction and Mental Health.

U of T physicist **Dick Peltier** has won a \$100,000 Killam Prize for his pioneering science scholarship, which has shaped our understanding of Earth's interconnected systems - and of the threat we face due to global warming. Peltier has been a leader in establishing Earth System Sciences.

Two U of T faculty members have received YWCA Women of Distinction Awards. Prof. **Mayo Moran**, dean of the Faculty of Law, has created programs at the faculty that advance equality, including the Women in Transition program for female lawyers re-entering the legal profession. Dr. **Ophira Ginsburg**, an adjunct professor in the Faculty of Medicine and the Dalla Lana School of Public Health, works to ensure all women have access to breast cancer treatment. She volunteers with the International Breast Cancer Research Foundation.

Professor Emeritus **Ursula Franklin** has been inducted into the Canadian Science and Engineering Hall of Fame. Franklin is a pioneer of archaeometry, the use of modern technologies to study ancient materials. She was the first woman to teach metallurgy and materials science at U of T.



BestMastersPrograms.org ranked the Fisher Library number two on a list of the top 50 library spaces in the world

P.O.V.

Search and Discovery

If you think Google has made doing scholarly research a cinch, U of T's chief librarian Larry Alford has news for you.



With its 44 libraries on three campuses, U of T's library system is the third-largest among North American universities. Guiding the ongoing development of this vast information resource is chief librarian **Larry Alford**. Alford joined U of T last year from Temple University in Philadelphia, where he was dean of University Libraries. He spoke recently with editor **Scott Anderson**.

What are the biggest challenges facing U of T Libraries?

One of the challenges that all libraries face is making sure that students are wise and savvy users of information resources. We think search engines have simplified access to information, but in many ways technology has made finding information more complex. People don't know what is hidden to search engines, or what complex databases are not included in the library's standard discovery tools, or what articles are peer-reviewed and behind pay walls.

Secondly, the digitization of vast amounts of information provides a new opportunity for the expansion of human knowledge. Researchers can look at trends through newspaper articles or other publications across centuries. They can analyze data to look for connections across different disciplines or within one discipline. This is an area where librarians need to work with faculty and graduate students as facilitators.

What is the library doing to meet these challenges? This year, we started a pilot project called "personal librarians" to make sure that first-year students have the name and email of a person who can help them use the library. It's been so successful that we'd like to find the resources to extend it to every first-year student and then to every undergraduate and ultimately every graduate student and faculty member.

We have some fascinating projects going on with faculty using information in new ways. For example, an economics professor is working with our staff to do sophisticated economic trend analysis of the oil industry in Canada. We are planning to hire a librarian whose role would be to work directly with faculty on projects like this.

Can you speculate about how technology might change the library over the next few years? Students are increasingly using mobile technology, so we're trying to make sure our discovery tools are usable on mobile devices. We're also working to make sure the library is present in social media spaces. While I think printed books will continue to be an important part of how people learn and convey information, electronic books are going to become increasingly important. U of T Libraries already has more than a million electronic books, and over the next five years I suspect we will see the number of printed books we acquire decline significantly.

How will technology change the way students and faculty use the library? In many ways, but broadly speaking, digital information collapses the amount of research that can be done into a much shorter period of time. At my previous institution, I worked with a student who did an honours paper using some 18th-century collections we had online. The research he did in a semester would have taken a faculty member 20 years ago much of her career to do. This holds huge potential for the advancement of human knowledge.

What library values or services won't change? Libraries are still very much about acquiring materials and preserving them, regardless of the format, so that they are still accessible hundreds of years from now. Many of the blogs and websites that led to the Arab Spring are now gone; they just disappeared. And yet pamphlets distributed in Paris by various factions during the French Revolution still exist, stored in libraries. We in libraries must begin to acquire and preserve the "pamphlets" of the 21st century – blogs, websites and other digital commentary on the events of our time.

Have you made any exciting acquisitions lately? A donor is making possible the acquisition of the lifetime correspondence of General James Wolfe, who led the English forces in the Battle of the Plains of Abraham. We're very excited because this is such an important part of Canada's cultural heritage and history. We are also acquiring the personal library of Marshall McLuhan. These are the books McLuhan used to develop his ideas, complete with marginalia and passages he underlined. For McLuhan scholars, it's a treasure.

History's Turning Points

A major gift to Trinity College will help bring recent events into sharper focus for students



The Hon. Bill Graham

THE HON. BILL GRAHAM, who for two years represented Canada on the world stage as minister of Foreign Affairs, has made a major gift to Trinity College to support scholars of recent international history.

The \$5-million gift to U of T's Centre for Contemporary International History – the largest ever to Trinity – will allow the centre to expand, to forge academic partnerships abroad, and to bring diplomats, elected officials and others involved with public life to U of T to share their behind-the-scenes knowledge of international affairs.

The Centre for Contemporary International History – which examines global events since the Second World War – is a joint venture between Trinity College and the Munk School of Global

Affairs. It was founded two years ago and has been renamed the Bill Graham Centre for Contemporary International History. Trinity College's provost, Andy Orchard, called Graham "a true champion" of the University of Toronto and Trinity College, and said Graham's vision and commitment will allow the new centre to flourish. Graham is Trinity's chancellor.

Prof. John English, the first director of the new centre, says he hopes to build relationships with other universities around the world to facilitate scholar exchanges. He also plans to organize conferences on recent historical subjects important to Canadians, and launch internships for undergraduate students to assist with the centre's research activities.

The gift announcement, in April, was made on the same day the centre hosted a conference about former prime minister Lester Pearson. The day-long event drew several well-known politicians, including former prime ministers Jean Chrétien and John Turner and interim federal Liberal leader Bob Rae. The Pearson government, elected in 1963, ushered in major reforms across Canada, such as the Canada Pension Plan, medicare and student loans – and unveiled a new flag. "[Pearson] lifted Canada into a new place in the world," observed Graham.

During the conference, Graham (BA 1961 TRIN, LLB 1964) and Chrétien answered questions from the audience (which included many students). Chrétien talked about a range of issues, including his decision to tell former U.S. president George W. Bush that Canada would not join the war in Iraq in 2003. The former prime minister said he didn't see enough evidence of weapons of mass destruction: "Not enough even to convince a municipal judge in Shawinigan" – Chrétien's hometown, in Quebec.

English says Graham's gift will enable the centre to do more of these thought-provoking conferences, with the goal of bringing history scholarship to a broader audience and, ultimately, inspiring students. "If this centre can do something to help lift our students into a new place in the world so that they contribute to making a better city, a better province, a better Canada – I will be grateful," Graham said. – **ALAN CHRISTIE**

Global Leaders



Rebecca Bartel

Prestigious new award from the W. Garfield Weston Foundation will enable PhD students to conduct research abroad

Sixteen doctoral students have received \$50,000 each to further their research and broaden their skills and professional networks in a global setting, as part of the new W. Garfield Weston Foundation Doctoral Fellowship Program at U of T. The students – in their third and fourth year of study – hail from diverse fields ranging from geography and computer science to public health, and were chosen for their leadership qualities.

The Weston Fellowships are Canada's most prestigious awards dedicated to international experience at the doctoral level. They enable recipients to undertake research abroad for their dissertations, such as field and archival work that can only be done in situ, and provide them with an opportunity to work collaboratively with people from other cultures, gaining new perspectives and expertise. The first phase of the Weston Fellowship program will run through 2015 and will support 48 students with total funding of \$2.4 million.

Rebecca Bartel, a PhD candidate in religion, is one of the inaugural Weston Fellows. She says the award will enable her to continue her research into social activism around economic integration, peace-building and the role of new financial systems in Colombia. She is particularly interested in understanding how faith and finance intersect in the country, which is emerging both economically and socially. – **ANJALI SINGH**

To read more about the inaugural Weston Fellows, visit boundless.utoronto.ca/campaign-updates.



Michael Hough on a Toronto rooftop in 1985

IN MEMORIAM

Michael Hough

The founder of landscape architecture at U of T was an eco-pioneer

WHEN DESCRIBING MICHAEL HOUGH, who died in January at the age of 84, it seems only right for his former colleague to choose a metaphor from nature. “He was a lightning rod for landscape architecture,” says Prof. Robert Wright, an associate dean at the Faculty of Architecture, Landscape, and Design. “For him it was not just an aesthetic adventure – he was driven by very fundamental environmental principles.”

Hough was a true pioneer. When he arrived in Canada from England in 1959, “there were only 20 to 25 landscape architects in the whole country,” says his wife, Bridget.

In 1965, he founded U of T’s landscape architecture program, and soon acquired one of his first major design commissions: the university’s new Scarborough campus. Against prevailing wisdom, Hough and architect John Andrews insisted on building into the side of the Rouge Valley instead of its floor, which had been ravaged by Hurricane Hazel. It was the first major expression of Hough’s life wish: that urban spaces should be consistently designed to harmonize with the natural world.

Many other commissions followed, the best known of which is Toronto’s award-winning Ontario Place, on which Hough collaborated with Eberhard Zeidler. At U of T, Hough designed the landscape for the University College Quad. He also created two unique courtyards outside the Earth Sciences building:

working with foresters, he replicated a tiny Carolinian forest in one yard, a boreal forest in the other.

Hough famously disdained front lawns: “He felt that nature knows best, and favoured a sustainable landscape that takes care of itself,” says Wright. Hough’s early forays into urban agriculture (such as growing tomatoes on the flat roof of his garage) seemed eccentric 30 years ago; today they’re accepted practice. In Wright’s words, “he really anticipated the green movement we’re experiencing now.”

It was not easy being ahead of his time, and Hough sometimes found himself clashing with eco-averse developers and politicians. He was often successful, as with efforts to clean up the Don River.

Hough taught at U of T for 14 years, then returned as a visiting professor after 35 years at York. “He elevated his whole profession,” says Wright. “He not only educated four or five [school] generations who went on to carry his aspirations, but also practised what he preached.” – CYNTHIA MACDONALD

IN MEMORIAM

Robert Madden

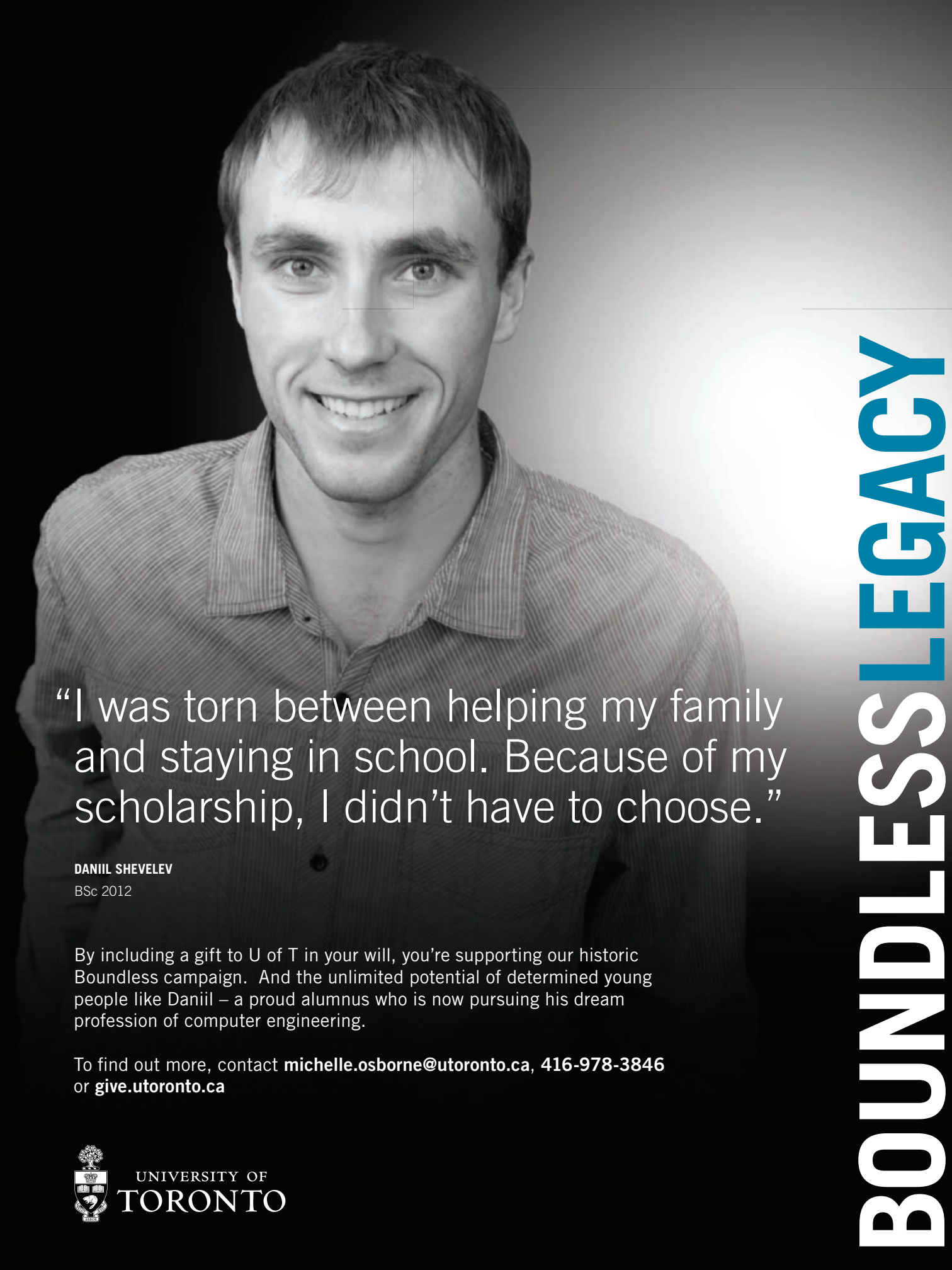


At St. Michael’s College, Father Robert J. Madden (CSB) was nicknamed the Pied Piper by students because of his popularity. For half a century, he was a much beloved figure at the college: Madden, who died in February, taught English and served as chaplain at the Newman Centre for decades. His joy of teaching stemmed from his belief that teaching was the art of sharing knowledge, and that he had as much to learn from his students as they did from him. In a 1999 interview he said, “I wanted to create an atmosphere in the classroom where the students would know they were respected. As I would tell them...many of them were more

intellectually gifted than I was, but at that particular moment in our relationship I knew more than they did.”

