Boundless U of T's new fundraising campaign / Aging Gracefully Tech for the elderly / Rachel Sklar On awesome women The Health of Nations Saving lives in India / Mozart or Machine? A computer that composes / Thanks to Our Donors

UofTMagazine winter 2012

A World of **Possibilities** Students put their knowledge to work in the global village

THERE'S AN AWARENESS THAT LANGUAGES ARE NOT





ESSENTIAL IF WE HUMAN RIGHTS, RESPECT FOR TECHNOLOGY ARE TO USE



PROF. JOHN POLANYI NOBEL PRIZE WINNER

SOMETHING ALIEN GRAFTED ONTO SCIENCE, IT IS THAT MUST BE

INTEGRAL TO

SCIENCE."

MEAN BIOLOGICAL EVOLUTION HAS STOPPED. ENVIRONMENT DOESN'T "JUST BECAUSE MODERN HUMANS ARE ABLE TO MANIPULATE THEIR IT HAS ACCELERATED.



PROF. ESTEBAN PARRA MOLECULAR ANTHROPOLOGIST



PROF. JAMES ORBINSKI '98

WE HAVE A DUTY AND RESPONSIBILITY AS HUMAN BEINGS TO MAKE **OUR** WORLD MORE TOLERABLE AND THE SUFFERING OF OTHERS." RELIEVE



WHERE DO WE FIT IN? HOW DOES OUR SOLAR SYSTEM STACK **UP AGAINST** OTHERS? IT'S A QUESTION

BROADER THAN SCIENCE AND YET ALMOST WITHIN OUR REACH SCIENTIFICALLY.



PROF. THOMAS HURKA '75
PHILOSOPHER

'A POPULAR CONCEPTION OF PHILOSOPHY IS THAT IT INVOLVES READING THE DEAD PHILOSOPHERS AND COMMENTING ON HOW PROFOUND THEY ARE. THE LAST THING THEY WOULD WANT US TO DO IS ACCEPT WHAT THEY SAID. THEY'D WANT US TO COME UP WITH OUR OWN IDEAS.





PROF. TED SARGENT '98 NANOENGINEER





INCUBATED AT THE UNIVERSITY OF TORONTO."





EVERYTHING WE FIND OUT JUST FASCINATING. RAISES MORE QUESTIONS.



HEALTH FACILITIES IN THE DEVELOPING WORLD DO NOT HAVE A RELIABLE SUPPLY. I'M WORKING ON SOLUTIONS TO THIS PROBLEM.











"WE HOPE ONE DAY TO HELP THEY DEVELOP SYMPTOMS OR FEEL PAIN." PATIENTS EVEN BEFORE DIAGNOSE AND TREAT

PROF. SHANA KELLEY BIOMOLECULAR SCIENTIST



THE NEW ELECTRONIC INTERDEPENDENCE RECREATES THE WORLD THE IMAGE OF A IN GLOBAL VILLAGE."



"BUMPTOP IS A NEW WAY OF THINKING ABOUT COMPUTER DESKTOPS. WE APPLY GAMING, 3D GRAPHICS AND PHYSICS TO THE DESKTOP TO ORGANIZE FILES, LOOK AT PHOTOS AND BROWSE MORE RICHLY AND INTUITIVELY - MORE LIKE A REAL DESK. THE IDEA BEGAN AS PART OF MY MASTER'S THESIS AT U OF T.'

"UNIVERSITY EDUCATION IS ABOUT MORE THAN A MEANS TO AN END. IT'S

PROF. SAMANTHA NUTT OUNDER WAR CHILD CANAD/



ANAND AGARAWALA '06

FORCES THAT SHAPE THE GLOBAL SYSTEM. STUDENTS NEED A DEEP UNDERSTANDING OF THE BROADER ARCHITECTURE AND TO BECOME GLOBAL LEADERS TODAY,

"I CAN SEE A DAY WITHIN THE NEXT 10 YEARS WHEN MALARIA WILL **NO LONGER** BE NEWS."





A MULTIDISCIPLINARY APPROACH IS SOMETHING YOU HAVE TO ADOPT IN THE MODERN WORLD...BECAUSE WE ARE DEALING WITH ISSUES THAT ARE

ABOUT EXPANDING YOUR MIND AND ABOUT BEING OPEN TO NEW OPPORTUNITIES." MALCOLM GLADWELL '84 AUTHOR OF THE TIPPING POINT

PROF. ZHENG-HONG LU MATERIALS SCIENCE ENGINEER

THE APPLIANCES WE DEPEND ON NEED TO BE MORE EFFICIENT. MY RESEARCH EMITTING DIODES, A TECHNOLOGY THAT

GROUP DEVELOPS ORGANIC LIGHT-

PROMISES UNPRECEDENTED ENERGY

METHOD THAT GENERATES LITTLE

EFFICIENCY AND A PRODUCTION ENVIRONMENTAL POLLUTION.



"IF THE MYVOICE APP HELPS JUST ONE PERSON SPEAK AGAIN, THEN WE WILL HAVE DONE OUR JOB."



THE UNIVERSITY OF TORONTO'S UNPRECEDENTED \$2-BILLION CAMPAIGN WILL HARNESS THE BOUNDLESS POTENTIAL OF OUR WORLDWIDE COMMUNITY TO ADDRESS GLOBAL CHALLENGES AND PREPARE LEADERS FOR AN INCREASINGLY BORDERLESS WORLD. YOU CAN BE PART OF IT.

VISIT BOUNDLESS.UTORONTO.CA



11.20.11

Winter 2012

Volume 39, No. 2



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U of T students are beginning to reap the benefits of a truly global education

BY SCOTT ANDERSON, SHARON ASCHAIEK, KURT KLEINER, CYNTHIA MACDONALD, ALISON MOTLUK, ANNE PERDUE AND ALLYSON ROWLEY

26 Saving Lives,
One Death at a Time
What one of the world's largest mortality studies is teaching us about public health
BY MARCIA KAYE

42 Technologies for Aging GracefullyA U of T lab is
harnessing computers
to make life better as
we age
BY BRENT LEDGER

On the cover (from left): Farrah Chanda Aslam (BA 2011 UTSC), Sarah Richardson, a PhD student in art history, Michael Odam (MBA 2011) and Aysha Abdel-Aziz, a third-year physics student. Above: Sara Lee, a third-year student in the Peace and Conflict Studies program.

UofTMagazine

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Departments

The most important thing that women can do for me in this "fight" is be awesome

 Rachel Sklar (LLB 1998), founder of Change the Ratio – an advocacy group for women in media and technology, p. 62



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61 A neuroscientist recounts his personal experience with drug addiction



13 At Massey College, Michael Ignatieff teaches students about the hard realities of Parliament Hill

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Letters





After many years of clinical practice, I tend not to think in terms of the 265 psychiatric disorders, but of something closer to poetry.

GRAHAM J.C. SMELT YORKSHIRE, ENGLAND

Patients First

Prof. Edward Shorter's views expressed in "Mind Games" (Autumn 2011) emphasize the medicalization of psychiatry, but fail to recognize how mental-health professionals promote positive outcomes through listening to patients.

As a nurse practitioner on a psychiatry team in a busy urban hospital, I believe it is important for patient care to consider both the traditional biomedical model as well as a contemporary holistic framework.

Health is influenced by biological, psychological and social factors: a patient is a person, and not simply a product of a diagnostic label. Prof. Shorter's stance mistakenly overlooks the contributions of psychotherapy made by psychiatrists. Research has demonstrated that major depression is more effectively treated with a combination of medication and psychotherapy than with only one of these interventions. Psychiatrists, nurses, nurse practitioners and allied health professionals with specialized training in psychotherapy are well positioned to promote mental-health patients' outcomes.

Moving away from a "cure-only" paradigm will enhance the care of our patients, and, more importantly, their ability to achieve more accessible and effective mental-health treatment.

BROCK COOPER MN 2010, TORONTO

The Poetry of Mood

Prof. Edward Shorter's views on the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM)* are spot-on. When I was taking the Licentiate of the Medical Council of Canada, as a clinical fellow at the Banting and Best Institute in 1985, I learned the *DSM* classifications like everyone else.

Now, after many years of clinical practice, I tend not to think in terms of the 265 psychiatric disorders, but of something closer to poetry. I find poetry, with its resonances and implied meanings and moods, more nearly captures a patient's condition.

Sad: the heart sighs as the head has its way.

Mad: the head shakes as the heart holds sway.

Bad: the conscience crumbles as vice turns to folly.

Glad: the voice sings – but too loud and too jolly!

GRAHAM J.C. SMELT YORKSHIRE, ENGLAND

Good Thinking

David Naylor's "President's Message" is the first page I read in every issue of *U of T Magazine*. His most recent message – particularly one sentence in the last paragraph – succinctly defines what a university education should impart to every student: "We can...

provide an environment that helps our students learn to think more effectively – not just in their time with us, but for the rest of their lives."

Thank you, President Naylor, for this clear statement of purpose for a university. Teaching students effective *thinking* – prior to taking action – will bring dramatic results as they apply their talents to solving such important issues as global warming and unsustainable population growth. Making this a strategic thrust of the university's teaching will no doubt make U of T the world's number 1 institution of higher learning.

RICHARD M. CLARKE
BASC 1954, WESTPORT, CONNECTICUT

Who's Watching?

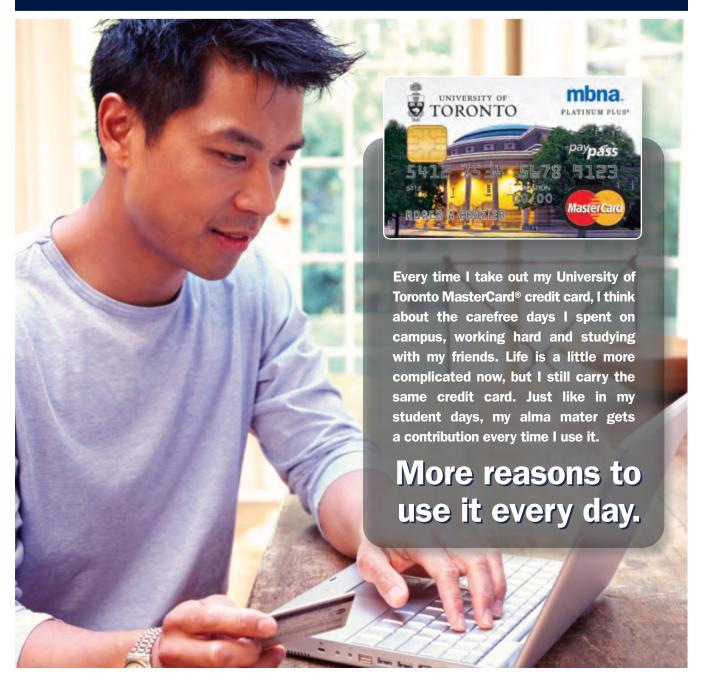
I admire the work being done by PhD criminology student Alexandra Lysova, who is studying the extent to which men and women initiate domestic violence ("Always the Victim?" Autumn 2011). But I am puzzled by the article's final sentence: "Lysova hopes that once this is better understood, more can be done – by psychologists, police officers and intimate partners themselves – to avert intimate partner violence in the first place."

While it's reasonable to suppose that adult men and women who hurt each other might benefit by becoming more self-aware about why they do so, it is hard to see how psychologists and police – outside of actually living in disturbed households – can play any meaningful role in a process that plays out in private. In Orwell's 1984, every house has a surveillance camera that can never be switched off, but none of us lives in a novel – or would want to.

GEOFF RYTELL

BEd 1975 OISE, TORONTO

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President's Message

Boundless Potential

U of T's new campaign

On Nov. 20, the University of Toronto moved out of the quiet phase of its current fundraising efforts, and publicly launched a new campaign. The campaign's theme is "Boundless" – reflecting the impact of the university's alumni around the world, the scope and importance of the research done by today's faculty, staff and students, and the potential of future generations of students. This is an edited version of David Naylor's address at the launch event in Convocation Hall. In ensuing issues, *U of T Magazine* will explore the campaign and its goals in more detail.

WHEN THE UNIVERSITY OF TORONTO opened its doors in 1827, the muddy little town of York was not even a city. How things have changed! Today, the university welcomes thousands of students from scores of countries to three distinctive campuses, more than a dozen hospitals and countless other sites of learning and discovery here at home and abroad. The little colonial outpost, moreover, is now a vibrant metropolis – and one of the world's most diverse regions.

Some things, however, were already taking shape all those decades ago. We had students with high aspirations, remarkable professors and dedicated staff who then, as now, made it all possible. As well, even a hundred years ago, the support of our alumni and friends was beginning to lift this university. Without philanthropy, we would not have rebuilt University College after the Valentine's Day fire of 1890, erected Convocation Hall in 1907 or opened Hart House in 1919. These foundations – laid by a confluence of talent, imagination, dedication and generosity – sustain us still. Upon them the university has built a truly global reputation and impact.

That reputation, I believe, arises first from the perceived quality of the university's alumni. Our alumni reflect the strength of our students through the decades and their educational experiences. The university is truly fortunate to claim some 500,000 alumni in more than 170 countries, with concentrations in unexpected places from Hollywood to Hong Kong. There is no continent nor any walk of life where Toronto alumni are not in leadership roles.

Another key reputational factor is the perceived quality of our faculty, often viewed through the lens of research impact.



Throughout the last century, our professors and their students, supported by our excellent staff, developed insulin and the electron microscope, discovered the chemical laser and stem cells, redefined literary criticism, theorized modern media and the digital age, roamed the world to uncover ancient civilizations, invented the glycemic index and pioneered in fields as diverse as organ transplantation and computer graphics.

Today, in total research output, the top three universities in the world are Harvard, Tokyo and Toronto. And when professors around the world are surveyed, time after time, in discipline after discipline, the University of Toronto is the Canadian leader and a serious global competitor.

In such a short amount of time, I cannot even begin to summarize the important discoveries, ideas and innovations that now stream rapidly out of your alma mater. What can perhaps be conveyed is why those efforts matter.

Imagine, for example, a future where prosthetic hips and knees are no longer necessary, and damaged organs can be repaired without drugs or transplants. Toronto has one of the world's greatest concentrations of stem cell scientists, tissue engineers, transplant experts and brilliant clinicians in every discipline. The possibilities for advancing multiple fields of medical care are absolutely boundless.

PHOTO: © 2011 GUSTAVO TOLEDO PHOTOGRAPHY WINTER 2012 5

President's Message

Tens of millions of people around the globe are rising out of poverty each year – a wonderful trend. How will we meet their new energy demands without economic or ecological disruption? One intriguing option is to emulate plants and algae. Some scientists estimate that through artificial photosynthesis a bottle of water and sunshine could power a normal-sized home. If that doesn't work, imagine transforming any roof or wall into an energy-harvesting surface with nano-engineered spray paint, or using cheap solar cells at home with advanced optics that double and triple the efficiency of current technologies. All these are currently areas for cutting-edge research at your university.

Other global challenges are much more complex. Across the world over a million people a week are moving from villages and farms into cities. The development of successful and sustainable cities is clearly one of the keys to humanity's future. Even more fundamental to our future is protecting the potential of the world's children. Whether from malnutrition in pregnancy, social deprivation or lost educational opportunities, tens of millions of children never have a chance to thrive and contribute.

Very few institutions in the world have the size, or the breadth and depth of excellence, to tackle these and other multi-dimensional problems facing humanity. The University of Toronto is one of those few. And that is why "meeting global challenges" is a broad theme of our new campaign.

The second broad theme is "preparing global citizens." The university already offers its students a wonderfully diverse peer group and a dynamic urban context. We believe the research strength of our faculty, and their international reach, also aligns well with this theme. This research excellence translates readily into strong teaching and mentorship for students in graduate and professional programs. In addition, unlike some peer institutions, more than 90 per cent of the professoriate who have won major research distinctions are deeply engaged in teaching undergraduates. Toronto undergrads therefore benefit directly from the rigorous and original thinking that top scholars bring to the classroom.

Among the goals of the new campaign is funding to promote more small-group interaction between faculty and undergraduates, as well as more research opportunities for students during their baccalaureate years. If we can help

our students develop a capacity for creative and critical thinking, that one skill, more than any other, will help them succeed no matter where they live and work. Consistent with the campaign theme of global citizenship, we also hope to support thousands more students to study abroad and pursue experiential learning opportunities in other nations.

As an aside, in these uncertain economic times, I understand why many are calling for "job-ready" graduates. However, the world is changing fast. We need to prepare our students for careers that have not even been invented. And, in the best case, we can also prepare them to be the leaders who invent those new careers.

The magic of our university environment, with its marriage of learning and scholarship, has been beautifully captured by University Professor Edward Chamberlin.

After asking rhetorically what universities really do, Prof. Chamberlin answered: "We tell stories: old stories about evolution and the decline and fall of the Roman Empire, about the Big Bang and the Great War, about justice and freedom, supply and demand, economy and efficiency. And we make up new stories. We call the old ones teaching, and the new ones research."

What I love about Ted Chamberlin's description is its humanity and its emphasis on narrative. Yes, we publish a great deal, and I'm proud that we lead the country by a big margin in generation of intellectual property and spin-out companies – 18 last year alone. But none of this is really about papers, patents or profits. It's about people – about those of us on faculty here, telling old stories, and with the help of our students and staff, writing new ones. And, much more importantly, it's about our students, tomorrow's alumni, preparing to write their stories in a world full of challenges that our generation has left them.

Ultimately, the support that so many alumni and friends have generously provided, and the support we are seeking in the years ahead, is itself in aid of a narrative – one of hope, of questioning, of imagining, and above all, unlocking the boundless potential of the next generation to make the world a slightly better place.

Sincerely, David Naylor



"Not everyone can pursue their passions but this scholarship lets me do just that. Nothing can stop me now from becoming a doctor."

STACEY KONIDIS

Pre-Med, BSc, 2013

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Calendar

MORE EVENTS!

Check out the latest campus happenings at www.utoronto.ca.



JANUARY TO MARCH

"Toronto in Question?" Lecture Series

These sessions on Toronto focus on urban development, quality-of-life and policy issues. Presented by U of T's Cities Centre, these are the final three talks in a six-part series. Jan. 24: Former mayor David Miller and Prof. David Hulchanski of the Cities Centre speak on "Whose City? Inequality and Gentrification." Feb. 28: City councillor Adam Vaughan and Prof. Richard Stren of political science discuss "Who Governs? City Hall and Citizen Participation." March 27: Writer John Ralston Saul and Prof. Mark Kingwell of philosophy speak on "Who Needs Arts and Culture in Toronto?" Free. All lectures at 6:30 p.m. St. George Campus. Locations TBA. Online RSVP required at www.citiescentre.utoronto.ca.

For more info: 416-946-3688, citiescentre@utoronto.ca or www.citiescentre.utoronto.ca

Alumni

January 5 New York City

Alumni Reception. All U of T alumni are invited to mingle with current Rotman Commerce students and faculty. Hosted by the Rotman Commerce Alumni Office. Free. 7–9 p.m. Location TBA. Contact Kiran Champatsingh at 416-946-8655 or kiran.champatsingh@utoronto.ca.

February 11 Young People's Theatre

The Great Mountain. In this retelling of the Aboriginal story of Jumping Mouse, a young girl discovers the transformative power of nature and the importance of courage. Post-show ice-cream party for U of T alumni and friends. \$16. 2 p.m. Young People's Theatre, 165 Front St. E., Toronto. Contact Ennis Blentic at 416-978-5881 or ennis.blentic@utoronto.ca, or visit www.alumni.utoronto.ca/greatmountain.

February 21 San Francisco

2nd Annual San Francisco Skule
Alumni Reception. The Faculty of
Applied Science and Engineering
welcomes all Skule alumni living in
California to this reception. Reconnect with other Skule alumni, meet
Dean Cristina Amon and other
faculty members, and learn more
about the latest developments
at Skule. Free. 5:30–7:30 p.m.
San Francisco Marriott Marquis,
55 Fourth St. For more info, contact
Deirdre Gomes at 416-978-4274 or
deirdreg@ecf.utoronto.ca.

February 22

Leslie Dan Faculty of Pharmacy
Wills and Powers of Attorney 101.
Does your current will reflect your
wishes? Why do you need a Power
of Attorney? Do you know your
duties as an executor? Join two
seasoned estate-planning professionals in this free seminar to gain
answers to these questions and

WWW.MAGAZINE.UTORONTO.CA PHOTO: SANDRA VETISKA

Hart House Theatre transforms into Cabaret, January 13-28



more. 5:30–7 p.m. Leslie Dan Faculty of Pharmacy, 144 College St. RSVP at 416-978-3846 or give.utoronto.ca/estateseminar.