After leaving formal teaching in 1984, Madden (BA 1952, MA 1955 St. Mike’s) served as director of alumni affairs at St. Michael’s until 2001. As director emeritus, his daily trips into the office extended into his 80s. In the days before his hospitalization, he was busy answering alumni mail, writing for *St. Michael’s* magazine and counselling followers.

In honour of his 80th birthday, St. Michael’s College established the Father Robert J. Madden Scholarship to support students in need.

A black and white portrait of a young man with short hair, smiling warmly at the camera. He is wearing a collared, button-down shirt with a subtle striped pattern. The background is a soft, out-of-focus gradient.

“I was torn between helping my family and staying in school. Because of my scholarship, I didn’t have to choose.”

DANIIL SHEVELEV

BSc 2012

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Arash Zarrine-Afsar

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Leading Edge

“I don’t think we need something more from government. We need a mindset that says, let’s do something!”

Rotman’s Will Mitchell on fostering entrepreneurship in Canada

p. 23

At Home participant
Rose Harrison



Housing First

It turns out that a good way to help homeless people is to actually give them a home

IN CITIES ACROSS CANADA, homeless people bounce from street to shelter. They rarely visit doctors, except in emergencies, and untreated mental illness, addiction, malnourishment and serious chronic health problems are common. Now, a U of T-led study is suggesting a new approach to helping the homeless. The At Home/Chez Soi study shows that providing apartments to people who are homeless and living with serious mental illness costs about the same as the usual

referrals to shelters and crisis care, but yields significant improvements in quality of life.

Led by psychiatry professor Paula Goering, the federally funded study enrolled 2,256 homeless people with serious mental illness, starting in 2011. Half the participants were randomly assigned to receive housing, while the others received the usual referrals.

Those who received housing were taken to view apartments in their preferred neighbourhood; the client’s choice was rented. At Home supplied furniture. There were only two conditions to the housing offer: participants would contribute 30 per cent of any monthly income toward the rent (At Home subsidies provide the remainder), and they would agree to a weekly visit from a case manager. “We weren’t enforcing that people accept treatment,” Goering explains. “It was just so we could monitor what was happening.” ➤



➤ What happened was intriguing. “Almost universally, people start asking for help,” says Goering. “They want to keep their place: the stability, privacy and safety.” And because clients were now seeking help before reaching a crisis point, they could receive more preventive and primary care – a better use of public resources than 24-hour or emergency services.

Rose Harrison is one of the participants who received housing. In late 2010, battling untreated bipolar disorder and schizophrenia, and racked with grief over the death of her 16-year-old son from leukemia, she huddled over vents, waiting for dawn, terrified for her safety. The following March, social agencies connected her with At Home.

Since getting the keys to her own apartment at Yonge and Eglinton, Harrison, 43, regularly sees a doctor, who stabilized her medication regime. She receives disability payments, and – she breaks into a smile – “I work, at the LCBO. I clean that whole store; I work three hours a day. And I am so content with that.”

“‘Housing first’ is the study’s tagline,” says Goering, “but it’s not housing *only*. It’s housing first, then support – support that honours the individual’s choices, provides a whole range of different resources. That’s very important.”

Goering and her research team, which includes U of T professors Stephen Hwang, Vicky Stergiopoulos and Patricia O’Campo, are still analyzing data for their final reports this December. But they know that the savings in health care and homeless shelter costs for participants nearly offset the program’s costs. While health outcomes improved equally in both groups in the first year, At Home participants are getting preventive care that may show better results in the long term.

In March, the federal government announced five-year annualized funding for an approach across Canada that’s similar to what’s used by At Home. Municipal agencies in any city can apply – and people already enrolled, such as Harrison, will be able to keep their homes. “Being homeless is the worst,” says Harrison. “I pray for every homeless person to have the opportunity that I have to be able to turn my life around and to be independent – to control my own money and my life.” – JANET ROWE

Making Traffic Smarter

An intelligent transportation system could reduce wait times at traffic lights in Toronto by more than half



BUILD A BETTER TRAFFIC LIGHT and the world may not exactly beat a path to your door, but at least it will get there with fewer delays.

As Ontario’s Liberal government gears up to find ways to pay for \$50 billion in new transit service for Greater Toronto, a U of T civil engineering team says it has a key piece of the solution to the region’s crippling gridlock: cutting-edge computer technology designed to optimize the performance of traffic signals at the city’s most frustrating intersections.

According to detailed computer simulations done with City of Toronto traffic data collected at 59 downtown locations in 2009, the deployment of a U of T-designed “intelligent transportation system” (ITS) could reduce wait times at intersections by 40 to 70 per cent. Vehicle emissions would drop as a result by as much as 30 per cent. And “the benefits are immediate once the system is turned on,” says civil engineering professor Baher Abdulhai, director of the Toronto ITS Centre.

The U of T system, known as MARLIN-ATSC, relies on game theory, artificial intelligence algorithms and in-road sensors that allow traffic-signal controllers to “learn” how to adapt to local traffic patterns – with the goal of dynamically setting green light-red light intervals to reduce queues as they arise. Abdulhai likens the process of making a traffic light smarter to the way a baby learns how to walk.

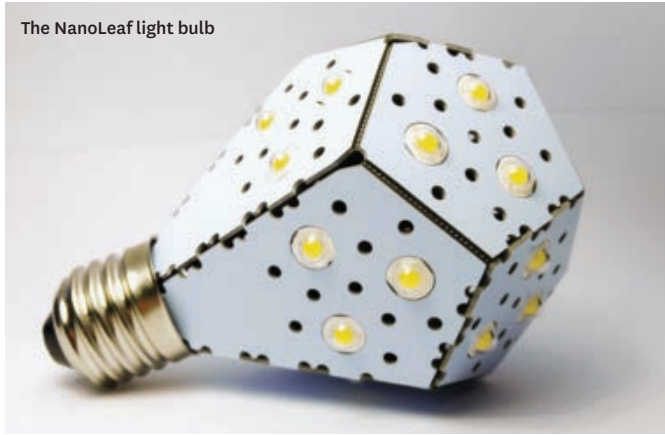
Other approaches to traffic-signal control require massive computing power. The U of T system, based on the PhD thesis of Samah El-Tantawy, gets around this obstacle by delivering improvements without a cumbersome centralized system. “The system is most useful, simply, where the congestion is,” says Abdulhai. “The simulation shows us with good precision which intersections benefit the most – and how much benefit to expect. This process helps prioritize investment by picking the best candidate intersections, or groups of intersections, to start with.”

Abdulhai’s team is working with the university’s Innovations and Partnerships Office to commercialize MARLIN, and has “strong interest” from a U.S. partner. Gridlock in Greater Toronto is said to cost the region about \$6 billion a year. Increasingly, “congestion management” tools such as MARLIN are being seen as the third leg of a traffic-control stool that includes more road and transit infrastructure (where warranted) and measures to reduce “demand,” such as congestion-based road tolls.

– JOHN LORINC



U of T has recently retrofitted all of the exterior lights on St. George Campus – 1,800 in all – with LEDs, reducing electricity consumption by 60 per cent, or about 50,000 kilowatt-hours a year



The NanoLeaf light bulb

THE BIG IDEA

Lighting a Revolution

Three grads have developed an LED that uses a fraction of the electricity of other light bulbs

NOT LONG AGO, IF YOU WERE LOOKING FOR A NEW LIGHT BULB for your home, your choice was limited to a small selection of energy-inefficient incandescent bulbs.

But recent advances in lighting technology have stocked store shelves with new types of bulbs that use a fraction of the electricity of the old ones. It's a trend that three University of Toronto alumni are hoping to take even further with a light bulb that they say is among the most energy-efficient in the world.

The NanoLeaf is a new type of light-emitting diode (LED) developed by Christian Yan (BASc 2006), Tom Roderger (PhD 2007) and Gimmy Chu (BASc 2006). The team's innovative design uses small LEDs on a folded circuit-board to produce an environmentally friendly and funky-looking light bulb.

NanoLeaf plugs into a standard light fixture. It gives off

warm light in all directions like an old-fashioned bulb. It turns on right away, and it will last for about 20 years. But it uses just 12 watts of electricity to produce light equivalent to that of an incandescent 100-watt bulb.

NanoLeaf is even more efficient than other LEDs, says Chu, because of its unique bulb and circuit design. It achieves 133 lumens-per-watt, which is a significant improvement over other LEDs on the market (although Philips recently announced a prototype bulb that gets as much as 200 lumens-per-watt).

Chu says NanoLeaf aims to sell the 12-watt bulb for \$45 – the same price it offered backers of the company's KickStarter campaign, which earlier this year raised more than \$270,000 for the company. Chu notes that while the NanoLeaf bulb is costly compared to traditional light bulbs, it uses a lot less energy and lasts many times longer than other light bulbs. This means it will save consumers money in the long run – \$350 over its lifespan compared to an incandescent bulb, and \$50 compared to a compact fluorescent.

The company is working with distributors in North America, the Caribbean and Asia to make the product available this fall. Chu says the greatest interest is coming from countries where electricity is most costly. In the meantime, NanoLeaf is focusing on delivering the first batch of bulbs to its KickStarter backers.

NanoLeaf's team of "passionate tree huggers" met while working on U of T's solar car in 2005. Their interest in developing sustainable products resulted in a partnership that's spanned years and continents and countless hours of work. The company debuted as "NanoLight" in February, but the partners later changed its name to more accurately reflect its mission and avoid potential legal issues with a pre-existing company.

"I know the NanoLeaf looks a little strange, but it catches people's attention," says Yan. "Hopefully people will begin to think more about saving energy and how this in turn will help bring their electricity bills down and lead to a greener future for the world." – **BRIANNA GOLDBERG**

LINGO

Embodied Cognition



Doing what's good or right is sometimes not easy. We know that exercise is good for us, but lie on the couch watching TV instead of going to the gym. The traditional view among psychologists is that the mind governs the body, directing us to accomplish what we perceive to be in our best interest. But new research suggests the body influences the mind more

than was previously thought. Standing upright, as opposed to slouching, can make one feel more powerful. Nodding one's head can increase the likelihood of agreeing with something. Aparna Labroo, the Patricia C. Ellison Professor of Marketing at the Rotman School of Management, has studied this phenomenon, known as "embodied cognition," with respect to

self-control. With colleague Iris Hung, she found that in several studies participants who clenched a fist were better able to summon the willpower to do something difficult – or resist temptation in order to achieve a longer term goal – than those who didn't. It seems firming one's muscles has positive effects beyond the physical. – **SCOTT ANDERSON**

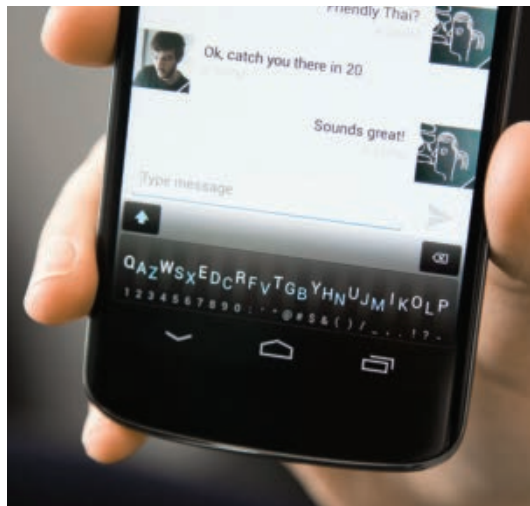


The Model S Ultimate keyboard from Das Keyboard removes all identifiers from the keys – they're blank. The company says this forces your brain to adapt and leads to faster typing

PROTOTYPE

The Tiny Perfect Keyboard

As devices get smaller, a U of T company has created a keyboard that makes typing easier while using less screen space



HERE'S AN APPEALING IDEA for mobile-device users: a smarter, more accurate keyboard that leaves more space on your touch screen.

Minuum is “the little keyboard for big fingers” created by Whirlscape – a tech company founded last June by Khai Truong, a University of Toronto professor of computer science, and Will Walmsley, who earned a master’s degree in applied science last year.

Minuum uses less than half the space of traditional virtual keyboards – without sacrificing keys for punctuation and backspacing. The keyboard uses a patent-protected auto-correction algorithm that allows for fast, accurate typing, even if the user is imprecise. The algorithm, based on Truong and Walmsley’s research into touch screens and wearable devices, understands the difference between what you type and what you mean, in real time – getting it right even if you miss every single

letter. The keyboard can also be moved around the screen.

“While our mobile devices are becoming smarter and faster, the keyboard has coasted into the 21st century essentially unchanged from the days of the typewriter,” says Walmsley, the CEO of Whirlscape. “Realizing we could minimize the keyboard while maintaining accuracy was our eureka moment.”

Whirlscape launched a crowdfunding campaign on the website Indiegogo.com in March, aiming to raise \$10,000 in a month. It raised twice that amount in the first day, and \$87,000 in total. A beta version of the keyboard is expected to be available for campaign supporters to test this month. Walmsley says an Android keyboard app will launch first, followed by an iOS keyboard for developers to put into their iPhone and iPad apps. In the future, Walmsley envisions bringing simplified typing to wearable technology, such as smart watches and eyeglasses.