Exhibitions

To January 28 Doris McCarthy Gallery, U of T Scarborough

Moment. Work by Colombian artist Beatriz Olano and Venezuelan artist Magdalena Fernández. Latin American art has developed an original take on abstract art – specifically, abstract geometry, which this exhibition showcases. Free. Tues. to Fri., 10 a.m.–4 p.m., Wed., 10 a.m. –8 p.m., Sat., 12–5 p.m. 1265 Military Trail. 416-287-7007, dmg@utsc.utoronto.ca or www.utsc.utoronto.ca/dmg

To April

Thomas Fisher Rare Book Library "How Beautiful My Brethren and Sistren": Derek Walcott, Life and Work. Exhibition and catalogue by Jennifer Toews. Mon. to Wed. and Fri., 9 a.m.-5 p.m.; Thurs. 9 a.m.-8 p.m. 120 St. George St. 416-978-5285 or www.library.utoronto.ca/fisher/exhibitions/current.html

January 24 to March 10 U of T Art Centre

"Photography Collected Us": the Malcolmson Collection. This exhibition comprises more than 200 works and is widely acknowledged as the strongest and most inclusive private collection of historic and vintage photography in Canada. (Opening reception: January 26.) Free. Tues. to Fri., 12–5 p.m., Sat., 12–4 p.m., 15 King's College Circle. 416-978-1838 or www.utac.utoronto.ca

February 8 to April 4 Doris McCarthy Gallery, U of T Scarborough

The "C" Word. What is it about the "c" word – "craft" – that causes such a flap? Ever since Sol LeWitt's famous comment of the late 1960s

that art need no longer be a "thing" – that art could be merely an idea or concept – the notion of craft has been debated. The artists in this exhibition take craft seriously, and provide a forum for discussion around what makes work "art," rather than just an exercise in technique. Free. Tues. to Fri., 10 a.m. – 4 p.m., Wed., 10 a.m. –8 p.m., Sat., 12–5 p.m., 1265 Military Trail. 416-287-7007, dmg@utsc.utoronto.ca or www.utsc.utoronto.ca/dmg

Festival

January 30 to February 3 U of T Scarborough

Winter Blues Fest. A celebration of arts and culture, featuring works and performances from students of visual and performing arts and other artists. Activities include U of T Scarborough's first annual piano and guitar competition, lunchtime music breaks, art exhibitions, theatre performances, Poetry Idol and more. Free. Various times and locations throughout the campus. For more info: 416-208-4769, aep@utsc.utoronto.ca or www.aeplive.ca.

Lectures

January 17 Woodsworth College Residence

Woodsworth Alumni Cafe #3 will examine the movie "The Tree of Life." Speaker: Bart Testa, senior lecturer at Innis College's Cinema Studies Institute. Light refreshments. Tickets: Alumni, \$10; guests, \$12; students, \$5. 6:30-8 p.m. Waters Lounge, Woodsworth College Residence, 321 Bloor Street W. Register at www.alumni.utoronto.ca/woodsworth, events.woodsworth@utoronto.ca or 416-978-5301.

January 30 Trinity College

Mary White Lecture: Translation as a battlefield: the case of frogs and mice. Speaker: Susanna

Braund, acting head of Classical, Near Eastern and Religious Studies at the University of British Columbia. Through analysis of the earliest translations of the miniature epic poem "The Battle of Frogs and Mice," Prof. Braund will explore the challenges to the translator. Reception to follow. 5 p.m. George Ignatieff Theatre, 15 Devonshire Place. For info: 416-978-2689 or bduchesne@trinity.utoronto.ca.

February OISE

The Canadian Perspectives
Lecture Series features U of T
professors speaking on a mix of
topics. The lectures are offered by
the Senior Alumni Association and
are open to alumni and non-alumni
over the age of 55. OISE auditorium,
252 Bloor St. W. \$50. Tuesday
afternoons in February.
Pre-registration is required. For
more info: 416-978-0544 or senior.
alumni@utoronto.ca.

Music

January 17 Walter Hall

Jazz Faculty Concert: Andrew Downing Quartet. This quartet of U of T faculty members will present an evening of standard songs with a high level of freedom and interplay. Andrew Downing, bass; Jim Lewis, trumpet; David Occhipinti, guitar; Nick Fraser, drums. Tickets: \$30 (seniors, \$20). Free for students with valid ID. 7:30 p.m. Walter Hall, Edward Johnson Building, 80 Queen's Pk. TELUS Centre Box Office: 416-408-0208. Order online: www. music.utoronto.ca.

January 22–28 Faculty of Music

New Music Festival: "Beyond Sound." Events include a talk with Anders Hillborg, the Roger D. Moore Distinguished Visitor in Composition and one of Sweden's leading composers, entitled "Beyond sound: the role of performing and visual arts in new composition." There will also be several concerts, panel discussions and a composers' forum. For info on events, ticket prices and venues, visit www.music.utoronto. ca/events/nmf.htm.

February 3 U of T Scarborough

World Rhythms Concert:
Autorickshaw. This Canadian ensemble's music lies on the cultural cutting edge: contemporary jazz and funk rub shoulders with the classical and popular music of India. Free, but seating is limited. 7:30 p.m. Leigha Lee Browne Theatre, 1265 Military Trail. RSVP to aep-rsvp@utsc.utoronto.ca. For more info, call 416-208-4769, or email aep@utsc.utoronto.ca or visit www.aeplive.ca.

Theatre

January 13-28 Hart House Theatre

Cabaret. In Nazi Germany, the cabaret is an oasis where people go to escape reality and share in some scrap of happiness. In the cabaret anything goes: loose women, looser men and a cocktail of drugs, booze and music. Tickets: \$25 (students and seniors, \$15. Students, \$10 every Wed. Alumni, \$15 every Thurs.) Week 1: Fri. and Sat. at 8 p.m. Week 3: Wed. to Sat. at 8 p.m. Week 3: Wed. to Sat. at 8 p.m., plus Sat. at 2 p.m. 7 Hart House Circle. For tickets: 416-978-8849 or www. uofttix.ca.

March 2-10 Hart House Theatre

The Night of the Iguana. Tennessee Williams' classic, set in Mexico, explores a priest's shattered faith as he questions the principles with which he has led his life. Tickets: \$25 (students and seniors, \$15. Students, \$10 every Wed.). Week 1: Fri. and Sat. at 8 p.m. Week 2: Wed. to Sat. at 8 p.m., plus Sat. at 2 p.m. 7 Hart House Circle. For tickets: 416-978-8849 or www.uofttix.ca.

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www.learn.utoronto.ca





Life on Campus

The whole business of life is to go from what is to what could be

Michael Ignatieff, on teaching students how to navigate the world of politics

p. 13



Boundless!

U of T launches a historic \$2 billion fundraising campaign

THE UNIVERSITY OF TORONTO has unveiled Boundless, the largest fundraising campaign in Canadian university history. With a historic \$2-billion goal, the Campaign for the University of Toronto will help expand U of T's global leadership capacity across critical areas of knowledge and help develop the talent, ideas and solutions for the defining challenges of our time.

University of Toronto president David Naylor made the announcement at a ceremony in Convocation Hall in November. He noted that U of T will explore the boundless

possibilities of its community of alumni, students and faculty for global leadership and societal impact.

"Canada must have universities that can achieve two related goals: conduct the advanced research that will help solve the grand challenges humanity now faces, and offer the best and brightest students an exceptional education to help them build a better world. No university in Canada is better positioned to meet those objectives than the University of Toronto," said Naylor.

The university has secured nearly half – \$966 million – of its \$2-billion fundraising goal, with donations supporting two central campaign pillars: preparing global citizens and meeting global challenges. For the first, the university is seeking \$500 million to foster international fluency and leadership skills among its almost 80,000 undergraduate and graduate students. These funds will also support student awards and will help build learning environments that ▶

PHOTO: © 2011 GUSTAVO TOLEDO PHOTOGRAPHY WINTER 2012

Singing Star – and Neuroscientist?

Fourth-year student Rudy Silvamer hopes to pursue all of his passions



"LIFE IS CONFUSING BUT ALWAYS AMUSING, don't try to understand just let it be," sings Rudy Silvamer in "Life is a Symphony." The fourth-year neuroscience student not only composed and recorded the song, he wrote and directed a film with the same name. The movie picked up the Artistic Achievement Award at the U of T Film Festival in March.

The five-minute short chronicles the life of a young street musician in Mexico City who dreams of becoming a pianist in the U.S. Despite talent and determination, his immigration request is stamped "Rejected." The film echoes some of the citizenship trials that Silvamer faced while moving from Mexico City to attend U of T. (Although one difference is the main character crosses the border illegally.) Earlier this year, for example, he entered an EMI Music Canada contest to win a record deal. Consistently voted in

the top three by fans, the winsome vocalist seemed on his way to becoming a pop star. Then EMI eliminated Silvamer because he's not Canadian.

Sorely disappointed, Silvamer kept right on singing. He has just released his first album, *Orkestra*, online. He composed every song, and recruited music students from U of T and the Royal Conservatory for the orchestra. A fusion of pop and electronic music set to classical arrangements, he calls his genre "space orchestra." Indeed, "The Losers' Anthem" is about an astronaut wannabe whose only hope of getting to outer space is by building a bridge out of Lego blocks. "Sunshine in the Rain" is more down to earth. "It's just a goofy, flirty love song about a couple girls I met at U of T," he says.

Silvamer hopes to find a way to pursue all of his diverse interests. "I've faced different challenges trying to divide my attention, but even though my heart is in music and film, neuroscience has offered me an elegant and inspiring alternative." - SUSAN PEDWELL

EPHEMERA



In 1986, U of T professor John Polanyi, along with two other scientists, was awarded the Nobel Prize in chemistry for developing the field of reaction dynamics. He was cited for his pioneering work in developing the method of infrared chemiluminescence.

Recently, Canada Post unveiled a limited-edition stamp honouring the world-renowned chemist.

Polanyi – a University Professor and a U of T faculty member since 1956 – also speaks out against nuclear armament, has made significant contributions in the area of science policy and co-edited the book *The Dangers of Nuclear War*. The stamp, designed by Tejashri Kapure of q30, was unveiled at Nuit Blanche festivities in October and celebrates the International Year of Chemistry. – **Jessica Lewis**

nurture creativity, collaboration, critical thinking, interdisciplinary inquiry and global perspectives.

The second pillar, "meeting global challenges" – for which the university is seeking \$1.5 billion – will support research and teaching that generates solutions for healthy, sustainable and successful societies. These funds will also bolster basic research, enhance programs and infrastructure, and enable the university to recruit a new generation of exceptional faculty.

Despite recent investments in higher education in Ontario, per-student funding for universities in the province remains among the lowest in Canada. As well, U of T's total revenue per full-time student is significantly lower than the average for publicly funded peer institutions in the U.S. "The fact that we are able to compete with – and in many cases outperform – our peers, both in Canada and around the world, speaks to the quality of the University of Toronto," said Naylor. Over

the last 15 years, U of T has consistently ranked among the top 30 universities in the world – and frequently in the top three for scholarly output.

Describing the campaign launch as an "extraordinary moment" in the history of the university, the Hon. David R. Peterson, chancellor of U of T, said: "With input from across our community, we have developed an eloquent, bold vision for a world-leading university in the 21st century. We will look to our global network of friends and alumni – who now number more than 500,000 across 174 countries – to join us in this exciting campaign. Through their generosity and involvement, we will work together to find solutions to our world's pressing challenges and prepare the next generation of global citizens who will venture across boundaries to inquire, invent and innovate."

Find out more about the Campaign for the University of Toronto at boundless.utoronto.ca.



A celebrated author, Michael Ignatieff is also an award-winning documentary producer. His series Blood and Belonging: Journeys into the New Nationalism won a Gemini Award

Political Insider

At Massey College, Michael Ignatieff teaches students about the hard realities of Parliament Hill

While it's not uncommon for engineering professors to have worked as engineers, or law professors to have worked as lawyers, you don't find many political scientists who can draw on their experiences as a politician – much less as Opposition leader.

But then there's **Michael Ignatieff**. The former Liberal Party leader (and before that Harvard University professor) has taken up the academic life once again – at U of T. **Lisa Bryn Rundle** sat down with Ignatieff in his Massey College office recently to talk about his political education.

How does it feel to be back in the classroom? It feels good. I'm teaching things I taught before but I'm teaching them, I think, in a new way.

Because of your political experience? Maybe a little. If you're in politics, you get impatient with abstract talk. So I hope it's more policy relevant as opposed to pure theory.

How else has your experience in politics affected your approach to teaching? I think in politics you learn how difficult it is to get anything done.

Depressing. No, it's not depressing. It's just difficult.

Why is it not depressing? I'm a passionate idealist about education. But it's no use teaching kids how it ought to be unless they know how it is. And then the whole business of life is to go from what *is* to what *could be*. Practical political experience has a double effect: it makes you more aware of how difficult it is to get anything done but also how important it is to get things done.

Will you cover any chapters on Michael Ignatieff in your courses? I am going to teach a course with a class on Parliament and a class on political parties. How can I avoid talking about my own experience of those institutions? So, I will. Sure. It won't be about me, but about the institutions.

You're not going to somehow delicately erase yourself. No. But nor am I going to open my veins.



Perception means so much in politics. What's the biggest misconception about academics? Woolly. Otherworldly. Irrelevant.

The word "elitist" comes up a fair bit. This is a big subject... I'm struck on the one hand by the extreme anxiety to be relevant. Everybody who teaches at a publicly funded university knows who pays the bill. It's paid for by hard-working taxpayers. And I see a passionate desire to be useful to the societies that pay our bills.

On the elitism side...I think it's terribly important for smart 21st-century societies to respect knowledge. And if you start to have a popular culture that regards abstruse, difficult, serious knowledge as elitist, your whole country doesn't have much of an economic future. All of the stuff that will be creating the jobs in 15, 25 years is elitist, hard to understand and difficult. Get used to it. That's the key to the future for our country.

Having been the subject of so much media coverage, do you weight media accounts any differently now? Oh, sure you do. And [laughing] you want to test what you impose on impressionable young minds. But no.... Some of the very best stuff out there on human rights is written by journalists. A lot of why we have a global human-rights consciousness is because journalists have done a wonderful job.

I'd like to knock journalism good and hard, because they knocked me a bit. But journalism has been absolutely at the heart of the human-rights revolution.

That's very diplomatic. I do my best.

Read a longer version of this Q&A at www.magazine.utoronto.ca.

PHOTO: HILL PEPPARD WINTER 2012 13

Life on Campus



YouTube U

Anyone who happened by King's College Circle one Sunday last September could be forgiven for thinking that Halloween had arrived early on campus: Hundreds of students, dressed in outrageous costumes, were lip-synching, performing gymnastics and otherwise whooping it up for a film crew.

The students were making a "lipdub" – a kind of music video that has become popular with university students as a way of demonstrating school spirit. The Université du Québec à Montréal started the trend in Canada two years ago, and the University of British Columbia produced a video last year that involved celebrity cameos and a flash mob.

At U of T, more than 600 students participated in three days of shooting at all three campuses; even a certain university president made a cameo. Planning took months; organizers deliberated at length before choosing a mash-up of songs by Smash Mouth, LMFAO and Lupe Fiasco. The video will be released before the end of the school year.

Jason An, who is studying neuroscience at Innis, couldn't have imagined missing the lipdub shoot. "It's a great idea," he says, "exactly what U of T needs." - SUZANNA CHANG

Watch the U of T Lipdub teaser at www.youtube.com/user/UTorontoLipDub.

SOUND BITES

What are you resolving to do differently in 2012 to reduce academic stress?

Yoga, two to three times a week.

nanceTO

My goal is to sleep seven to eight hours a night. I averaged four to five last year and was so burnt-out by summer.

Cynthia_UofT

To be on time for lectures, as inspired by Shakespeare: "Better three hours too soon than a minute too late."

pariirani

Start early. Prioritize. And when push comes to shove, people (oneself included) are most important.

jcrewman

Make your own resolution at twitter.com using **#lessacademicstress**.

Poll

What is the major religious event or festival you celebrate around December?



64% CHRISTMAS



2% HANUKKAH



MAHAYANA BUDDHIST NEW YEAR



33% NONE

Christmas is the religious holiday most students will be celebrating this December or January. But according to our poll, 34 per cent of those marking the day of Jesus' birth are not Christian. Many are atheists or non-religious, and say they participate in the gift-giving aspect because it's tradition. Study partners Sathya Chandrakumar and Pranovan Paranthaman, both Hindu, celebrate because they appreciate the "spirit of Christmas."

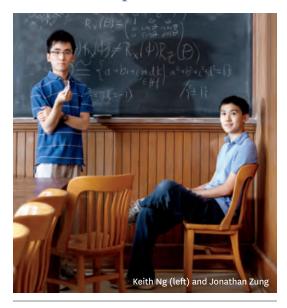
However, 33 per cent of students won't be observing any religious holidays at this time, and almost half of them are Muslim. Islamic holidays follow a lunar calendar and none fall in December or January this year. While four per cent of those polled are Buddhist, none are marking Bodhi Day (or Rohatsu) this year and one will observe Mahayana Buddhist New Year. Two per cent of students polled are Jewish and both will celebrate Hanukkah, but Olivia Luyte will also observe Christmas: "My parents are from different religious backgrounds – we celebrate both."

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

WWW.MAGAZINE.UTORONTO.CA
PHOTO: JASON SHUM

Proof of Genius

Only the *very* best math students excel in the prestigious Putnam competition



IT IS THE STANLEY CUP FINALS for
North American math students –
a competition so prestigious that a
successful score is virtually a ticket
to postgraduate studies at an
elite university. The University
of Toronto has an illustrious track
record at the William Lowell
Putnam Mathematical Competition,
a contest that dates back to 1938.
U of T teams always make it into
the top 10, and have finished in the
top five 31 times, including four
firsts – the inaugural competition
among them.

Two former U of T students – Ravi Vakil (BSc 1992 TRIN, MSc 1992), now a Stanford professor, and J.P. Grossman (BSc 1996 TRIN), who works for D.E. Shaw Research in New York – have earned the distinction of Putnam Fellow for placing among the top five individuals in a given year. The honours come with a \$2,500 prize. U of T's Victoria Krakovna took the \$1,000 Elizabeth Lowell Putnam Prize for top female participant in 2008.

While about 50 U of T students planned to write the test in early December (there were more than 4,000 competitors in total, from across Canada and the U.S.), U of T math prof Ilia Binder also selects a three-person team to represent the university. This year's team will be led by fourth-year math student Alexander Remorov, who was born in Moscow and moved to Canada when he was 12. (The other two members are Keith Ng and Jonathan Zung.) Remorov has written the Putnam competition three times, ranking 27th overall last year. He credits his problem-solving ability to the rigorous training provided in Russian middle schools. "They push you a lot."

But Putnam veterans also know that strategic savvy helps when it comes to placing well in the competition. Spread out over two three-hour sessions, the test consists of 12 problems, each of which is scored out of 10. But according to Putnam tradition, the markers will assign scores either in the 8 to 10 range, or from 0 to 2. In other words, you don't get much in the way of part marks for a good try.

Remorov says the answer to some problems is almost immediately apparent (to him, at least), and can be written up in an elegant proof in just a few minutes. Others, however, can consume an hour of hard thinking. "Six hours seems like a long time but it is actually more of a speed competition," he muses. In fact, some participants have been known to be selective about what they answer, aiming to maximize their score by getting full marks on a handful of problems rather than minimal marks on several.

Last year, Remorov took a run at 10 and ended up solving a highly respectable eight. "It's very hard to solve all 12," he adds, noting that fewer than 10 participants in the 73-year history of the competition have achieved a perfect score. - JOHN LORING

A Head Start for Global Journalists

U of T is partnering with five top media companies to foster a new kind of reporter

The Munk School of Global Affairs is partnering with five major media organizations to open a new path into global journalism for people with advanced knowledge of specific subjects.

Starting in September 2012, the Munk School Fellowships in Global Journalism will teach 10 subject-matter specialists how to cover their own disciplines for media around the world. The program is a partnership with the *Globe and Mail*, CBC News, the *Toronto Star*, Postmedia Networks and the Thomson Reuters Foundation. It's led by Robert Steiner, a Pulitzer Prize finalist who was U of T's assistant vice-president of Strategic Communications from 2006 to 2010.

The program serves a growing demand for reporters with advanced expertise to cover complex beats for international media, Steiner says. "Someone who really knows a subject should be able to own their beat worldwide," he explains, "but you need three things most J-schools don't offer: Deep knowledge of a specialty, experience reporting for diverse clients and entrepreneurial discipline."

So, while traditional journalism students take classes for two years and work as interns for three months, Munk School Fellows will spend eight months freelancing with the program's media partners and others including the BBC and the *Financial Times*. Fellows will also be mentored by their bureau chief and take seminar-style courses in journalism skills, entrepreneurship and global affairs.

All this complements U of T's 50 years hosting the Canadian Journalism Fellowships at Massey College. CJF Fellows are mid-career journalists who study a specialty at U of T, Steiner notes, while "Munk School Fellows will be specialists who come to U of T to start as journalists."