Because Minuum lays out its virtual keys in a single row (a continuum), users can type without needing a wide surface (imagine typing on the edge of a device, or on the rim of a pair of glasses). In fact, it’s possible to type using Minuum without any surface at all – for instance, if the device can measure the orientation of hand gestures in the air. This can be done in several ways, such as with an accelerometer or gyroscope in a ring, watch or armband – or with a camera capturing the hand, as happens with Microsoft Kinect and Google Glass.

“Realizing we could minimize the keyboard while maintaining accuracy was our eureka moment”

Whirlscape received seed funding from U of T’s Early Stage Technology program and MaRS Innovation.

– ELIZABETH MONIER-WILLIAMS

Findings

Baby Dinos



The discovery of the world’s oldest dinosaur embryos, in China, has shed new light on how the ancient creatures developed inside their eggs.

An international research team led by U of T Mississauga paleontologist Robert Reisz excavated and analyzed fossils of 20 embryonic *Lufengosaurus* dinosaurs. The fossils are more than 190 million years old.

By studying the embryonic femur bones, the researchers found that *Lufengosaurus* grew rapidly inside their eggs, suggesting a short incubation period. They also discovered evidence that dinosaurs, like modern birds, moved around inside their eggs.

Using infrared spectroscopy, team members found organic material inside the embryonic bones – the oldest from a dinosaur ever found – that Reisz says may be collagen fibres. Don’t expect cloned dinosaurs anytime soon, though. “That’s a pipe dream,” says Reisz. – LANNA CRUCEFIX

Proving Einstein Right



An international team of astronomers observing an unusual pair of binary stars have provided added confirmation that Albert Einstein’s theory of relativity is correct.

One of these cosmic objects is a small but very dense neutron star. The other is a white dwarf star that orbits its sibling every two and a half hours. Astronomers discovered a tiny but significant change in the orbital period of the dwarf star, of eight-millionths of a second per year, which Einstein’s theory predicts exactly.

Einstein’s general theory of relativity explains gravity as a consequence of the curvature of space-time created by the presence of mass and energy. As two stars orbit each other, gravitational waves are emitted. As a result, the binary loses energy, the stars move closer and the orbital period shortens. – SEAN BETTAM



Q&A

The Unsure Thing

The conditions for entrepreneurs in Canada are good, says Rotman professor Will Mitchell. It’s our attitude that needs work

William Mitchell joins the Rotman School of Management this fall as a professor of business strategy, having worked extensively with business incubators and entrepreneurs at Duke University in Durham, North Carolina. He spoke recently with *U of T Magazine* editor **Scott Anderson** about the profits and perils of being an entrepreneur.

Many people think they have a winning business idea. How do you determine if the idea is worth pursuing? You never know beforehand whether an idea is worth pursuing. You’re more likely to know that something *won’t* work than will, but there’s no guarantee either way. The key is to assess whether the person has the drive and the ability to find out *whether* it will work. Entrepreneurship is by definition an experiment.

So testing an idea involves actually pursuing it? Yes. Ideally, you go through it in a staged way so that you make low variable-cost commitments rather than high fixed-cost commitments up front. And you assess who might be willing to give up their time and money to use your product or service. If there’s a single thing that entrepreneurs struggle with, it’s switching from being excited about an idea to figuring out what the *value* is in the idea.

What’s the best process for resolving this struggle? It involves market research but not massive surveys. You have to talk to the consumers who might buy your product, but also potential suppliers and distributors. Entrepreneurs need to know two types of value: what the consumer will pay for and what companies in the value chain will need in order for them to work with you.

In Canada, about half of all new businesses fail in the first five years? Why so many? In fact, that’s not enough. If Canadians were *really* experimenting with new businesses, we would



have higher failure rates. The challenge is to encourage entry, rather than worrying so much about exit, while also encouraging people to enter in ways so that they can afford to fail if the market for their idea simply does not exist.

Do you think potential entrepreneurs perceive the costs of failing as too high? In some countries, the penalty for shutting down a business can be jail or worse. In Canada, we have sensible business exit laws. I think part of the problem is that we view the market as consisting of 35 million people. If we were to think globally about our potential role in the value chain and about customers in the U.S., Europe and emerging markets, there would be a lot more opportunity for entrepreneurial entry. In 2013, more than ever, entrepreneurial spirit needs to have a global vision.

If global vision is one characteristic of a successful entrepreneur, what are others? Entrepreneurs need to take two things seriously, but not obsess about them: money and intellectual property (IP). We tend to think that there are more barriers to both than there actually are. If you have a good, market-oriented value proposition, then it’s possible to raise money. As for IP, people tend to think of it as a patent, copyright or trademark. But the more important IP is the organization you build *around* your product or service to develop and sell it. Another company may be able to “copy” your product, but it can’t copy your organization or the value you provide.

What can the Canadian government do to make it easier for entrepreneurs to thrive? In 2012, out of 183 countries, Canada ranked in the top 10 along with Singapore, the U.K., Hong Kong and the U.S. in terms of good business conditions. We have the market infrastructure for entrepreneurship, so I don’t think we need something more from government. We need a mindset that says, “Let’s do something!”



Toronto City Hall's 35,000-square-foot green roof opened in May 2010 and is the largest publicly accessible green roof in the city

Naturally Cool



The Daniels Faculty's green roof lab

In 2009, Toronto became the first city in North America to require new buildings over a certain size to have a green roof. But what kind of green roof best suits the city's climate? And what combination of plants and soils will generate the most positive environmental effects and reduce storm water run-off? A team of U of T researchers is trying to find out using an experimental green roof built atop the Daniels Faculty of Architecture, Landscape, and Design (left).

The Green Roof Innovation Testing Laboratory (GRIT Lab), led by Professor Liat Margolis, includes 33 plant beds, a weather station, and, as of last fall, 270 sensors that measure everything from soil moisture to air temperature to excess water flow. Each bed features a different combination of plants, soil, and irrigation techniques, which together reduce storm water run-off and cool the air to varying degrees.

This summer, graduate students will be monitoring plant growth and the sensor data to see which plant beds perform the best. This information could help guide construction decisions for hundreds of green roofs that will soon be built in Toronto – leading to a more sustainable city for us all. – **SCOTT ANDERSON**

Visit grit.daniels.utoronto.ca for more information.

The Glutamate Riddle

Grad student Christina Nona seeks to unlock the role of an important brain chemical in Alzheimer's and addiction

MOST PEOPLE HAVE HEARD OF DOPAMINE AND SEROTONIN. But there's another important brain chemical called glutamate that has a huge impact on cognitive function, says Christina Nona, a master's student in the Faculty of Medicine who is seeking to unlock some of its effects.

Glutamate is present in almost every part of the brain. It's a key factor in learning, memory and neuroplasticity – the brain's ability to change in response to experience. It's also implicated in addiction and other forms of maladaptive learning. But it's not simply the case that more glutamate is good and less is bad, says Nona. People need some glutamate

in order to learn and remember, but in conditions such as Alzheimer's or drug addiction, the glutamate system gets disrupted. "In some conditions, people actually have too much glutamate – and that is toxic and can kill brain cells," she notes.

What interests Nona is the way glutamate interacts with two of its key receptors, each of which is made up of smaller proteins called subunits. These subunits come together in different combinations, which "affect the receptor's response to glutamate, which in turn affects the neuron and how the neuron responds to glutamate. This ultimately affects behaviour," she explains.

Nona, who recently won an André Hamer Postgraduate Prize worth \$10,000 from the Natural Sciences and Engineering Research Council of Canada, is hoping to figure out the role of the subunits and their effect on the receptors as a whole, with the hope of eventually developing better treatments for conditions such as Alzheimer's and other learning and memory disorders. She plans to start a PhD this summer.

– **BRENT LEDGER**



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Disclaimer: Tribute Communities received the highest numerical score in the Greater Toronto Area (GTA) in the proprietary J.D. Power and Associates 2010 Canadian New-Home Builder Customer Satisfaction StudySM. Study based on 1,864 responses from homeowners in the GTA, measuring 8 home builders and measures opinions of consumers who purchased a new home in January-December 2009. Proprietary study results are based on experiences and perceptions of consumers surveyed in April-June 2010. Your experiences may vary. Visit jdpower.com. Tribute Communities was honoured with the coveted 2010 Desjardins Business Excellence Award, marking the first time a homebuilder has been given the distinction. As co-winners with De Beers Diamond, this award acknowledges "Best Large Business" as recognized by the Ontario Chamber of Commerce. Prices, terms, and specifications are subject to change without notice. Renderings are artist's concept only. E.&O.E.

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STARTING UP

You're tech-savvy, creative and driven.
You've seen people in their twenties start
hugely successful companies.
Why not head out on your own?

Photography by **Liam Sharp**

EARLIER THIS YEAR, a group of U of T engineering grads unveiled the world's most energy-efficient light bulb. A few weeks later, a computer science student launched a new kind of virtual keyboard. Countless other young grads are abandoning the traditional job route to create their own companies. "Technology is making it easier for a new generation to

bootstrap," observes David Berkal, a 2011 arts grad who started his own ethical travel enterprise. He and the four other young U of T entrepreneurs profiled here may be harnessing new technology to different degrees, but they all share a desire to build their own legacy and work by their own rules. What else drives them? Read on.

DREAM JOB

Cybill Lui worked for years on Wall Street, then followed her heart into the high-risk world of film production

COMPANY: AN OLIVE BRANCH PRODUCTIONS

CYBILL LUI REMEMBERS the moment clearly. She was two years into her job as a finance executive for a New York-based health-care company she'd helped build from the ground up. She was pulling another late night, staring at another financial model on her computer. "It was driving me crazy," she says, "and I thought, I can't believe I'm stuck in this tiny office, alone."

Lui, who took the position after several years' working as an investment banker on Wall Street, was good at raising funds and she liked negotiating and closing deals. But she had noticed a discrepancy between her working life and her social life. "Instead of hanging out with the bankers in the financial district, I spent my social time with artists and struggling ones at that," she says. "And I started to wonder how I could mesh the two."

So a year later, at the age of 28, Lui (BBA 2002 UTSC) packed up everything, moved to Los Angeles, and, with producing partner George Zakk, launched a new career in film. To hear her talk about Wall Street from the sunny office she now occupies in Beverly Hills, the world of finance sounds light years away. But movies, like finance, are a big business. Lui says knowing how to raise funds, execute legal contracts and bring key players to the table have given her company, An Olive Branch Productions, a competitive edge.

The company's first project, *Casino Jack*, hit cinemas in 2010, earning its lead, Kevin Spacey, a Golden Globe nomination. The company's second feature, *The Philosophers*, had its market premiere at the Berlin International Film Festival in February. Lui, who has five more features in different



stages of production, says she plans to start a solo venture, Anova Pictures, later this year.

Even for seasoned producers, making movies is never a cakewalk, and Lui's journey is no exception. She says she spent years developing a script and bringing top talent and financing to the table, only to have it fall apart at the last minute. It's a devastating feeling and one that is all too common in Hollywood. "Every producer will tell you that one of the most challenging things about this business is that there are so many things that are outside your control."

And even when you do get to forge ahead, you often feel like you are attempting the impossible. *The Philosophers*, for



example, was shot on location in remote parts of Indonesia. To move her cast and crew to the location, an active volcano, Lui had to charter a jet and hire jeeps and police escorts to accompany the entire 100-person entourage on a two-hour trek inland. “Everyone was tired,” she recalls. “But then we arrived on set beside the volcano and it was the strangest and most beautiful place I’ve ever been in my life.”

All of a sudden the months of planning and the pains she’d taken to get them there made sense. Staring at their surroundings, everyone, including herself, says Lui, was in complete awe. And she thought, “Yeah, I’m definitely not going back to banking any time soon.” - **LEAH CAMERON**

Q&A WITH CYBILL LUI

Last vacation? I took off to Bali for a day and half in the summer of 2011, after we shot *The Philosophers*

Do you ever unplug? No

An app you can’t live without: IMDBPro. I use it to create actor and director lists for my projects

Ultimate professional goal? Making movies that matter

Average work week: Anywhere from 50 to 90 hours

To me, success is... Setting a goal and achieving it



From left: Tarik Gidamy, Shayan Hamidi, Rokham Fard

TAKING ON GOLIATH

A Toronto startup is using technology to reinvent how homes are bought and sold

COMPANY: THEREDPIN.COM

SHAYAN HAMIDI AND ROKHAM FARD (BSc 2007 NEW) freely admit they had no idea what kind of a fight they were picking when, as two 20-something computer science grads with ambitions to launch some kind of business, they decided to invent a fresher and more transparent way to buy and sell homes.

It started innocently enough: Hamidi (BSc 2006 St. Michael's) had had a nasty experience trying to sell his parents' home and buy condos for them and himself. He ended up with a part-time broker who tried to up-sell a pre-built apartment by \$70,000, possibly to boost her commission. As Hamidi and Fard unpacked the experience, they realized there was no centralized database of solid information about Greater Toronto's condos still under construction. As they dug further, they realized that the Canadian real estate industry was years behind its counterparts in the U.S., the U.K. and Australia when it came to providing online consumer information about homes and apartments for sale. "The whole experience felt pretty dated," says Hamidi, 31, co-founder of the Red Pin.



“Transparency was the answer.” Adds Fard: “We thought that would be a really interesting gap to bridge.”

The two friends, together with Tarik Gidamy and Ali Ajellu (BSc 2007 NEW), launched TheRedPin.com in 2010 with links to condo projects. Problem was, the builders didn’t respond to consumer requests for information that came through the site, prompting complaints from their earliest customers. “That was a wake-up moment,” says Hamidi.