Visit www.munkschool.utoronto.ca/ journalism

PHOTO: LORNE BRIDGMAN WINTER 2012 15

Life on Campus

| U of T's First-Rate Rankings | | | () | | | K | |
|--|------------------|------------------------|------------------|-----------------|------------------|-----------------|--|
| | U of T | | UBC | UBC | | McGill | |
| | (\$) | * | ⑤ | * | (5) | * | |
| Shanghai Jiao Tong University's Academic Ranking of World Universities | 26 th | 1 st | 37 th | 2 nd | 64 th | 3 rd | |
| Times Higher Education World University Rankings | 19 th | 1 st | 22 nd | 2 nd | 28 th | 3 rd | |
| QS World University Rankings | 23 rd | 2 nd | 51 st | 3 rd | 17 th | 1 st | |
| Higher Education Evaluation Accreditation Council of Taiwan Performance Ranking of Scientific Papers for World Universities (HEEACT) | 9 th | 1 st | 29 th | 2 nd | 36 th | 3 rd | |

Autumn is university rankings season, and this year U of T laid claim to top-30 places on four of the most prestigious of these rankings, shown here. In three of the four, U of T was the highest ranked university in Canada. QS World University Rankings also evaluates universities in 26 specific subject areas. U of T earned a top-20 ranking in most of them, and placed among the top 10 in English, modern languages, philosophy, computer science and statistics.

Phil Baty, editor of the Times Higher Education World University Rankings, says its list of top 200 universities represents approximately the top one per cent of higher education institutions worldwide. U of T had placed 17th in its rankings last year; however, "securing a place once again within the top 20 is an outstanding achievement," says Baty.

U of T's Scientific Heritage

Two students have collected hundreds of the university's 19th- and early 20th-century scientific instruments

THIS GLASS BOTTLE, KNOWN AS A CROOKES TUBE, is actually a distant ancestor of the television. Purchased by the University of Toronto early in the 20th century, it's a simple yet elegant demonstration of cathode rays: electrons are projected at the small metal cross, casting a shadow inside the glass. A small nudge tips the cross over, but its afterimage remains. The same principle was the basis for the tubes that still power millions of televisions.

The Crookes tube is one of hundreds of 19th- and early 20th-century scientific instruments being collected, preserved, photographed and catalogued by the U of T Scientific Instruments Collection (UTSIC), which is dedicated to preserving such pieces of the university's scientific heritage.

"There's a real culture of newness in science departments," says Ari Gross, a PhD student with the Institute for the History and Philosophy of Science and Technology and director of collections with UTSIC. The nature of scientific research means there's a constant churn of new gadgets coming in, and old ones being unceremoniously turfed. Such treasures lurk in basements all over campus.



At the moment, the project operates with almost no funding, subsisting on borrowed space and volunteer labour. "We're just a couple of dudes in a basement," jokes Erich Weidenhammer, a history of science PhD candidate and Gross's co-director (though there are about 20 volunteers in total). But as UTSIC builds its collection, it hopes to receive official status within the university, so it can research the collection more thoroughly and make it more available to students. "These are important parts of the university's history," says Gross, surveying the shelves. Weidenhammer adds: "They look pretty cool, too." – **GRAHAM F. SCOTT**



Soldiers' Tower Carillon originally had 23 bells. But additional bells were donated in memory of U of T members who died in the Second World War, bring the total to 51

Restoring Soldiers' Tower

After years of gradual wear and tear, the 87-year-old monument has received some much-needed TLC

On a storied campus such as U of T's, there are several places where one can observe the imprint of history. But few are as touching as Soldiers' Tower, which honours the members of the university community who died in both World Wars. Now, after years of gradual wear and tear, the 87-year-old monument has received some much-needed TLC.

The major restoration started in 2010, and entailed both new structural supports for the four pinnacles and cosmetic enhancements for eroded stonework. The clock, one of the few wholly mechanical tower clocks in Canada, was also restored. The major portion of this work was, fittingly, finished in time for Remembrance Day.

The Soldiers' Tower project was made possible with significant alumni support: more than 5,100 donations have been made since fundraising started in 2002. Several dozen donors gave more than \$1,000, and Blake Goldring contributed \$100,000. The McLean Foundation gave \$25,000 for carillon recitals to continue during the restoration. Funds were also provided by the U of T Alumni Association, Hart House and the Department of Facilities and Services.

\$840,000 has been raised thus far, and the Soldiers' Tower Committee still seeks donations to complete the project which will include restorations near the ground level and to the Memorial Wall. - SARAH TRELEAVEN

To make a donation, please contact Kathy Parks at 416-978-0544 or soldiers.tower@utoronto.ca.



People

A U of T professor and a PhD student have earned prestigious Fulbright Awards, which foster scholarly exchange between the U.S. and other countries. U of T Scarborough professor Andrew Stark, who also teaches at the Rotman School of Management, has earned a Fulbright Scholar Award and will

spend nine months at Columbia University. He will be conducting research on U.S. intellectual property conflicts, and will explore them as a series of problems in philosophy. Steven Hoffman (JD 2010, MA 2010) has received a Fulbright Student Award to Harvard University where he will pursue a PhD. His research is focused on global health.

Chemistry professor Geoffrey Ozin has won the renowned Albert Einstein World Award of Science,

which recognizes scientific and technological research that benefits humanity. Ozin is one of the architects of nanochemistry (the driver of today's nanotechnologies), and has pioneered studies of new classes of nanomaterials, mesoporous materials, photonic crystals and more. The judging committee was composed of such eminent scientists as 25 Nobel laureates.

Mary Jane Esplen, a professor in the department of psychiatry,

Faculty of Medicine, and nursing, received the Canadian Association of Psychosocial Oncology (CAPO) Life Time Achievement Award. CAPO is dedicated to the study of all aspects of cancer. Esplen is head of the Psychosocial and Psychotherapy Research in Cancer Genetics program at the Toronto General Research Institute, director of the de Souza Institute and an associate scientist at Mount Sinai Hospital's Samuel Lunenfeld Research Institute.



"My scholarship gave me so many opportunities at U of T. I took my nursing skills to Haiti and I'll be volunteering again soon with Doctors Without Borders. Donors like you make this possible."

KARINE GODBOUTMaster of Nursing, 2012

BOUNDLESS IMPACT

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Leading Edge

They light a fire, and then stand back and let you grow

Businesswoman and alumna Mallika Das on the value of U of T's "technopreneur" program p.20



Scanning the Arctic Skies

Clear and dark during the winter, Canada's North is the perfect place for a new U of T astronomy project

RESEARCHERS FROM THE DUNLAP INSTITUTE for Astronomy and Astrophysics are taking the search for other worlds to a new frontier: the Canadian Arctic. Beginning in January, astronomers for the first time will use the long, dark winter in the country's Far North to search for planets circling other stars

and unravel the mysteries of such fleeting cosmic phenomena as supernovas.

The project takes advantage of the hundreds of hours of continually clear, dark skies during the Arctic winter to make observations not possible during the short and sometimes cloudy nights at lower latitudes where the world's leading observatories are located. "We're learning how to do astronomy in the Arctic and we've got our eyes on doing much larger things in the future," says Nicholas Law, a Dunlap fellow.

Law and his colleagues will use a super-sensitive digital camera to photograph a wide swath of sky around Polaris, the North Star. Next winter, researchers plan to add a \$100,000, half-metre telescope that will record 50,000 star-filled images during the four months of Arctic night. Both devices will be >

PHOTO: THOMAS KUHN WINTER 2012 19



located at the Polar Environmental Atmospheric Research Laboratory on the west coast of Ellesmere Island at 80 degrees north, but can be sent instructions from Toronto and adjusted robotically.

Prof. Raymond Carlberg, a co-investigator on the wide-field camera, is especially interested in nearby supernovas and how they develop. Because supernovas tend to flare up suddenly and fade quickly, usually within a few weeks, large observatories often miss them; they focus for extended periods on precise, predetermined targets.

The Arctic wide-field camera will initially record two images every minute spanning about one-fiftieth of the entire sky (many times what a large observatory covers). Future versions of the camera will cover as much as one-quarter of the sky. If a supernova flares, the U of T researchers should be able to track it back in time by examining previous images. "Supernovas are one of the best tools we have for understanding dark energy," says Carlberg. "We need to better understand their physics."

The Arctic camera and telescope will also be used to search for other worlds orbiting stars in our own neighbourhood of the Milky Way galaxy. Law intends to concentrate on M-dwarf stars, which are substantially smaller than our sun. "These stars are so small that a planet passing in front of them creates a bigger proportional drop in the light transmitted thus making detection easier," he says.

Carlberg contrasts the low-cost but pioneering Arctic observatory to big-ticket astronomical projects, which can take decades to get underway: "That's the beauty of these small things. We can talk to a few people and get going. And we can involve students in a more substantial way."

- PETER CALAMAI

Business Boot Camp

U of T's "technopreneur" program gives scientists such as Mallika Das a crash course in running their own company



for protection from the ravages of water and ice, $wood\ products\ are\ often$ treated with volatile organic compounds and other chemicals that can be toxic to human and animal life. But Mallika Das, an entrepreneur who earned a PhD in chemistry from U of T, is using nanomaterials to develop a new kind of water-repellent wood coating that she says will be easier on the environment.

Her fledgling company, Ecoatra, is also exploring antimicrobial treatments for windows and the idea of coated nets, which can slightly raise or lower the temperature and humidity over a small area. Das hopes such "smartnets" could be used as a low-cost alternative to greenhouses in developing countries.

Das was a scientist with good ideas but no experience running her own business when she entered Techno 2010 – a sort of entrepreneur's boot camp offered at U of T's Institute for Optical Sciences. The course stretched across an intense summer month, taking up most of her evenings and weekends. Within half a year, however, she'd started her own company, and has been growing it full time ever since. "This company wouldn't be in existence if I hadn't gone to this course," says Das.

The course for "technopreneurs" is the brainchild of Cynthia Goh, the director of the Institute for Optical Sciences. The program gives young scientists and engineers a crash course in technology development and business, including finance, marketing and human resources. In Das's case, it also brought her idea to the attention of the Ontario Centres of Excellence, which focuses on the commercialization of research. The group gave her a small grant that helped her hire two staff members. "Seed money can be very useful," she says. "It wasn't a lot, but it gave us a chance to go for this."