Two years ago, the partners decided to obtain a broker’s licence and remake their firm as a real estate broker with a foot planted firmly in the online world. Last year, armed with \$2.7 million in investor backing, TheRedPin.com re-emerged as a gutsy, mold-busting challenger to the entrenched GTA real estate industry. Hamidi and his team say their admittedly idealistic goal is to put buyers and sellers at the centre of the home-buying process. To that end, they jettisoned one of the industry’s sacred cows: commission-based compensation for agents.

Instead, the Red Pin’s 13 sales reps are employees compensated on a salary-and-bonus formula that takes into account feedback from customer-satisfaction surveys. They must also follow closely established work-flow procedures so clients get their full attention and answer to customer service personnel known as “angels.”

“We’ve taken the interests of the agents out of it,” says Hamidi, who points out that many agent-brokers, who are essentially franchisees for the real estate firms, spend about two-thirds of their time prospecting for new clients instead of helping the ones they’re representing. The point of the Red Pin approach is to align the agents’ interests with those of the customers as a way of short-circuiting the sort of cynicism that inspired David Mamet’s searing send-up of the realtor trade, *Glengarry Glen Ross* (which, by the way, they’ve watched with interest).

The company has also sought to create a kind of one-stop research approach with its website: besides the MLS listings and thousands of floor plans from pre-build condo projects, the company offers a lively mash-up of interactive maps with up-to-date information about local school rankings, stores and services, as well as time-series data on housing prices

Strategically, the point of the exercise is to soft-sell potential buyers by using links to developers’ websites, search-engine optimization techniques and email newsletters designed to draw them to TheRedPin.com’s wealth of educational information long before they’ve signed a binding broker agreement. It’s a classic honey-pot strategy: they figured they could leverage their data-rich site to entice prospective homebuyers to sign with them instead of one of the more established firms.

Most real estate agents prefer more traditional techniques, such as flyer drops and billboard advertising. But, as Fard points out, “Ninety-eight per cent of Canadians who want homes start their search online, according to Statistics Canada.” Adds Hamidi: “We don’t have millions to put into shiny ads. Our advantage is to be engaging online.”

Having completed \$100-million worth of real estate transactions in the past 18 months, Hamidi and Fard feel confident they’ve seen the future of home-buying. “We think this is where the market is going to go.” - JOHN LORINC

Q&A WITH ROKHAM FARD

Last vacation? The first four years we didn’t take vacations. We took a week off after the March 2012 financing

Do you ever unplug? We live and breathe online

Average work week: 60 to 70 hours

Best business advice I ever received: Launch as soon as you can and earn your first dollar as soon as you can. The first dollar is the hardest one

Proudest moment: When you actually launch. It’s the birth that you never forget

BACKPACKING WITH A PURPOSE

David Berkal wants to change the way people think about tourism

COMPANY: OPERATION GROUNDSWELL

IN 2006, DAVID BERKAL was in high school and looking for an opportunity to volunteer abroad. He didn't find anything that was affordable or matched his vision of what a volunteer travel experience should be, so he decided to make his own.

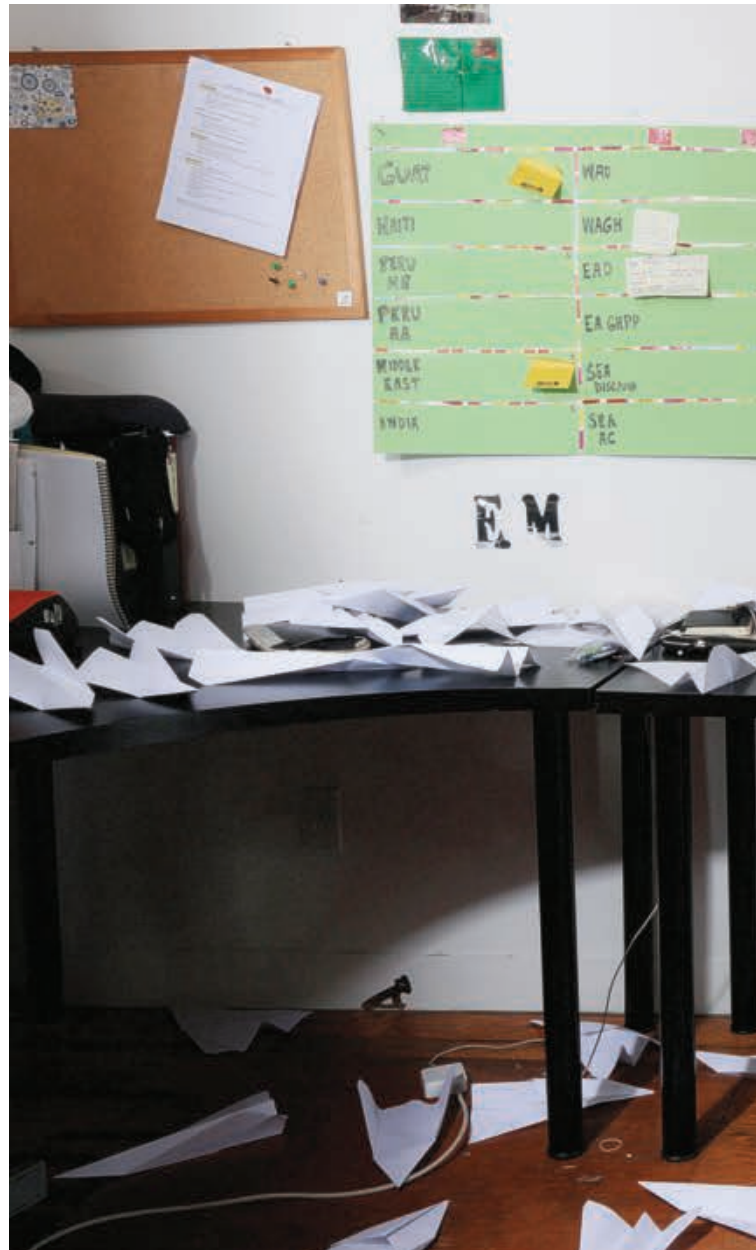
The following year, he and friend Jonah Brotman launched Operation Groundswell, a non-profit travel organization geared to youth. On their first program, a dozen participants visited northern Ghana, where they worked with a Canadian charity that provides food, shelter and other necessities to orphans and needy children.

"We didn't have any grand expectations at the time," recalls Berkal (BA 2011 UC). "We just wanted to run this one program." But enthusiastic feedback from the participants and the charity led them to reconsider.

This summer, Operation Groundswell will send some 200 participants, mostly under 30, to programs in more than a dozen low-income countries. The organization's six full-time staff operate out of a compact office in Toronto's west end that looks like a converted loft apartment. From there, they handle the complex logistics required to ensure scores of young "backpacktivists" safely reach far-flung locations and have a rewarding volunteer experience that also truly helps the community they're visiting.

Most of Operation Groundswell's trips now have themes so participants can choose projects that match their interests – a global health program in West Africa, for example, or an environmental project in Southeast Asia. In Peru, the group worked with an NGO on the outskirts of Iquitos to build a drainage trench – needed to avoid unsanitary conditions. Zuly Manrique, who works with the NGO, wrote to express her thanks: "I have seen the tremendous work you've done," she noted in an email. "I hope we can continue to collaborate on community actions like this to benefit families..."

Berkal has faced challenges, too: he had to learn business on the fly, doing cash-flow statements and balance sheets



between lectures while enrolled full time at U of T. Critics, meanwhile, have suggested that Western volunteers tend to get more out of their travel experience than the communities they are meant to be helping. Berkal himself has doubts about programs where participants stay in luxury hotels, travel in air-conditioned buses and are "parachuted" in to spend a few days with a local charity. But he emphasizes that Operation Groundswell participants live as locals do, sleeping in similar accommodations and eating the same food. The vast majority of time is spent at the charity, says Berkal, and trip leaders conduct regular "debriefings," in which participants "deconstruct what they're doing and the impact they're having."

Dozens of handwritten notes from participants expressing their gratitude are tacked to a wall in the Operation Groundswell office. "The kind of travel we do really changes people,"



he says. “People switch majors or start their own non-profits. At least half a dozen participants from last year are going back to the partners they worked with because they felt so passionately about the causes.” And the community partners? “They ask us to come back every year,” observes Berkal. “That’s the fail-safe test.”

Berkal, 25, stepped down as executive director of Operation Groundswell last year, but plans to remain on the board while attending business school this fall. Ultimately, he would like to see Operation Groundswell expand to thousands of participants every year. And with that many more backpacktivists in the world, he hopes the program might lead to broader changes in how people think about tourism – from simply seeing the sights to “connecting with local people in a meaningful way, and leaving the place in better shape than when you got there.” - **SCOTT ANDERSON**

Q&A WITH DAVID BERKAL

Do you ever unplug? Not by choice

Average work week: 65 hours

Ultimate professional goal: Tech entrepreneur turned full-time philanthropist

Best business advice I ever received: I’d rather have an A team with a B idea than a B team with an A idea

Guilty pleasure: Burning Man

To me, success is... Dramatically improving the quality of life for millions of people in the world’s least developed countries

Proudest moment: Connecting with local people in a meaningful way and working in partnership toward a lasting positive impact



BEAUTY IN NUMBERS

Nadia Amoroso helps clients interpret complex data quickly and present it memorably

COMPANY: DATA APPEAL

PEOPLE PAY **NADIA AMOROSO** to extract beauty – and meaning – from complex data. The company she co-founded two years ago translates numerical information into three-dimensional shapes, colours and textures. Give her a spreadsheet and she'll give you back a digital work of art that tells a powerful story.

Dramatic mountains and valleys reflect property values across a city. A riot of angled cones illustrates the visual scope of security cameras. Constellations of green spheres indicate retail store sales in different neighbourhoods. Her images and animations allow clients to interpret complex



data quickly – and present it memorably.

Amoroso became fascinated with “data visualization” – or “datascaping” as it is also known – while pursuing a master’s in urban design at the University of Toronto. She researched and developed ways to merge maps and statistical data into visual stories. “I was interested in the urban phenomena that shape our city – things like crime rates, demographic patterns, surveillance cameras, air quality. Things that affect the city but are invisible or unacknowledged,” she says.

Drawing on her training in urban design, Amoroso

developed new software tools specifically for datascaping. These applications are now the tools of her trade.

Her company, DataAppeal, offers basic datascaping software for free through its website. Users can pay to unlock more advanced software features, and also to avail themselves of complementary services from DataAppeal staff – everything from primary data collection, through to analysis and advanced datascap design.

As chief creative officer, Amoroso oversees the designs, which are the company’s unique selling point. “We did a crimescape of London and applied a fiery texture to it – using the design to reflect the information. Datascares are works of art, but they are also instructional. You get a quick reaction to the visual, but then you can dive deeper into the information,” she says. Organizations use her services both to help them understand their own data better, and to communicate that information more effectively to clients, policy-makers and other stakeholders.

Currently, Canada is home to 30 per cent of DataAppeal’s clients, with an equal number in the U.S. Another 20 per cent are European, with the remainder coming from South America, India and elsewhere. Customers range from government agencies to pharmaceutical companies to retail chains.

Amoroso teaches part time at U of T, but says she has had little trouble shifting into the entrepreneurial world. “Starting up a business was a bit overwhelming for me in the beginning,” she says. “I had to learn how to provide good customer service. If there’s a problem, clients come to me. Being on the front lines all the time can be a big challenge.”

The company started with three founders two years ago. They now have five employees and planned to hire a sixth in June. Most of the staff work in IT and analytics, with Amoroso herself handling sales, marketing, product development and design.

Though Amoroso thrives as an entrepreneur, she still speaks about success in terms of whom the company might help rather than how profitable it might become.

“If we get a lot of users around the world, and if our application is helping them achieve their goals and make better decisions, that itself will satisfy me,” she says. – **PATCHEN BARSS**

Q&A WITH NADIA AMOROSO

Last vacation? We had a workshop recently in Miami. It was nice to go, but it was work-related

Do you ever unplug? No

Ultimate professional goal? Helping users around the world achieve their goals, make better business decisions and make more money

Average work week: 60 to 80 hours

Best business advice I ever received: Be careful how much information you give away when you talk to bigger companies

Proudest moment? When we launched. That was a big thing

UNCOVERING FRAUD

Computer science grad Stephen Piron is helping banks stay on the right side of regulators

COMPANY: BRIGHT SUN

IN THE WAKE OF THE 2008 CRISIS, “the world of finance was broken,” states Stephen Piron, a computer science grad and entrepreneur. Many governments tightened regulations, but the problems persist – albeit on a smaller scale, he says.

Piron (BSc 2003 VIC) takes a keen interest in the state of the world’s financial system. He’s working upwards of 100 hours a week running Bright Sun, a data analysis company he founded in London two years ago with the notion of helping financial companies stay on the right side of regulations. “The idea of using data analysis for fraud detection isn’t new, but a series of bank scandals created a bigger appetite for cutting-edge surveillance tools,” says Piron. Both the banks and the regulators grew fearful of the reputational damage that additional scandals could cause, and Piron recognized a market opportunity. “There is now a huge appetite for tools to pick out fraudsters.”

Banks contend with vast amounts of data, related to thousands of transactions their traders carry out every day. The challenge they face, along with regulators, is finding instances of abuse. “Banks have a duty to make sure their traders play by the rules,” says Piron. “We provide the tools for policing.” He says the organizations using Bright Sun’s software, which also include hedge funds, are alerted to potential abuse as it happens, allowing senior managers to investigate quickly to determine if abuse actually occurred. Managers can also look back over historical data for incidents with similar traders in the past. In other words: real-time and historical fraud analysis.

The kind of analysis that Bright Sun offers – poring over buying and selling transaction patterns – has an additional use: it helps the bank determine if it has the right “inventory”



of financial instruments at any given time. This sort of intelligence – the kind that enables a bank to know, for example, that its German clients typically buy Japanese government bonds at the beginning of the month – traditionally has been gathered by human traders through experience. “Sometimes this human intelligence is excellent, but it is also subject to all of the biases humans are prone to,” says Piron. “We’re using a computer to gather the intelligence systematically and comprehensively.”