Das sees herself in business for the long term – and says the Techno 2010 mentorship was particularly important to her development. "They light a fire," she says, "and then stand back and let you grow." - ALISON MOTLUK

LINGO gazunder







This dramatic-sounding verb was coined in the British real estate market to put a name to the tense situation in which a buyer threatens to walk away from a deal unless the seller agrees to a lower price. (Its etymological siblings, which describe other forms of reneging, are gazump and gazang;

see wordspy.com for definitions.) Glen Whyte, a professor of organizational behaviour and human resources management who teaches negotiations at the Rotman School, says less of this shadiness occurs in the Canadian property market. Unlike in the U.K., offers are typically accompanied by a deposit and a short time frame in which to accept.

Once the cheque is deposited, potential gazunderers in this country (as well as gazumpers and gazangers) are obliged to honour their commitments at the risk of losing their deposit and possibly being sued.



THE BIG IDEA

Protecting the Jobless

How should employment insurance be reformed?

IN RECENT DECADES, the Canadian labour force has undergone a dramatic transition. Globalization, the regional resource boom, the influx of new immigrants to big cities and the growth of part-time work have all brought about significant changes to the Canadian labour force – and to the nature of work itself. Given that recent economic turmoil has further complicated the picture, policy-makers should now be taking a close look at whether the country's employment insurance (EI) system has kept pace, according to a report by the Mowat Centre at the School of Public Policy and Governance. Indeed, the question is whether EI benefits are still doing what they should to support the unemployed as they seek new work, and whether these benefits are making a contribution to the Canadian economy.

Matthew Mendelsohn, the director of the Mowat Centre, notes that when the federal government introduced the current version of EI, in the early 1970s, it was responding to an economy built around a stable manufacturing sector and traditional households with a single breadwinner.

The system was also geared to accommodate the seasonal patterns of rural economies, such as the coastal fishing communities in Atlantic Canada. The result: the qualifying

"It would be good, as much as possible, to focus EI on what it's supposed to do" periods for city-dwellers tend to be far longer than for those who live in rural areas. "It was a way for the federal government to funnel money from Ontario to Atlantic Canada and Manitoba as well," says Mendelsohn.

In the intervening decades, the world turned but the EI system did not keep

up. As Mendelsohn points out, the oil and gas economy has buoyed Alberta and Newfoundland. Parts of Ontario, due to global shifts in manufacturing, are looking at structural unemployment that didn't exist between the 1970s and the 1990s. And the ranks of the unemployed now include recent immigrants who live in cities but have difficulty qualifying for benefits because they lack Canadian work experience and struggle along with two or three part-time positions. There are more self-employed individuals who don't pay into the system. And a greater number of older workers are losing their jobs, even though they are not economically prepared to retire, while others are seeing their skills become obsolete.

In November, the Mowat Centre released a detailed assessment of Canada's EI system, with recommendations to make it fairer, more straightforward and more reflective of the 21st-century labour market. The report says that Canada's EI system has become increasingly unwieldy because it encompasses not just unemployment insurance but also retraining and parental-leave policies. In a bid to direct greater benefits to so-called "have-not" provinces, it links eligibility for EI to local unemployment rates.

This last point makes Canada an international anomaly. Research by PhD candidate Vuk Radmilovic found that Canada is the only one of 17 developed nations to use an individual's address and regional unemployment rates to determine the level of benefits they receive if they lose their job. Most other countries calculate benefits using metrics such as age, employment duration and family structure.

Mendelsohn observes that Ottawa could look to another pillar of Canada's social safety net – income support programs for seniors, including the Canada Pension Plan – for clues about how to make EI more equitable to individuals, especially to new Canadians living in big cities and those who subsist on multiple part-time jobs.

He feels that Canadians have become less preoccupied with regional identity in recent decades, and thus would be more receptive to reforms that focus on responding to individuals' circumstances. "Our recommendations are not driven by a naive belief that we are going to develop from scratch the perfect EI system," Mendelsohn says. "But it would be good, as much as possible, to focus EI on what it's supposed to do." – JOHN LORINC

ILLUSTRATION: MARCELO HONG WINTER 2012 21

PROTOTYPE

Is that Mozart or a Machine?

Software developed at U of T can compose music in classical, pop, jazz – almost any style



STEVE ENGELS CLICKS ON A FILE on his desktop and a classical piano piece flows out of his computer's speakers. He lets it play for a minute or so, and then clicks on a different file. After a short wait, another very similar piece begins to play, echoing but not replicating the original.

The first piece was composed by Johann Sebastian Bach. The second was composed by a computer imitating the Bach piece.

With time, a classical music aficionado would be able to detect differences between the two: the computer piece lacks an overarching structure and there's no sense of a musical idea being developed. But it is a surprisingly good imitation - and that's exactly what Engels, a senior lecturer in the department of computer science, and Daniel Eisner (BASc 2010) designed the program to do. "This tool allows people to find a piece of music they enjoy. They feed it into the software. It analyzes it, and generates music in the same style in real time, forever," Engels says.

To accomplish this, the program makes a statistical analysis of the original piece of music. Then, for each note it plays, it can predict the

likely value of the next note - including its pitch, duration and where it falls on the beat - and choose the next note based on those odds. That note becomes the basis for the next note, and so on until the program is stopped. Similar rules allow it to choose appropriate chords, and even to make sure two musical "voices" - equivalent to the different parts played by two hands on the piano – don't clash.

Eisner, who plays piano, saxophone and bassoon and also composes, says that the resulting music lacks the structure that a human composer or improviser would provide. But the music retains the flavour and character of the original. So far the program has reproduced ragtime, classical, jazz and pop, and it can do it either as a solo or as an ensemble of different instruments.

The two made a presentation about the program to the Game Developers Conference in San Francisco in March, figuring it might be useful for generating background music for video games. One of its advantages is that it can segue seamlessly from one type of music to another, which would be useful when a character transitions from one part of the game to another.

Eisner says other programs have used similar methods. But all those that he's aware of have tried to generate music by programming in higher-level

concepts, such as

plays, it can predict of the next note its pitch, duration and where it falls

scale and chord construction, and by using pre-set rules rather than by letting the program simply predict one note at a time. But Eisner and Engels say the simple approach seems to work best.

Eisner isn't sure if computers will ever make music to rival human composers: Music obeys mathematical rules, which computers are good at, but music is also an emotional expression, and machines are poor at mimicking that. - **KURT KLEINER**

Findings

This Won't Hurt a Bit!



The days of the traditional blood-sample routine may be numbered thanks to a new analysis method requiring only a pinprick, developed by Prof. Aaron Wheeler of the Institute of Biomaterials and Biomedical Engineering.

In traditional blood sampling, several millilitres of blood are extracted intravenously. An alternate method requires only a pinprick to extract a few microlitres, which are then blotted onto filter paper and stored as dried blood spots. While this technique has been gaining in popularity, analyzing the samples is laborious: technicians must manually collect, prepare and examine each sample.

Wheeler, the Canada Research Chair in Bioanalytical Chemistry, says his "digital microfluidics" platform automates the analysis so little manual intervention is needed. He has applied for a patent and is exploring how to commercialize the process.

- SACHIKO MURAKAMI

Roar of the Ancients



U of T archaeologists working in southeastern Turkey recently unearthed the remains of a monumental gate complex adorned with stone sculptures, including a magnificent carved lion. The gate complex provided access to a citadel in the capital of an ancient kingdom (circa 950-725 BCE).

The lion is fully intact, 1.3 metres in height and 1.6 metres in length, and is poised in a seated position, roaring, says Timothy Harrison, a professor in the department of Near and Middle Eastern Civilizations and director of U of T's Tayinat Archaeological Project.

Harrison notes that the discovery provides valuable insight into the cultural sophistication of the small Iron Age states that emerged in the eastern Mediterranean following the collapse of the great civilized powers at the end of the second millennium BCE.

- SEAN BETTAM

For each note it

the likely value

on the beat



A proposal in 1968 by renowned American inventor Buckminster Fuller suggested building a 20-storey glass pyramid on Toronto's waterfront



Lakeside Views

What principles should guide how a city develops its waterfront?

The question of how to develop Toronto's waterfront has dogged city politicians for decades. Mayor Rob Ford and councillor Doug Ford recently weighed in with their own proposal, but backed down after a storm of criticism from concerned residents. *Uof T Magazine* editor **Scott Anderson** asked **Susannah Bunce**, a UTSC geography professor, about the principles behind good waterfront development.

Which cities should we be using as models for waterfront development? Chicago has been especially good at attracting architecturally unique buildings, such as Frank Gehry's concert theatre in Millennium Park. Certain parts of London's Riverside development, such as the South Bank area, have successfully regenerated former industrial spaces into cafés, galleries and residential uses. From a visitor's perspective and based on aesthetics, I think that Chicago's Millennium Park and Copenhagen's Canalside are very attractive and engaged places.

How does one judge whether a waterfront is "successful"?

Attractive buildings, mixed-use spaces and large parks with interesting design elements are all hallmarks of good redevelopment. Liverpool's Albert Dock, for example, is a strong example of how to develop old port buildings into mixed-use spaces: It has tourist attractions, such as the Merseyside Maritime Museum, which represent the city's historical role as a major port, and the Beatles Museum, a nod to the city's modern cultural influence. Successful development gives local citizens an ongoing role in shaping and using waterfront spaces in socially and environmentally just ways. For example, affordable housing in mixed-use development is important to create a socially inclusive waterfront.

What do think of Waterfront Toronto's plan? The positive element of Waterfront Toronto's plan is the emphasis on sustainability and implementing LEED ratings. The agency seems to be committed to public space development and



ecological restoration, such as naturalizing the mouth of the Don River. But the plan relies too much on private sector investment and the sale of public lands to private developers.

Is there anything inherently wrong with wanting to put a shopping centre or a tourist attraction in the Port Lands?

These types of decisions should be left to the people who live

near the Port Lands. A large mall might well draw business away from nearby neighbourhoods. On the other hand, it's possible that nobody would visit it because there are other malls closer to where they live. I question the relevance of tourist attractions for the everyday lives of people in Toronto; they are also often expensive to visit.

The Fords have criticized the slow pace of development. What can be done to speed things up without casting aside the whole plan? It might be possible to speed up plans for the public land, but with the current downturn in real estate development and global economic concerns, Waterfront Toronto's reliance on private-sector investment makes it more difficult to create quick mixed-use development with the specifications that it has formulated – such as adherence to LEED ratings on all new buildings.

Should a 30-year plan not be subject to change as new ideas emerge or conditions change? Waterfront Toronto's vision has changed since its inception. Initial discussions pointed to the Port Lands as one of the first sites for redevelopment and then, due to environmental remediation challenges and jurisdictional constraints, it became the third area for redevelopment following the West Don Lands and East Bayfront districts. Plans usually change based on market fluctuations and changes in vision, so it is possible that Waterfront Toronto's plans will change again until their mandate for redevelopment is complete.