Bright Sun is not Piron’s first tech startup. In 2004, he launched SimonSays Voice Technologies, which he describes as one of the world’s first speech-recognition technologies for search engines. The software converted audio and video into text transcripts, allowing search engines to search



multimedia files. He sold the company in 2007 and worked for six months on Bay Street in quantitative finance before shipping over to London, where he landed a position with Man Investments.

Then along came the financial crisis – and a market opportunity. Bright Sun launched as a solo venture, but now employs seven people full time; software engineers craft the data analysis tools while Piron handles most of the sales “through old-fashioned knocking on doors.”

Like his first venture, Bright Sun requires Piron to be on duty, or on call, 24 hours a day, seven days a week. It’s a position he’s comfortable with, he says, compared to working for someone else. “In the corporate world, they put you in a box, and I don’t really fit in a box.” - **ZOE CORMIER**

Q&A WITH STEPHEN PIRON

Last vacation? Can’t remember

Do you ever unplug? Reluctantly. My wife makes me, and I thank her for doing so

Guilty pleasure: Haribo

Most important on-the-job lesson: There’s no reason to feel intimidated

Pet peeve: Being late

Proudest moment? When, after lots and lots of hard work, the business starts to run by itself. That moment makes me feel great



By Cynthia Macdonald
Photography by Lorne Bridgman

Taking Care

Mary Jo Haddad came to Sick Kids to look after ill children. As CEO, she helped nurse the whole hospital back to good health

THE PLAYROOMS AT TORONTO'S HOSPITAL FOR SICK CHILDREN glow with sun and light; they're welcome oases for young patients facing the painful reality of disease and injury. But in 2004, the atmosphere wasn't nearly as sunny for those running the venerable institution everyone knows as "Sick Kids."

At the time, Canada's largest children's hospital was managing to maintain the superior standard of care that has always been its hallmark. But it was beset by difficulties, including a \$13.5-million budget shortfall and the closure of a key surgical unit. A health-care ministry battered by recession was radically changing its service structure, while ordering all hospitals to balance their books. To top it off, Sick Kids had seen two CEOs – a chartered accountant, then a management consultant – resign in the space of only three years.

An aggrieved search committee knew someone had to come in and turn things around. Quickly, that someone was found. And she'd been right there with them, all along.

When Mary Jo Haddad (MHSc 1998) was growing up in Windsor, Ontario, she hardly aspired to run a hospital. But there was one thing she really *did* want to be. "I had a cousin staying with my family who was studying nursing," recalls the bespectacled, soft-spoken 57-year-old. "She'd come home from the hospital, and tell all these interesting stories."

Haddad's father – an immigrant from Lebanon who owned a butcher shop – wasn't sure nursing was a proper career choice for his eldest daughter. "He had the old-school vision

of a nurse being someone who just emptied bedpans and changed bedsheets,” Haddad’s husband, Jim Forster, told the *Globe and Mail* in 2009. “He didn’t realize the modern role of the nurse as a critical partner in caregiving.”

So Haddad persisted, first earning a nursing diploma, then a bachelor’s degree in the field. She’d always loved kids, and, with five siblings, was a natural caregiver. Soon, she found herself working in the neonatal intensive-care unit at the Children’s Hospital of Michigan. For the next eight years, Haddad moved up the nursing ladder, ultimately becoming the hospital’s charge nurse of evening shifts.

“My nursing background definitely shaped my early success in health care,” she remembers, sitting in her office, which, like the hospital’s famously skylit atrium, is flooded with spring sunshine. “Compassion, empathy, building strong and healthy relationships. Those are all a fundamental part of what nurses do.”

Two people from that time stand out for her. One was her boss, a tough, no-nonsense nurse – also a nun – who pushed Haddad hard and sharpened her critical thinking and leadership skills. The other was a premature infant named Sheldon, “so tiny he weighed less than a pound and fit in the palm of her hand,” writes Richard Davis, who profiled Haddad in his book *Intangibles of Leadership*. In his instinctual fight to live, writes Davis, Sheldon was “the person who more than any other taught her the importance of courage and desire.”

Tragically, Sheldon didn’t win his fight; neither did many others. “I went to four funerals in three months,” Haddad says, recalling the days when childhood leukemia was a virtual death sentence (these days, the cure rate is 80 per cent). The work was consequently gruelling, but rewarding, too; Haddad most loved visiting families whose infants had survived life-threatening illnesses, imparting caregiving skills to them so they could rebuild lives that were very nearly shattered. Thus was born a lifelong commitment to children’s health.

In 1984, Haddad came to Sick Kids, first taking a job as assistant manager in the neonatal intensive-care unit. There was a ladder there, too, one she was eager to climb – from unit manager to chief nurse executive, to vice-president and chief operating officer, to her appointment in November 2004 as president and CEO. With the exception of one brief foray outside the hospital in 1999, she’s never been anywhere else. As she once admitted: “I have this place in my bones.”

Hospital administrators can come from virtually any background: law, business and even professional sports (former CEO Mike Strofolino was a well-known football player before becoming an accountant). Increasingly, though, hospital heads are being plucked from the ranks of clinical care. Physicians are now at the helm of many Toronto hospitals, with a handful from physiotherapy and nursing.

To complement her clinical background, Haddad completed a master’s in health science administration at U of T

in 1998, a program she describes as “a catalyst for enhanced leadership in my career.” It also demonstrated her ability to balance career and family. “The personal highlight of the two years was delivering my third child, Jonathan, while attending the program and not missing a day of class,” she recalls. “He joined me in the early weeks as an attentive learner – and believes he should be granted an honorary degree!”

Professor Linda McGillis Hall is an associate dean at U of T’s Lawrence S. Bloomberg Faculty of Nursing. She believes that a strong, driven nurse such as Haddad, with whom she worked some 20 years ago, is uniquely suited to perform as a top hospital executive. “Nurses are the ones who spend the time with patients,” says McGillis Hall. “They’re the ones who provide most of the care. So they know most about systems of health-care delivery and the basics of what’s needed to manage and drive results.”

Indeed, many early hospitals were founded by nurses – or other groups of capable women, such as social workers or nuns. Sick Kids itself was founded in 1875 by a group of female volunteers, led by philanthropist Elizabeth McMaster.

Caring for children is an extremely delicate matter, invariably involving a whole family instead of a mere individual. It could easily be said that nothing scares or touches us so much as the prospect of a grievously ill or dying child.

This may be why it’s common to hear extraordinary stories of nurses going the extra mile at Sick Kids. “They have really top-notch doctors there, but the hands-on care you get from nurses is just not comparable to any other hospital,” says one mother of a longtime cardiac patient. She recalls one nurse consoling her teenage daughter, who had to miss her senior prom; another brought freshly baked banana bread to her daughter, so she could taste a touch of home. The mother also witnessed a nurse taking pictures of a very sick little girl, dressed up for an outing to the Eaton Centre. “The nurses are on the front lines,” she continues. “That’s the care you really feel.”

So it’s perhaps fitting that Sick Kids be led by one of these thoughtful women – one with a background in critical care, who can make snap judgments when needed. But one who also embraces the “transformational” leadership model: collaborative, nurturing and developmental. What seems clear is that the mother of three is a fiercely proud proponent of caregiving, an activity our society often undervalues. However, the type of leadership women have often exhibited as mothers, teachers or nurses is now rapidly becoming not only fashionable but necessary – for male as well as female leaders.

Psychologist Daniel Goleman, whose work Haddad values, says that leadership is now in flux, largely because of information technology. “It used to be knowledge was power,” he said in a recent speech. “But now knowledge is shared instantly, globally and throughout organizations.” Patients, and their families, too, are much better informed than they used to be; increasingly, they want health-care providers to



The new 21-storey Peter Gilgan Centre for Research and Learning will advance Sick Kids' scientific investigation into childhood diseases

be partners instead of oracles. Succession planning is critical in the modern workplace, where people hold jobs for shorter periods. And fostering community spirit in a diverse environment such as Sick Kids is a must, as staff members hail from many different countries and all walks of life.

“Usually, the transformational leadership style shows better financial results and produces happier employees,” says Beatrix Dart, the associate dean of executive degree programs at the Rotman School of Management, “so it’s certainly preferred.” Dart describes the “transactional” leadership style as “I tell you what to do and you get paid for your job of doing it.”

The numbers attest to Haddad’s success as a transformational leader. Sick Kids is an especially expensive hospital to run, from a procedural point of view; the large majority of children undergoing procedures have to be anesthetized, and many devices (such as blood pressure cuffs or incubators) must be custom-designed for the tiniest of patients.

And yet, through a series of innovations, Haddad has managed to raise annual revenues by a staggering \$190 million. “She is,” says Catharine Whiteside, dean of U of T’s Faculty of Medicine, “an absolutely spectacular senior executive.”

How has she done it? In the main, you can point to Sick Kids International, which underscores the hospital’s long-standing commitment to treating children around the world. (Its famous “Herbie Fund” has provided assistance to more than 650 candidates for complex surgery from 102 countries.) Increasingly, global institutions in countries such as Ireland and India are paying for Sick Kids experts to travel to *their* countries, where they provide clinical help and teaching.

“How many countries are we affiliated with? I can’t even tell you the number,” Haddad says. Sick Kids International’s most prominent undertaking has been in Qatar, where it has set up an entire children’s hospital – winning the bid over several large American hospitals. Haddad thinks there’s a

reason for that. “We’re helping to build capacity there,” she says. “We always do these things with an eye to teaching and knowledge translation,” instead of just providing equipment and staff. The aim is that the hospital will be, in the end, self-supporting.

Haddad has also benefited from solid donor relationships and a turnaround in the fortunes of Sick Kids’ longtime foundation, whose once-sluggish portfolio was revitalized by savvy investor Prem Watsa (the so-called “Warren Buffett of Canada”). Extra revenues have enabled her to realize what is perhaps her greatest dream for the hospital: construction of the 21-storey, \$400-million Peter Gilgan Centre for Research and Learning, rising into the sky at the corner of Bay and Elm streets.

“Without her drive and leadership, the tower would never have been built,” says Whiteside. “That was a huge goal for her.” Research is central to Sick Kids; this is where Pabulum was invented and where pediatric blood transfusions were pioneered. These days, Sick Kids is leading the way in genome research (the cystic fibrosis gene was identified here). However, researchers work in diffuse conditions. At the hospital, there are basic scientists who work all day in labs; these are separate from the new breed of clinician-scientists, who also work with patients. Consequently, they may be missing out on each others’ discoveries.

“The premise is to mix and mingle scientists, so they can collaborate,” says Haddad. “We haven’t made it easy to do that, because currently they’re spread out in seven different buildings.” Scheduled to open in the fall of 2013, the centre will also provide educational opportunities for staff and trainees, and – with its large, sun-drenched windows, so characteristic of this hospital and few others – “bring research to the public.”

The biggest challenge Haddad has faced? Ensuring that attention gets paid to children’s health. With a rapidly

aging population (by 2056, one in four Canadian adults will be senior citizens), that's not been easy. And yet, Sick Kids tackles a huge range of diseases and health concerns. For example, 45 per cent of head-injury patients who visit Ontario emergency rooms are children. Obesity remains a critical problem in young people. Furthermore, "many diseases of adulthood are seeded in childhood," says Haddad. "We know that from our research, and from kids' responsiveness to targeted treatment, we can have a profound effect on adult life and the trajectory of disease."

So, in addition to increasing revenues for her own hospital, Haddad knows that fighting for additional provincial investment in children's health will be a continued battle for whoever succeeds her. "Really and truly, the biggest challenge for the CEO of a children's hospital is going to be the children's agenda, in a world where we're so consumed with the ill health of the aging population; and where most people believe – and expect – children to be healthy," she says.

That successor will soon be taking the reins: Haddad is scheduled to retire at the end of 2013. No longer will she have to make the long drive into Toronto from outlying Oakville

to be at her desk each morning at 7:30. Her children are now young adults, and husband Jim (a former sales and marketing executive) has retired as well. "I'll take some time off," she says, "though I can't see myself not doing anything."

It's one of the few times Haddad uses the word "I" when speaking of her time at the hospital. Otherwise, she is eager to portray all her initiatives – from international partnerships, to advocacy, to the Peter Gilgan Research and Learning Centre – as team efforts.

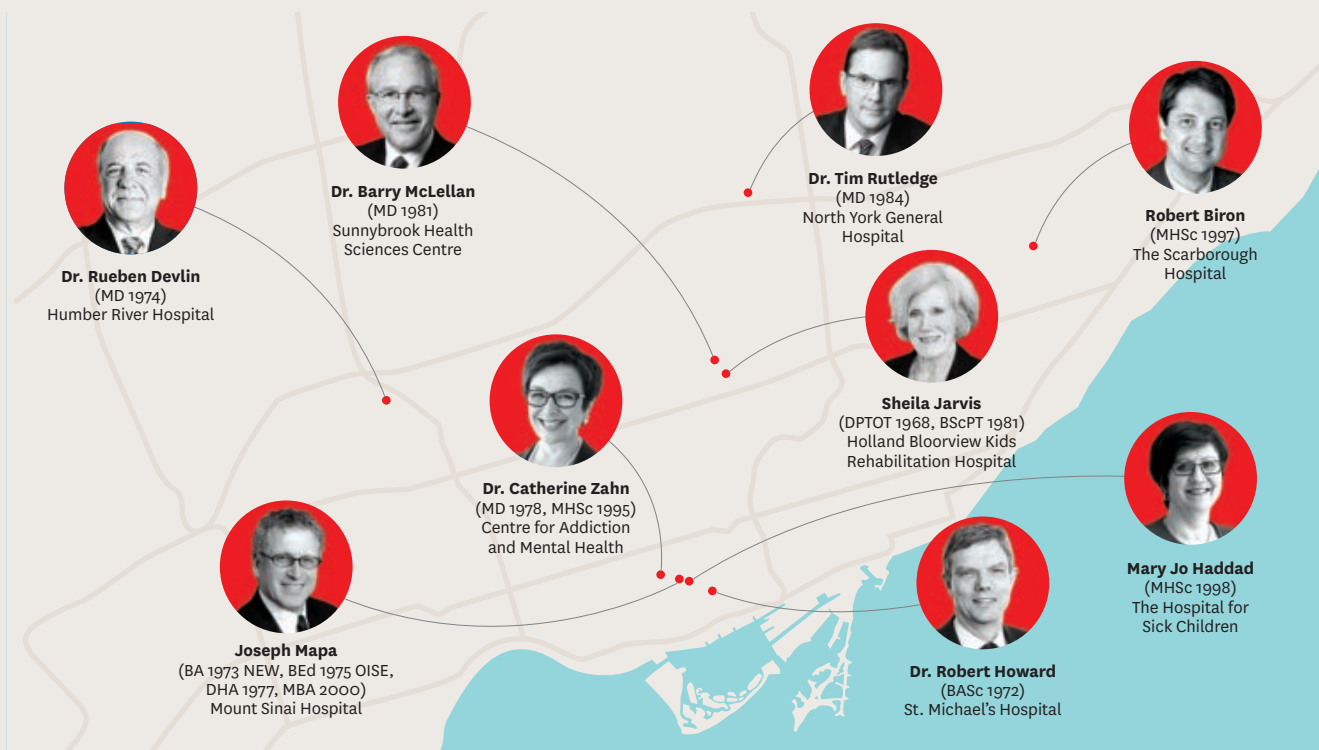
"She's always encouraging people to not get caught up in feeling they have to do something alone," says Pam Hubley, chief of nursing, who considers Haddad her mentor. "Her feeling is that we can get so much more done if we're all working together toward the same end; we'll have a lot more innovation if we all bring our ideas to the table and work together."

Mary Jo Haddad leaves a team capable of carrying on without her. And like the best of transformational leaders, she wouldn't have it any other way.

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

Bench Strength

Mary Jo Haddad is one of nine hospital CEOs in Toronto who graduated from U of T – a fact that points to the university's strength in producing highly capable leaders in the health sciences. "A strategic focus on cultivating the great minds who provide vision, strategy and collective direction is at the root of what we do at U of T," says Sarita Verma, deputy dean of the Faculty of Medicine. "A culture of collaboration, strong relationships and the opportunity to hone leadership skills is deeply embedded in who we are."



The winners of the 2013 *U of T Magazine* Short Story and Poetry Contest are Adam Giles (BA 2002 UTM) for his story “Corduroy” and Jessie Yao, who will begin the second year of an English degree at Victoria College this fall, for her poem “A Missing Child.” Giles and Yao each received \$1,000.



Corduroy

by Adam Giles



THE ONES IN WHITE COATS SAY you’ve got a few months. Or is it weeks? Maybe it’s a few weeks you’ve got. It’s all very confusing. You get these flashes. You don’t control what comes; you sit still and watch the flickering projection, listen to the soundtrack. They come in disjointed bunches. Bunches. That’s what your mother used to say. Love you bunches. Your name was in there, too, she’d say your name. You’re sitting on tightly tucked white sheets – *sterile* is the word that comes to mind – and you’re looking at this month’s calendar

of activities, looking at the red circle around “Bingo Night” on Friday. You’re wearing corduroy pants, beige ones, and your hands are on your thighs. You feel the fuzzy ridges. That’s when it happens. You don’t control it. It comes.

It’s recess and you’re in the schoolyard in your corduroy pants. Your mother laid them out for you, but you put them on yourself. You’re a big boy now. You’re a big boy standing in square three. You’ve worked your way up. Ryan Handley occupies square four, holds it like the Russians held...what

In the hospital, your mother sits by your bed, tears in her eyes,
and asks why you never told her you moved to such a shady
neighbourhood, why you were working in a convenience store

was it called? That city the Russians held from the Germans. You were never in the army. Even if you were, World War II wasn't your generation's fight. You had the Middle East, the Gulf, Kuwait and Iraq. You had it on TV: newscasts of popping gunfire and night-vision explosions that reminded you of film negatives. You watch the action from your bedroom, your university residence. Cameras follow wounded soldiers on gurneys and reporters speculate on civilian casualties. A lot of these people are your age. The only wounds you have are slices on your hands – some crusted-over, some fresh – from working with paper all day in the university's copy centre. You live alone in a two-bedroom unit. There was an incident. You hit someone, your roommate – what was his name? – and there was a hearing and they moved him out, moved him to a different room. They let you stay – it was your word against his – but next time, they said, if there was a next time, expulsion papers were going to have your name on them. Your name is in the school paper. You can't quite make it out – the ink is smudged – but you know it's there. There's an editorial response to the news of the violence, alleged violence, that went down in your residence room. It says the university should have given your worthless rear end the boot, says the school dropped the ball.

The ball comes to you and you give it a swift open palm in Ryan Handley's direction. The ball catches the corner of his square, out of his desperate reach, out of the square, out of the game; you knock Ryan Handley out of the game. Square four is yours. Yours. In that moment, everything is right. You're on top. When the ball comes back in play you're the target. You. Everyone is gunning for you.

The door slams shut. You shake. You plant your hands on the tight white sheets, stabilize yourself on the bed and stare at the closed door. It's white. Everything here is white. Your fingers are digging into the sheets, the mattress even. You've got a grip. A man is walking toward you. He's looking at you. He's a doctor. White coat. Clipboard. Relax, he says, I told you I'd be right back. He puts a hand on your arm and smiles. It's okay, he tells you. He apologizes for letting the door slam, says it got away from him. He's got serious creases along his forehead, deep, meandering. He taps his clipboard with the tip of his pen, asks you if you're ready. Ready? For what? Tap,

tap, tap. He smiles. Let's get started, he says. He nudges the bridge of his glasses, tells you he's going to start you off easy today. Today, you're starting from twenty and you're counting backwards by twos. Does that sound okay? Sounds great, you say. Sounds fantastic. He clicks the end of his pen, holds it ready on his clipboard and looks at you. Twenty minus two, he says. Twenty minus two? Twenty. Minus. Two. Twenty. Two.

You're twenty-two and you're living in an apartment downtown. The shithole. You're next door to a food bank and across the street from a payday loans place. A boy on the corner sells drugs. You pass him on your way to work, the convenience store down the road. It's summer; it's hazy. You're standing behind the counter, serving customers. You slide the tray of Lotto scratch cards out from under the Plexiglas cover and a woman plucks one, pays, and leaves. The boy from the corner walks in. He wears a baseball cap. He asks for a pack of Player's, king size. You turn, you get them, you turn back. He's pointing a gun at your chest. He asks for the money. He says please. Aside from the gun, he's quite polite. You open the register and give him what's there and he raises his voice. Where's the rest? You tell him that's all there is and he swings the gun at you and crushes your face with the butt end. In the hospital, the police tell you the guy made off with the Lotto scratch cards. In the hospital, your mother sits by your bed, tears in her eyes, and asks why you never told her you moved to such a shady neighbourhood, why you were working in a convenience store. Why didn't you come home? You tell her you had to prove to yourself you could make it on your own, fend for yourself. She wants to know if this has something to do with your father. He passed away when you were in kindergarten and the only memory you have of him is a random image of him smiling blankly. That was near the end, when he was in the place your mother called the "care facility." We're going to the care facility to visit your father, she'd say. The care facility: where your father smiled like he was oblivious. This fending for yourself, it *does* have something to do with him, your mother says. You've had issues with boys, with men, since he died. You don't have to prove anything to anyone, she says. Come home. Live with your mother in the house you grew up in.

You're in the hospital for days. You don't regain your sense of smell. You don't regain the fourth square at recess. Ever. You're a target as soon as you step into square one. The kids in two and three don't even bother with four. They want you out. They all do. You find out later that Ryan Handley struck up alliances. It went beyond recess, carried into the classroom, carried on after school. After school, you cut through the woods and cross the bridge over Woolly Creek to get home. It's autumn and an afternoon fog has settled in. Leaves crunch behind you. You have a tail. There are four of them. One calls your name and you turn. Their gaits quicken and so does yours. You're running and you're looking back through the fog and you're clenching the straps on your backpack and it's bouncing around everywhere back there and you're looking back and they're gaining on you and...

And the doctor's on his hands and knees. It was just here, but now it's gone, he says. He gets up and brushes his white coat. Goddamned thing got away from me. He apologizes for the language. He holds his clipboard, but he doesn't have his pen. He squints at you through his glasses like you're out of focus. He says, Were you still thinking? Do you need more time? You scratch an itch on the side of your nose and you think about how it's not right for the skin there to still have feeling – why should your nose have feeling when it doesn't work? Then you're on to wondering if maybe this doctor has body odour, if maybe *you* have body odour and then you decide it doesn't matter. You say, More time? He smiles, pulls a chair over and sits. The subtraction test, he says. Take your time. Think about it. Twenty minus two. Close your eyes and think about it, he says. You do.

You open your eyes and you're on your back in the forest. It's foggy. There's a chill. Every part of you hurts. Your backpack is gone. The kids who were following you are gone. You're bleeding from the face. You're bleeding from the face and the cop's still firing questions at you. What did the guy look like? What can you tell me about the gun? How much did you give him out of the register? You're aware that he made off with the Lotto tickets, right? You answer the questions and you tell the cop you can show him where the kid does business. You tell the cop you're not supposed to be here. You tell him you're supposed to be in school. The cop's tapping his notepad with the end of his pen. Tap, tap, tap. Your ex-roommate files another complaint, fabricates a story about you masterminding an exam copying and distribution scheme. His word, and the word of some people he got to go along with him, against yours. The university gives you the boot – expulsion papers had your name on them – and the school newspaper runs a story on the whole thing. You move to the shithole. You get a job at a convenience store. You don't tell your mother. You're on the phone with her and you tell her nothing. Things are great, you say. Life's fantastic. Love you bunches, she says. She lives in the house you grew up in. You were glad she kept it after you moved out. It was good for nostalgia, a prompt for summoning things you left

A Missing Child

by Jessie Yao

All that time you were driving South,
The polar roads the silence of Siberia,
Did you feel the tug of the angel
You once made, eclipsed in snow,
In the seablue glass of Belukha
Mont Blanc, Mont Blanc—
An arrhythmic beat encased in a concrete vault,
Or were you too afraid to look back, for fear of salt?

The mitten hooked on a branch of
One of those mountainous pines in Estonia,
Cable knit, a clump of gelid mud
From the vigorous burrowing of a small damp hand,
Its salmon colour and the blue-gray hue
Of snow and pastels—
Belongs to no one, or once belonged to you.

At the motel, you put on Simon & Garfunkel,
The cushioned sound of the TV whispers vacancies.
The weight of oceans wearies you
And you wonder about your missing child,
She is you, she has always been you,
Her mewling a cry that breaks, and breaks.

Some years and nights later,
Wrapped in a shawl, an incubus slithering
down the chimney,
You wander to the room with the salmon walls,
it's nearly three,
On hands and knees you crawl through the tent
Of pillows and comforters,
And kiss the hot cheek of your little girl,
Lie beside her, tug your lashes closed.

And you remember the small child you once were,
Her phantom fingers trace salt water,
On the blue-glass bed lie two small children,
And the ocean burps a salty swallow.

In your dreams you walk on ice.

Jessie Yao recently completed the first year of an English degree at Victoria College. Outside of essays, she enjoys writing poetry and the odd short story, and working on school newspapers and literary publications.

The doctor puts his hand on your arm. It's okay, he says.
We'll try again tomorrow. He has the look of a stranger,
a warm one, one who might return your wallet to you
with everything in place

behind. Kind of like the feel of corduroy – going against the grain on those fuzzy tufts always brings something back. Your mother is always asking you to move back home and you always tell her you love her, but you're a grown man and you have to do what grown men do, you have to do something for yourself. She says she understands. She keeps living in that house alone, lives there until the place burns down. Burns down with her in it. Investigator tells you it was a cigarette out of an ashtray. You believe it. The woman smoked her Player's as if tobacco was about to be outlawed. You collapse. You're on your back, on the filthy carpet in the shithole's tiny cube of a bedroom. There's a gas oven in the kitchen. You could turn it on and leave it on – you wouldn't even smell it. You never got married, never even had a serious girlfriend. The roof's ten storeys up. You could take a leap. There's a subway station three blocks away. You could...

You could get away with it so easily, your roommate says. You're sitting across from him at the kitchen table in your residence room. He's laying out his plan. He's failing his psychology class. You work in the copy centre. It's exam time. The copy centre has measures to keep its student employees from getting anywhere near exams for their own courses. You're not in psychology. You can get near the psychology exam. Your roommate says there's money in it. The two of you could turn a profit. He wants you to take all the risk, wants you to be the one with your head out of the trench. You tell him no. Do it, he says. Just fucking do it. No. He says he'll expose the whole thing, says he'll tell university administrators it was your idea, says he'll enlist friends to go along with him, team up on you. You hit him and he falls and knocks the TV off the stand. Doesn't disturb the picture. Gunfire pops over night-vision explosions, only now sideways. They remind you of something. Film negatives.