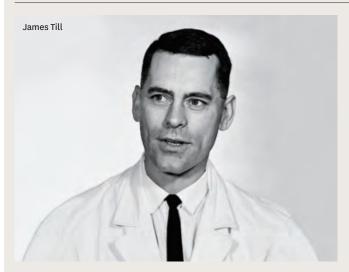
Read a longer version of this Q&A at www.magazine.utoronto.ca.

PHOTO: ANDREW BADGLEY WINTER 2012 23

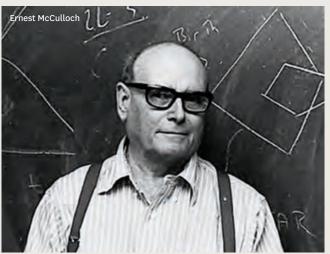


In Northern Ontario, old men are often called *guffers*, self-important people are *mucky-mucks* and a lively party is a *wingding*

Stem Cell Pioneers



They have been called the most important partners in Canadian medical research since Frederick Banting and Charles Best, the co-discoverers of insulin in the 1920s. Unlike Banting and Best, however, James Till and Ernest McCulloch (MD 1948) remain largely unknown outside their field. This is both surprising and a shame, says Ottawa writer Joe Sornberger, who has written the book, *Dreams and Due Diligence: The Discovery and Development of Stem Cell Science by Till and McCulloch* (University of Toronto Press). Sornberger points out that the discovery, 50 years ago, of blood-forming stem cells by these U of T scientists "stands as one of the most remarkable medical-research achievements of the 20th century."



Indeed, their discovery quickly led to the use of bone marrow transplants in leukemia patients, saving countless lives.

Till and McCulloch's legacy extends far beyond their groundbreaking discovery. Sornberger notes that the accomplished duo trained younger U of T medical researchers such as Tak Mak, a professor of medical biophysics who discovered T-cell receptors, and John Dick, a professor of molecular genetics who discovered cancer stem cells. Indeed, Dick was in the news recently for isolating – for the first time – a single human blood stem cell. Dick says the discovery is key to maximizing the potential of stem cells for use in clinical applications. – SCOTT ANDERSON

I'll Rassle You for a Dozen Up!

Small-town Ontario English preserves older terms that have fallen out of use in the province's larger cities

IF YOU TAKE YOUR PACKSACK to the game of shinny, before going out to party hardy, you likely grew up far from downtown Toronto, perhaps in a northern Ontario town.

New research by Sali Tagliamonte, a linguistics professor at U of T, reveals how remote towns and villages in the province tend to preserve older terms (such as "up" for "draft beer") that have fallen out of common use in urban settings, such as Toronto, where newer words originate.

For her research, Tagliamonte and students Jingwei Chen, Julia Chin and Ruth Maddeaux conducted more than 100 interviews with residents of Temiskaming Shores and Kirkland Lake in Ontario about their experiences growing up.

In preparation for the fieldwork, Tagliamonte arranged visits to schools, retirement homes and community centres so the students could identify interview candidates. Their visit bore some interesting results. "We found features of English that are indeed old," says Tagliamonte.

The word "chesterfield," for example, can be traced back to the U.K. and is more commonly used than the words "sofa" or "couch," which are preferred by Toronto urbanites. "Northern Ontario offers a rich dialect heritage," Tagliamonte says. "People don't realize how much Canadiana is preserved intact in the north country."

For their part, the students learned the importance of meticulous detail in linguistics research. "We spent a month transcribing the stories verbatim," says Chen. "You include every 'oh,' 'ah,' false starts...everything. For every hour of interviewing, you spend 10 hours transcribing." - SEAN BETTAM





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SAVING LIVES, ONE DEATH AT A TIME

What one of the world's largest mortality studies is teaching us about public health

by MARCIA KAYE



n their quest to track health patterns across populations, epidemiologists often call themselves "disease detectives." Not Dr. Prabhat Jha. He uses a somewhat more radical term to describe the work that he and his team are doing. "I like to think of ourselves as epidemiological terrorists," he says jovially. "We blow up assumptions."

Here's one example. It concerns malaria, a disease that the West doesn't pay much attention to. The World Health Organization (WHO) had long been reporting that in India, malaria claims 15,000 lives a year – a significant but not overwhelming loss in a nation of more than a billion people. But Jha learned that the WHO figure was based solely on patients who receive proper diagnoses from clinics or hospitals. Jha, who was born in India, was well aware that such a statistic would exclude many rural and poor Indians with no access to formal medical care. So, more than a decade ago, he set out to design a different system for gathering data. The Million Death Study, which Jha launched in 2002, began sending trained teams to homes across the country to conduct door-to-door surveys about recent deaths.

This method has produced startling new findings. A paper Jha published in fall 2010, for example, indicates that the death toll from malaria is an astonishing 200,000, or 13 times the WHO estimate, most of them adult deaths. And that's just India. Jha believes that many other countries, especially in Asia and Africa, may similarly be basing their public health policies on incorrect statistics. "Deaths from malaria in our view have been vastly underestimated worldwide," Jha says, suggesting a total death toll of close to 1.3 million – 50 per cent higher than the WHO's estimate. Jha believes that at least 200,000 malaria deaths among adults in Africa currently go unreported.

Here's another widely held assumption that Jha is challenging: the United Nations had been reporting in the mid-2000s that 400,000 people in India die of HIV-AIDS every year more than any other country. The numbers had been based on clinical testing for HIV in young pregnant women. But Jha's team found that the figure is likely far lower, probably closer to 100,000. That's good news, especially as Jha has published widely on HIV-AIDS prevention. But if malaria kills twice as many people as HIV-AIDS, why does malaria receive only a fraction of the attention? Jha is determined to redress that inequity. "HIV-AIDS is something we treat, but malaria is something we cure," he says, citing the now-standard combination drug therapy that can cure malaria if given promptly. The drugs are free in Indian public clinics and affordable in private ones. "Those malaria deaths should not occur. That's why these findings are exceedingly important. What gets measured is what gets done."

The findings on malaria and HIV-AIDS are only part of Jha's Million Death Study, one of the largest studies of mortality ever undertaken anywhere in the world. Jha, the founding director of the U of T-affiliated Centre for Global

Health Research, created and designed the study to focus on India - a country that doesn't require death registration and where most deaths occur at home without medical attention. Jha believed that visiting individual households and talking directly with family members was the only way to acquire the necessary information about how loved ones died. Not that he's obsessed with death, he points out, so much as with death numbers. "People say to me, 'Don't you do depressing work, just concerned about deaths?' Actually, no. By studying the dead you can get a real sense of the opportunities of life. The best investment for the health of the living is to count the dead." Indeed, it was the data on lung cancer deaths in the West in the 1930s and '40s that led to the link with smoking, and it was the statistics on unusual diseases killing young men in California and New York in the early 1980s that led to the identification of HIV. Public health measures ensued, preventing millions more deaths.

Jha, the Canada Research Chair in Health and Development at U of T's Dalla Lana School of Public Health and the university's Inaugural Endowed Professor in Disease Control, has long been fascinated by the power of mortality statistics to drive global health initiatives. Born in the industrial city of Ranchi in central-east India, he immigrated at age six with his family to Winnipeg, where his father worked as a civil engineer (and is now an NDP member of the legislative assembly) and his mother raised Jha and his older brother and younger sister. Jha, with twin interests in medicine and economics, received his medical degree from the University of Manitoba, then a doctorate in epidemiology and public health from the University of Oxford in England, where he studied as a Rhodes Scholar. It was during his time at Oxford that he became aware of the extent of the miseries of the global poor, when world-renowned epidemiologist Sir Richard Peto, Jha's professor and mentor, spoke passionately about the huge burden of disease in developing countries from completely preventable factors, such as tobacco. It motivated Jha to want to research the issues further, and then turn that research into action.

While working in the mid-1990s at The World Bank, whose mission is to provide loans and resources to improve lives of people in developing countries, Jha chose India to study the link between smoking habits and smoking-related illnesses and deaths. Not only did he have a cultural connection, but he was interested in the impact of smoking in a country that was undergoing a massive transformation, with rapid development, increasing urbanization and a growing middle class. Jha discovered that Indian smokers tend to pick up the habit at a later age than smokers in the West. They tend to smoke less, and often still smoke locally manufactured cigarettes called bidis that contain only one-quarter of the tobacco of western commercial brands. Were Indian smokers therefore causing less damage to themselves than smokers in the West? While smoking mortality studies had been done in developed countries, no one knew the health impact of smoking in India.

Jha met with India's registrar general, whose government department oversees that country's census, to suggest a simple proposition: include a mention on an individual's death certificate of whether the deceased was a smoker or a nonsmoker. But with only about 20 per cent of India's estimated 10 million annual deaths reliably registered, millions of people would still be missed. How, then, to reach those next-of-kin to ask about their deceased loved ones? "That's when we came up with the idea to apply verbal autopsy," Jha says.

Verbal autopsy involves asking family members about the events that preceded the death. Countries have long relied on information gathered through in-person household surveys. Such a method in India could go far beyond asking about smoking habits, Jha realized, and inquire about a range of signs and symptoms involving every deceased below age 70. (The cause of death among older people is more complex to ascertain, as there are often multiple symptoms.) This method had never been used on the scale Jha envisaged. Death is such a formidable event, he says, that it stays imprinted in people's memories. "Just think back on your own family experience of death, and you'll find you remember the details even years later," he says. When he asked his own grandmother, who lived in a rural village in India, about how his grandfather had died 20 years earlier, she recalled the details so vividly that Jha immediately identified the classic symptoms of a stroke.

India already had a "sample registration system," in which government-paid census takers would make monthly visits to each of about 200 homes in their district to ask about births, deaths and other changes in the household. Every six months an independent surveyor would repeat that work, to confirm the accuracy. Piggybacking on that system, Jha designed the Million Death Study to use those twice-yearly surveyors and train 800 of them to do verbal autopsies in 7,000 districts across the country. Their completed questionnaires would then be sent to two of 130 physicians to establish a probable cause of death. In case of disagreement, a senior physician would be the final arbiter.