The doctor puts his hand on your arm. It's okay, he says. We'll try again tomorrow. He has the look of a stranger, a warm one, one who might return your wallet to you with everything in place. This thing you've got, he says, this thing runs in families. Yours is early onset. You shouldn't have this at forty. He pauses. We've ruled out your odour blindness, he says. Your olfaction damage doesn't explain the degenerative nature of this thing. This thing got your father; that explains

it better. Unfortunately, he says, yours is pretty far along. You've experienced significant loss already. His hairline is high. There's a lot of forehead. He's experienced some loss himself. He puts his hand on your arm again and says, You're in a pretty good fight with this thing, but it's one you're not going to win. You've got a few months. You ask, A few months until what? He hesitates. He looks stupefied. Until any flashes you *are* still experiencing go the way of the others. You *are* still experiencing some, aren't you? Some, you say. He pats your shoulder. Enjoy them, he says. You look at him. Enjoy them? Did he say *enjoy them*? What about them is worth enjoying, exactly?

He tells you he's going to leave you to rest. He loosens the tight white sheets, helps you under and says he'll be back tomorrow to give the subtraction test one last go. You lie in your bed. You're gripping the sheets; you've got two handfuls of them and you're squeezing them with everything you've got. You're staring at the ceiling tiles. White. Everything's goddamned white. You turn. It's still light outside. This is just a nap, so you're not in your pyjamas yet. You're still in your corduroy pants. This morning, you put them on yourself. You're a big boy. You slip your hands under the covers and run your fingers along the rows of soft fabric on your legs. You're doing this and inexplicably you start thinking of the number eighteen. What's eighteen? You have a vague sense that it means something good. You enjoy the feeling. You enjoy the feeling the way you enjoy a Friday night bingo win in this place – you're sure you've played, you're sure you've won. You've got a healthy grin going. There's some anxiety over not being able to pin down meaning on this business about the number eighteen, but you feel at peace, like you're going to get some rest out of this nap. You close your eyes and breathe easy. You've already embraced the idea of letting these remaining flashes go the way of the others, letting your mind purge these images, these negatives. Now though, you think maybe you want to hold on to them.

Adam Giles (BA 2002 UTM) is a graduate of the Professional Writing Program at the University of Toronto Mississauga. He's written some things that have been published and he's read some of those written things on CBC Radio One and at the Totally Unknown Writers Festival in Toronto.

The Judges

Poetry Contest

Catherine Graham is the author of the poetry trilogy *Pupa*, *The Red Element* and *Winterkill*. She teaches creative writing at U of T's School of Continuing Studies and her forthcoming collection, *Her Red Hair Rises with the Wings of Insects*, will appear in fall 2013. Visit catherinegraham.com

Robert McGill (PhD 2006) is a professor in U of T's English department. His novel *Once We Had a Country* will be published in August by Knopf Canada, and his nonfiction book *The Treacherous Imagination: Intimacy, Ethics, and Autobiographical Fiction* will be published in the fall by the Ohio State University Press.

Alexandra Leggat's latest short story collection, *Animal*, was shortlisted for the 23rd Trillium Book Award. She instructs creative writing at U of T's School of Continuing Studies. Her debut novel is slated for publication this fall.

Laura Lush is a poet and fiction writer. She teaches creative writing at U of T's School of Continuing Studies.

Short Story Contest

Michelle Berry (BA 1990 NEW) has published three short story collections and four novels. She teaches at U of T's School of Continuing Studies and Trent University. Her novel *Interference* will be published in 2014.

Dennis Bock is a creative writing instructor at U of T's School of Continuing Studies. His new novel, *Going Home Again*, will be published in August.

Lauren Kirshner's debut novel, *Where We Have To Go*, was a finalist for the City of Toronto Book Award. Kirshner (BA 2005 VIC, MA 2007, BED 2009) teaches creative writing and is working on her second novel.

Novelist **Ray Robertson** (BA 1993 VIC) lives in Toronto.

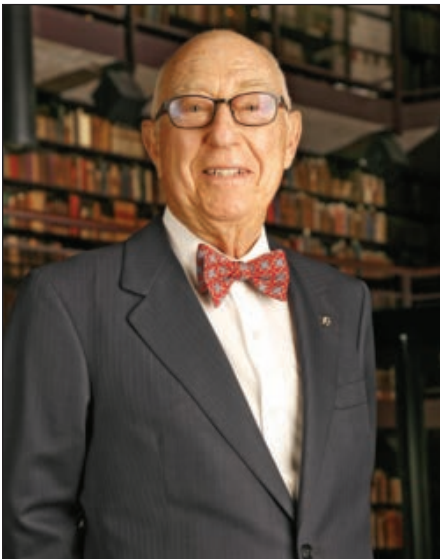
Runners-Up and Readers' Choice Awards

Sandra Lloyd (BSc 1984 UC) is runner-up in the poetry contest for "Subjunctive Moods." She is a registered nurse working on an MA in creative writing at U of T, and has been published in Canadian literary journals.

Andrew Lee (BSc 2000 NEW) won second prize in the short story contest for "Jamal and the Sea." He is the proud husband of Katrine Raymond and the father of Nora.

In online voting, readers chose "A Missing Child," by Jessie Yao, as their favourite poem. Due to voting problems we did not name a winner in the "Readers' Choice" part of the short story contest.

Read the runners-up at magazine.utoronto.ca.



ALEXANDER C. PATHY

Professor Emeritus, U of T
BAsC U of T ('55), LLB Osgoode Hall ('59)
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In recent issues, we've featured stories about U of T alumni and researchers who are looking for ways to relieve gridlock across the Toronto area, and engineers who have designed a sustainable, waterless toilet to reduce disease throughout the developing world.

Inside each issue, you'll find coverage of the university's latest research findings, events on campus, notable alumni and the big ideas that make U of T such a fascinating place.

In the past three years, the Canadian Council for the Advancement of Education and the U.S.-based Council for Support and Advancement of Education have recognized *U of T Magazine* for excellence in writing and design with 12 awards, including "best magazine" each year.

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All About Alumni

“In 10 to 20 years, nobody will need a vaccine injection. They will just eat corn”

Dominic Man-Kit Lam

p. 50



Renaissance Man

Dominic Man-Kit Lam’s World Eye Organization has improved countless lives. He’s also a successful artist. Next on his list: edible vaccines

DOMINIC MAN-KIT LAM (PHD 1970) IS OFTEN called a modern Renaissance man. No doubt about that: he has excelled in both science and art, not to mention business and philanthropy. Yet for all his varied achievements, there is a common thread in most of them: the human eye. An expert in ophthalmology, he is the founder and chairman of the Hong Kong-based World Eye Organization, which treats low-income people for eye diseases. His personal wealth originates from a breakthrough in cataract treatment. And he is an internationally

respected artist who first made his mark – and created a new art form – by photographing the eye.

From the start, Lam was a Renaissance man in a hurry. After getting his PhD at U of T in a year and a half, he earned a post-doc in ophthalmology from Harvard Medical School and at 24 joined its faculty. He soon moved on to Baylor College of Medicine in Houston, where he came up with the biotech-based means of preventing secondary cataracts that made him financially independent. In Texas, they call him the father of the state’s biotech industry.

But there was always that other half of his brain, demanding equal time. Born in China and raised in Hong Kong, Lam – who is now 65 – had first learned Chinese painting at age 6, and loved it. His parents, however, wanted him to follow a less precarious career path. “If I couldn’t be a visual artist,” says Lam from his office in Hong Kong, “I decided I would be a visual scientist.”

Or both at once. While photographing the eye in 1980, he discovered a new artistic process now known as ➤



According to StatsCan, 27 per cent of Canadian workers are highly stressed on an average day. Another 46 per cent are a bit stressed

Stress Buster

How an illness led Bailey Vaez to promote wellness at work



BAILEY (BAHAREH) VAEZ HELPS EMPLOYERS create healthy workplaces – and her interest began with her own experience with mental illness.

In 2004, while Vaez was doing an internship at GlaxoSmithKline as part of U of T’s industrial engineering program, her grandmother died; not long after, two close friends lost a parent. The wave of deaths made it hard to stay energized, and she experienced a shift in her mood and attitude. Vaez also had trouble breathing at times, and although a few doctors thought she might have asthma, it became evident that she was experiencing anxiety.

A longtime health enthusiast and certified fitness instructor, Vaez used yoga, meditation, running and balanced meals to cope, plus some cognitive behavioural therapy. But the experience made her curious about how stress

affects job functioning. “I started wondering how anxiety can impact performance, and about the link between productivity and health,” says Vaez, 30.

The interest gained momentum after she graduated with a bachelor of applied science in 2005 and began working at CIBC as a process engineer. Vaez learned from employees, mainly through casual conversations, that their biggest barrier to being effective was stress. She began researching the impact of stress-related physical and mental health issues at work, which cost employers billions in disability claims.

At age 24, Vaez started Proactive Movement, which creates employee wellness initiatives for small- and medium-sized businesses, mainly in Ontario. She develops the programs by drawing on her process-engineering knowledge of improving performance, plus best practices in health from the World Health Organization and World Economic Forum. Her services include not only wellness consulting but implementation – she and her team, which includes personal trainers, dietitians, lifestyle coaches, ergonomists and medical doctors, deliver everything from stress-management workshops to fitness assessments and yoga classes.

“Employers are starting to get it,” says Vaez, who was named one of Canada’s Top 100 Most Powerful Women by the Women’s Executive Network last year. “If you take care of your people first, they will have the brain power to do what they need to do at work.” – **SHARON ASCHAIK**

➤ chromoskedasic painting, which allows colour images to appear vividly on black and white photographic paper without use of dyes or pigments. His artworks, ranging from chromoskedasic to traditional Chinese styles to abstract expressionism, now hang permanently in major halls of government in Beijing as well as top international galleries. One of his pieces sold recently in the U.S. for \$1 million.

Many of his artworks are very large – in all things, Lam likes to think big. His World Eye Organization, mainly self-funded, is well on the way to its goal of establishing an eye hospital in every province of China by 2020. After that, he would like to expand internationally.

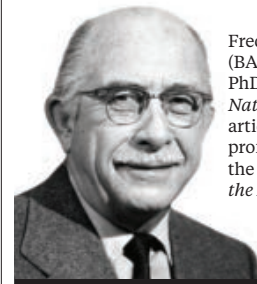
And his most significant accomplishment may be yet to come, based on his 20 years of research into “edible vaccines” – genetically inserting material into fruits and vegetables to prevent disease. Once approved by regulators, the patented process (which *Time* named one of the 10 most important inventions of the 21st century) would dramatically reduce the cost of delivering vaccines to humans and farm animals. “In 10 to 20 years, nobody will need an injection,” says Lam. “They will just drink tomato juice or eat corn.”

So what is he in his heart – scientist or artist? Or businessman or philanthropist? “I don’t think I can be classified conventionally,” he says. “All of the above.” – **BERTON WOODWARD**

OVERHEARD



Millions of monarch butterflies!...They swirled through the air like autumn leaves and carpeted the ground in their flaming myriads on this Mexican mountainside. I had waited decades for this moment.



Fred Urquhart (BA 1935 UC, MA 1937, PhD 1941) in a 1976 *National Geographic* article. The late U of T prof is featured in the new film *Flight of the Butterflies*.



Toronto has its own high-end food-truck scene: A recent *Globe and Mail* article touts Buster's Sea Cove's shrimp tacos, Hogtown Smoke's Southern barbecue and Thunderin' Thelma's brisket sandwiches



Jordan Feilders

Bon Appetit, Paris

A food truck in a world culinary capital? With great fare, Jordan Feilders proves it's possible

PEN AND PAD IN HAND, JORDAN FEILDERS works the lunch queue, taking orders. He's six-foot-three with a 300-watt smile, and he knows how to make small talk, but when the line is long he's all business, ending each transaction with: "Any dessert? Cupcakes? Cookies? Drinks?"

He could be a counter guy at McDonald's asking "You want fries with that?" except he's taking orders for a cutting-edge, artisanal eatery in a world culinary capital – Paris – and he owns the place. What's more, the "place" is on wheels.

In 2011, Feilders (BA 2005 TRIN) was doing community relations work for an international mining company when he decided to pack it in and return to Paris, where he had lived most of his growing-up years.

Launching his own business was in keeping with his activities at U of T. "A close friend, Jake Irwin, and I used to start a project every few months," recalls Feilders, who majored in international relations. "We began the Environmental Club at Trinity, we installed the college's first recycling program, we built a community library in Honduras with the Overseas Development Committee. Last year, back in Paris, I realized my French friends loved certain aspects of North America today, like food trucks with really good food. A light bulb went on."

In a matter of months, with no culinary background but having grown up with "a mom who cooked tasty, fresh California meals," he learned to source organic ingredients, set up a small prep kitchen, converted an old Citroën delivery van into a stylish foodmobile, arranged – in a possible nod to his U of T minor in environmental studies – to recycle his frying oil with a biodiesel outfit, and snaked his way through the Paris bureaucracy to become one of the first few entrepreneurs to import the high-end food truck trend from across the Atlantic. He based his menu, he says, on "common sense and great ingredients." The French food press jumped all over the new *gastro-bobo* addition to the city scene.

Four days a week, the shiny brown Cantine California truck rolls up to farmers markets and offers shoppers and nearby office workers a menu of organic burgers and fries, hand-made tacos with imported Mexican hot sauce on the side (in deference to the French fear of heat), and cupcakes made from scratch. "A little piece of America on a corner near you," teases Feilders' website.

"My time at U of T helped me, I have no doubt," Feilders says. "That's where I developed the creative thinking, project management and people skills that allowed me to work in the corporate world long enough to make the money I used to start my business. Today I use the same skills to run a small business that employs six people."

Feilders says he often gets emails asking about franchise possibilities, but he's too busy for that – functioning as "everything from meat chopper to cashier to night janitor to new business acquisition officer." But, he muses, "before too long, I think I'd like to find a fixed location somewhere."

– DAN CARLINSKY

What's on the menu?



There's no street meat in this food truck: The animal products are certified 100 per cent organic. Here are a couple of popular items at Cantine California:

**Obama's Burger
AKA PanchoVilla**
Grilled organic beef, arugula, Gouda, home-made chipotle sauce and guacamole, lettuce, red onions, tomatoes

Carnitas Tacos
Spicy organic pork shoulder stewed for seven hours, homemade tortillas, chipotle salsa, black beans, cilantro, lime

THE TWO OF US

Perfect Harmony

For Brian Finley (BMus 1982, MMus 1984) and Donna Bennett (BMus 1982), it was a match made in music.



BRIAN: We met in the Faculty of Music – I’m a pianist and she’s a soprano – but it took me four and a half years to convince her to go out with me. I’m a Calgary boy, so maybe she didn’t like my Western cockiness. I stayed on to do a master’s degree, and we really connected when I invited her to the opera in the spring of 1983. A lot of the compositions I have done over the years were written for Donna, and I get a special

sense of satisfaction when I hear her singing my music. After marrying in 1985, we founded the Westben Arts Festival Theatre together in Donna’s hometown of Campbellford, Ontario. We built a 5,100-square-foot barn in one of the corn-fields, and have held more than 300 concerts; we’re now heading into our 14th season. It’s been absolutely amazing to both find a soulmate and create a music community together. Donna is the song in my heart.

DONNA: When I met Brian, he was quite outgoing and I was small-town shy. But after the first date, I just wanted to be around him. He took me to the Music Gallery and played a Chopin piece about two months after we started dating, and I think that sealed the deal. When I moved to Munich in the fall of 1983 to do a master’s in music, we wrote letters every day and Brian came to visit. After we got married in 1985, I was working for the Canadian Opera Company, and then we went on to work in New York City and London. I started getting all kinds of gigs, even after I got pregnant. It’s quite something to be starring in an opera in Italy while breastfeeding at intermission. We also did several cross-Canada tours together as a duo, and we love performing together. We have two sons: Ben who studies music at U of T, and Adam who studies science at McGill – but his violin is still handy! Music brings people together and it means a lot to share it with my family.



Remi Kanji

Global Citizen

During her first year at U of T, Remi Kanji participated in the Asian Institute’s first Taiwan Field School, travelling to the country to meet with leaders of government, industry and academia. Since then, she has transformed her sense of global citizenship into action: Kanji co-founded Just Rights Radio, a popular campus-radio show focusing on social-justice issues – from the refugee experience in Canada, to environmental ethics, to the fight for an open and uncensored Internet. She also established the INDePth conference, where students from Asia and North America discuss Asian development issues. “Student leadership is about using your opportunities to empower others to lead and grow,” says Kanji, who attended University College.

For her work, Kanji received a Gordon Cressy Student Leadership Award in April. The awards recognized 187 graduating students for outstanding extracurricular contributions to U of T and the wider community.

Kanji, who graduated with a BA in Asia Pacific studies and international relations, also managed the Global Ideas Institute, a program that helps high school students develop health innovations in the Global South. She co-produced a documentary on Taiwanese democracy during Taiwan’s 2012 election, served on the Hart House Social Justice Committee and is now working on the social startup Zhenxin – a health-care app for family caregivers – in Taipei.

To read about all the 2013 Cressy Award winners, visit alumni.utoronto.ca/cressy2013.



Dutch scientist Mark Post displays samples of cultured meat

FIRST PERSON

Test Tube Burgers

If you want to help save animals and the environment, grow meat in a lab, says Isha Datar

I FIRST HEARD OF “IN VITRO” MEAT – the sci-fi-like idea that steaks could, one day, be grown outside of an animal – as an undergrad in cell biology at the University of Alberta in 2009.

The concept intrigued me. I became interested in studying meat, which has so many *issues*. Not only is it at the centre of culinary criticism and praise (“Too tough!” “So tender!”), it is debated in discussions of ethics, microbiology, religion, physiology and economics. I decided to take a course outside of the typical cell biology stream: meat science, offered through the agriculture department. It was there I was introduced to “in vitro” meat, a concept that combined many of my interests.

Today, I am the director of a non-profit organization in Toronto called New Harvest, which is developing alternatives to conventionally produced meat – including meat produced in a cell culture. In order to do this, scientists begin with an animal cell line, obtained through a simple biopsy from an animal of choice. Those cells multiply in a nutrient-rich liquid medium in a sterile environment, before being harvested and prepared much like animal-sourced meat. This summer, the first cultured-meat hamburger, a proof

of concept using these techniques, will be produced and tasted in London. It will show the world that culturing meat is possible; however, more research is necessary to take this beyond the laboratory.

Cultured meat is a new process, not a new product

Because such alternatives can be produced under controlled conditions impossible to maintain on industrial farms, they can be safer, less polluting and more humane. A sterile environment would make a production facility far less prone to disease contamination than a factory farm. Producing meat through tissue culture would require 99 per cent less land and generate up to 96 per cent less greenhouse-gas emissions than industrial farming, according to a New Harvest–supported study in *Environmental Science & Technology*. And throughout the process, no animals would be slaughtered or exposed to ghastly conditions on factory farms, where most of our meat comes from.

If the concept is simple and the advantages are plenty, why is this new process not available today?

There is a lot of investigation left to do. For example, it is crucial that the liquid medium the meat cells grow in be completely plant-based. A major ingredient of cell media is animal serum, and we need to remove the reliance on animal products in order to be truly sustainable, humane and cost-effective. There are animal-free media out there, but they need to be optimized for the cells we are trying to grow.

Practically speaking, we need to ensure that this can be done at a reasonable price point. We need to guarantee that this food is sustainable and meets safety standards. And we need to make sure meat lovers will be willing to make the switch, or at least try it.

All of this research requires funding – and this means telling the world why we need this technology. My graduate level education in biotechnology at U of T taught me how to bring science out of the lab and into society. I learned that the science that changes the world is half the science itself, and half everything else – from the legal and political, to communications and research support. It was ultimately this work that prepared me for my role at New Harvest.

While steak grown in test tubes was referred to as “in vitro” meat when I was an undergrad, it is now known as “cultured” meat – which underscores that this is a new *process*, not a new *product*. It also harkens back to society’s early biotechnology experiments with beer, bread and yogurt.

“Cultured” may also prompt us to think that this meat is more civilized. I already believe it is.

Isha Datar graduated with a master of biotechnology from U of T this spring. Learn more about cultured meat at new-harvest.org.



The graphic novel that is often cited as the bestselling and most influential? *Watchmen*, which was made into a Hollywood blockbuster in 2009

60 SECONDS WITH

Peter Birkemoe

Comic Book Hero



People often envy **Peter Birkemoe's** job. He's the owner of Toronto's The Beguiling, a store (and haven) for serious comic book and graphic novel connoisseurs. The shop, which recently celebrated its silver anniversary, is housed in a Victorian home in Toronto's Mirvish village. Around the corner, Birkemoe (BASc 1996, BA 1997 WOODS) launched a comics store for kids in 2011 called Little Island Comics. He is also one of the people behind a free comic arts fest every spring. **Lisa Bryn Rundle** gets the story from a real comic book hero.

When did your love of comics begin?

Probably my mid-teens. I started to work part time in a comics shop. I was very fortunate to be surrounded by the great works as I was growing out of superhero fare – material that had a little more weight.

What are three great works?

Three great works, in a canonical sense, are *Maus* by Art Spiegelman, *Jimmy Corrigan, the Smartest Kid on Earth* by Chris Ware and *Krazy Kat* by George Herriman.

You did a degree in engineering. How did you go from that to owning a comic book store?

Let me see... How does that work? This store, one where I'd worked briefly, kind of dropped into my lap. Purchasing it was more for the continued existence of my favourite place to buy comics than a career-motivated choice.

Your father is a professor emeritus at U of T in engineering. What did he think? We did not talk about it, but years later someone told me he'd said I was the only person he knew who was doing exactly what I wanted every day. I took that as an endorsement.

It's your job now to read comics. Does that make them less fun? I don't enjoy comics any less. However, to some extent, I'm left without a hobby.

Maybe you should dabble in engineering. The professional association doesn't like to have it considered a hobby. But there is a lot of dabbling when it comes to using base engineering skills to find just how many bookshelves one can put in a small Victorian home.

What do you think is behind the enduring appeal of comics? For many, there is a nostalgic aspect. A lot of people associate both the content and the process of reading comics to formative reading development and things they loved as a child.

I'm sure you keep your cool while dealing with the comics superstars you meet, but have you ever truly geeked out or been star-struck by someone? I was fortunate, before I was working here, to be one of the first young fans in line when Robert Crumb came to Toronto in 1992 for the fifth anniversary of the store, and I think that should I have a chance to meet him again I would be similarly awestruck. But I've managed to not only meet but become friends with many of the people I most admire in the medium – that has been one of the greatest advantages of this job.

Milestones



Leilani Farha (BA 1990, MSW 1995, LLB 1995) has received the Spirit of Barbra Schlifer Award for her work increasing women's access to safety and justice. Farha is an international human rights lawyer, the executive director of Canada Without Poverty, and an advocate for women's social and economic rights. The award, sponsored by the Toronto law firm Torys LLP, honours the memory of **Barbra Schlifer** (BA 1969), a young lawyer who had dreamed of opening her own legal clinic before her murder in 1980.

YWCA has honoured two U of T alumni with Women of Distinction Awards. **Amanda Dale** (BA 1988 WOODS) is the executive director of the Barbra Schlifer Commemorative Clinic, which offers legal help, counselling and language interpretation to women who have experienced violence. Dale has also contributed to the Jane Doe Audit of Toronto Police sexual assault investigations and the development of a women's shelter in the Arctic. **Gloria Epstein** (LLB 1977) is a judge of the Court of Appeal for Ontario, and opened one of the first female-owned legal practices in Toronto. She also serves on the board of Pathways to Education, which helps at-risk youth complete high school and transition into post-secondary education.

Julie Cruikshank (BA 1967 VIC), a professor emerita of anthropology at the University of British Columbia, was named an officer of the Order of Canada. Cruikshank's research in the North has helped to preserve the history of indigenous peoples.

The late **J.A.D. McCurdy** (BASc 1906) has been inducted into the Canadian Science and Engineering Hall of Fame. He designed the airplane Silver Dart, which he piloted in 1909. It was the first time that a powered airplane flew in Canada or in the Commonwealth.

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Esther Hill in procession with classmates



CANADA'S FIRST FEMALE ARCHITECT

June 4, 1920

After convocating, Esther Marjorie Hill went on to design rooms of her own

When Esther Marjorie Hill (BASC 1920) stepped on stage to receive her degree, the audience cheered Canada's first female architect. Outside, reporters waited to photograph Hill for the next day's newspaper. Missing from the festivities, though, was C.H.C. Wright, the chair of the department of architecture, who protested her graduation by refusing to attend. (President Robert Falconer and Chancellor William Meredith were there, however, cheering grads on.) Hill's experience was a far cry from this spring's convocation, where 54 per cent of those awarded an architecture degree were women.

Hill followed in the pioneering footsteps of her mother, Jennie Stork Hill (BA 1890 UC), who was one of the first 11 women to be admitted to U of T. In a *Globe* article, Esther spoke of the qualities needed for a woman to succeed in architectural studies. "A good training in mathematics and a firm determination to persevere in

spite of difficulties are two essential elements," she said.

After graduating, Hill moved to Edmonton, where the Alberta Association of Architects kept her from practising by adding one year of work in an architect's office to its entrance requirements. So she found a job with an Edmonton architectural firm and then enrolled at the University of Toronto for postgraduate work in urban planning. During the Depression, building stopped so Hill designed made-to-measure gloves and became a master weaver.

In 1936, Hill started her own business in Victoria. She specialized in houses, designing up to three a week. Her homes were known for their large windows, open spaces, and kitchens with generous cupboards and high countertops. Still, some of her male clients insisted they had designed the house and that Hill was "just the draftsman." — SUSAN PEDWELL

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Spring 2013 Convocation

During a few weeks this June, more than 12,500 U of T students converged on Convocation Hall, where they were officially welcomed into the university's alumni community. Joining this year's new grads as they celebrated this milestone were the 12 distinguished honorary graduands listed at right. As custom dictates, each honorary degree recipient addressed their convocation.

Webcasts of these presentations are available at uoft.unikron.com.

Spring 2013 Honorary Degree Recipients

Robert J. Birgeneau

(BSc 1963)

Former U of T president, leading physicist and past Chancellor of the University of California, Berkeley

William A. Buxton

(MSc 1978)

Award-winning scholar in human-computer interaction and device design

Paul Cadario

(BASC 1973)

Anti-poverty advocate and distinguished expert of international development at the World Bank

N. Murray Edwards

(LLB 1983)

Outstanding community builder and one of the most successful entrepreneurs in Canadian history

Wendy Freedman

(BSc 1979, MSc 1980, PhD 1984)

Pre-eminent astronomer and scholar best known for her work on the Hubble constant

Frederic (Eric) L. R. Jackman

(BA 1957 TRIN, MA 1962)

Noted psychologist and businessman known for his exemplary public service

Paul Krugman

Celebrated economist and op-ed columnist, recipient of the Nobel Memorial Prize in Economic Sciences

Sam Pitroda

Inventor, entrepreneur, policy-maker and government adviser credited with the telecom revolution in India

William T. Reeves

(MSc 1976, PhD 1980)

Academy Award-winning pioneer in computer animation with Pixar Animation Studios

Stuart Alan Rice

World-class scientist known for his global influence on research and teaching in the field of chemistry

Donald R. Sadoway

(BASC 1972, MASC 1973, PhD 1977)

Entrepreneur, teacher and acclaimed scholar in sustainable energy innovation

Susan Scace

(BA 1963 TRIN)

Widely recognized for her community leadership and outstanding public service