Jha says the study, which coded 300,000 deaths in its first five years, has exceeded his expectations. The participation rate of the communities is close to 100 per cent – at least as high as Canada's response rate of 98 per cent in the 2011 census. Jha, who speaks Hindi and who has accompanied field staff on home visits, says communities have been quick to recognize the legitimacy of the study. While residents may be leery of a drug company rep, they trust the government field staff who tell them upfront that while the study probably won't be of direct help to the respondent, it may help identify health priorities that will benefit the community and may improve their children's or grandchildren's lives. Households become willing participants, offering warm hospitality and cups of chai. Jha says that in a sub-study of selected households on blood pressure, the participation rate was 105 per cent. "The neighbours showed up, clamouring over each other to say, 'Why aren't you including us?' So we just included them all." He adds that Indians also respond well to the study's connection with the University of Toronto, an institution they respect that's situated in a city where everyone, even those in the smallest Indian towns, seems to have a cousin.

Since 2005, the Million Death Study has produced 15 publications in major medical journals such as the Lancet, the New England Journal of Medicine and the British Medical Journal, as well as four major reports in both India and Canada. The publication of each new finding has resulted in a hail of publicity, with crowded media conferences, TV reports and front-page headlines in India and beyond. Smoking was named a much bigger risk than previously thought: Jha combined his own findings with government statistics to report that 70 per cent of smoking-related deaths occur in middle-aged people aged 30 to 69; even a few bidis or cigarettes a day may be lethal; smoking is a leading cause of tuberculosis; and oral cancer, highly related to smoking and chewing tobacco, is higher in women than men. Citing these results in Parliament, the country's health minister successfully introduced warning labels on cigarette packages, soon followed by higher tobacco taxes.

Jha and his researchers also found that while selective abortion of females following prenatal sex determination is growing in this country that favours boys, families generally don't act on it with the first pregnancy. If that child is a boy, families will often happily accept a second child of either sex. But if that first child is a girl, a significant minority, especially among educated wealthy families, will opt for selective abortion with the second pregnancy in their quest for at least one boy. The study, to which media outlets attached the headline "Ten Million Missing Girls" (now up to an estimated 12 million over the past 30 years), has caused an ongoing heated debate in India that has reached into popular culture, Jha says. "The Indian soap operas have started covering this issue, with the strong-willed pregnant daughter-in-law resisting pressure from her equally strong-willed mother-in-law and the husband in between." He adds that evidence is emerging, partly as a response to the debate, that the practice has begun to slow in the northern states.

Among the most recent findings from the Million Death Study: the number of suicide deaths in India has been underestimated, especially among the 15-29 age group; unintentional injuries such as drowning kill more than 82,000 children under five every year, which is up to three times more than previously thought; and simple, affordable prenatal care could prevent one million newborn deaths caused by prematurity, infections and birth trauma.

The study has raised not only awareness but also controversy, particularly with regard to the malaria findings. The World Health Organization, whose malaria numbers looked like an embarrassingly low underestimate, came out with a statement asserting that while verbal autopsy may be efficient for some causes of death, it's poor at differentiating malaria from other fever diseases, such as septicemia, encephalitis or pneumonia. Nata Menabde, the WHO's representative in India, told reporters, "The new study uses the verbal autopsy method, which is suitable only for diseases with distinctive symptoms and not for malaria."

But other specialists have hurried to the study's defence. Dr. N.K. Ganguly, the former director of the Indian Council of Medical Research, says that while some may question the reliability of verbal autopsies, there's no denying that the results correlate with local doctors' reports as well as with the seasonal variability of mosquitoes. And Dr. Roger Glass of the U.S. National Institutes of Health says, "It's important that we not underestimate malaria deaths, particularly among adults living in rural areas." He adds that the study indicates that population-based disease surveys are valuable. Jha, who in the early 1990s served as senior scientist at WHO, says that the Indian government has now set up an independent

task force to verify malaria deaths. He adds, "I think they'll come up with something much closer to our estimate than the WHO estimate, and that in turn will get the government to say, 'We should do something about it."

The Million Death Study is scheduled to continue until 2014, but Jha predicts that because the data-gathering system is solidly in place, data collection will continue well beyond that year, eventually coding many more than one million deaths. He expects future findings may cover health data that have previously gone unnoticed or under-reported. For instance, although coronary heart disease is considered to be the leading killer in wealthy, developed countries, it's also proving to be the number 1 cause of death among poor, rural Indian men aged 30 to 69. Another area of interest is the role that alcohol may play in causing disease or accidental deaths. Alcohol consumption has been difficult to track in India because home production for self-use remains common. The study is also finding that snakebite deaths could be up to three times higher than current estimates, as many victims never make it to a clinic.

Currently logging four or five annual trips to India, Jha, a married father of two school-age daughters, plans to cut those visits back - especially as the Million Death Study becomes more automated and self-sustaining. He plans to turn his sights toward rolling out the program to other countries. The government of South Africa has expressed a keen interest, and several other African countries as well as China are lacking accurate death statistics.

"My dream project would be not the Million Death Study," Jha says, "but the Ten Million Death Study."

Marcia Kaye (marciakaye.com) is an award-winning journalist specializing in health issues.

THE HEALTH **OF NATIONS**

Why improving the well-being of people in other countries should concern Canadians

Global health is an area of study, research and practice that aims to promote the improvement of health of people around the world. It includes the traditional areas of medicine and public health, and now crosses disciplines, engaging researchers in fields as diverse as economics, sociology, management, international development and engineering.

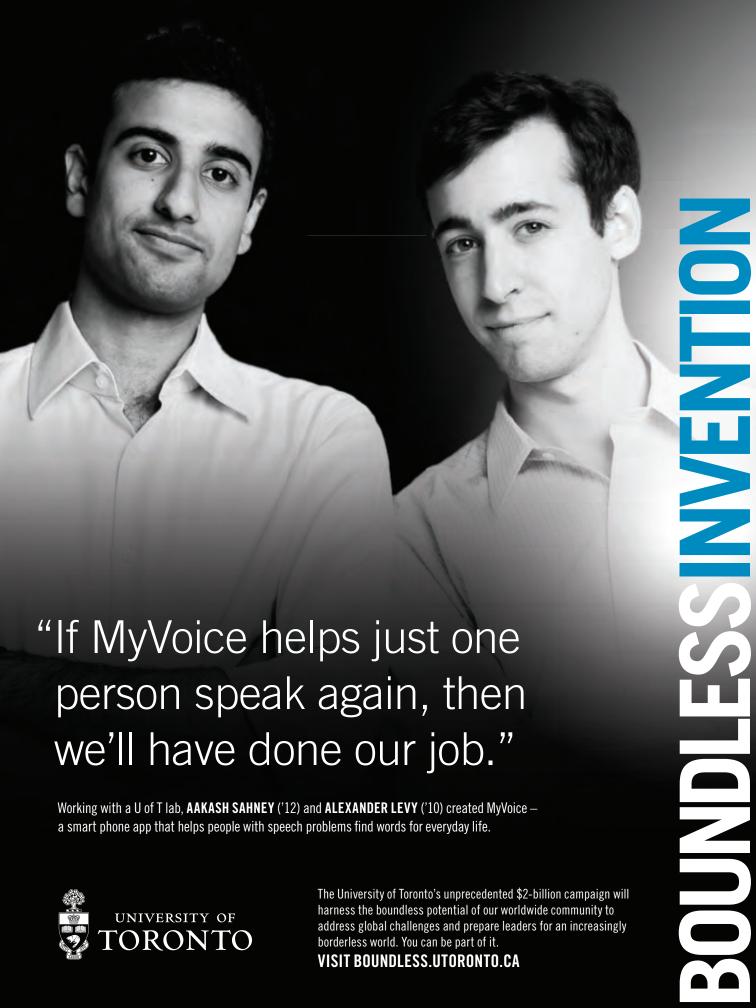
At U of T, the Faculty of Medicine is forging partnerships with other disciplines - and with universities in developing countries. For example, the department of psychiatry has partnered with Addis Ababa University to create Ethiopia's first psychiatry residency program - raising the number of psychiatrists in Ethiopia, a nation

of 90 million, from 11 in 2003 to 41 today.

Global health has its own value in improving the lives of people in other countries. But in today's global economy, the repercussions spread far beyond national borders. Healthier, more stable societies become better business partners, says epidemiologist Prabhat Jha. "Canadian businesses won't get excited about working in countries where there are risks like malaria. Who'd want to go there?" Moreover, Canada, and especially Canadian universities, have a tradition of creating connections with other cultures – and long-term relationships with healthy societies can only improve collaborations that benefit both places, opening two-way doors for students and researchers. "If you think about global markets, it just makes sense for Canada to invest in global health because it improves our prospects," Jha says.

While once focused on epidemics such as smallpox (successfully eradicated since 1979), global health now looks to larger issues such as health equity. That includes improving outcomes for people everywhere, including our own country, says Dr. Catharine Whiteside, dean of U of T's Faculty of Medicine and vice-provost, relations with health care institutions. "We don't separate issues of inequity in certain groups in Canada, such as aboriginal populations or people in lower socio-economic enviornments, from groups in developing countries," she says. "Many of the social determinants are very similar. By addressing those we can transform health care, whether for an elderly Canadian in the inner city or for a mother of several children in Kenya."

U of T is planning to create an Institute for Global Health Equity and Innovation, which, in addition to medicine and public health, will encompass disciplines such as management, global affairs, engineering and bioethics. Whiteside also hopes to enable the Dalla Lana School of Public Health to hold at least two more endowed chairs in health equity, as well as increase the numbers of global health scholars and fellowships. - MARCIA KAYE



A WORLD OF POSSIBILITIES

What's it like to work on the world's largest physics experiment? Or experience the challenges of doing business in India? Or seek justice for women in Kenya? In the following pages, you'll meet seven students, and one recent grad, who are exploring their interests – and contributing to the world – in ways they might never have imagined when they started at U of T

Photos by CINDY BLAŽEVIĆ







Breath of Life

Bev Bradley is developing technology to give hospitals in low-income countries a more reliable supply of medical oxygen

WHEN PATIENTS IN CANADIAN HOSPITALS NEED OXYGEN, they get it. Not so in many low-income countries, where supplies are limited, electricity is unreliable and just to refill an oxygen tank can mean a long drive over difficult roads.

"We take all this for granted," says Bev Bradley, a PhD student who is investigating how to generate and deliver medical oxygen in low-income countries. Oxygen is crucial, among other things, for treating pneumonia – the number 1 killer of children under five in the world.

Bradley, who has been a member of Engineers Without Borders since 2003, has witnessed the dilemma of having to ration oxygen. She has visited the Gambia three times – including once this summer for her doctoral research with U of T's Centre for Global Engineering. In West Africa, about one in five childhood deaths are caused by pneumonia.

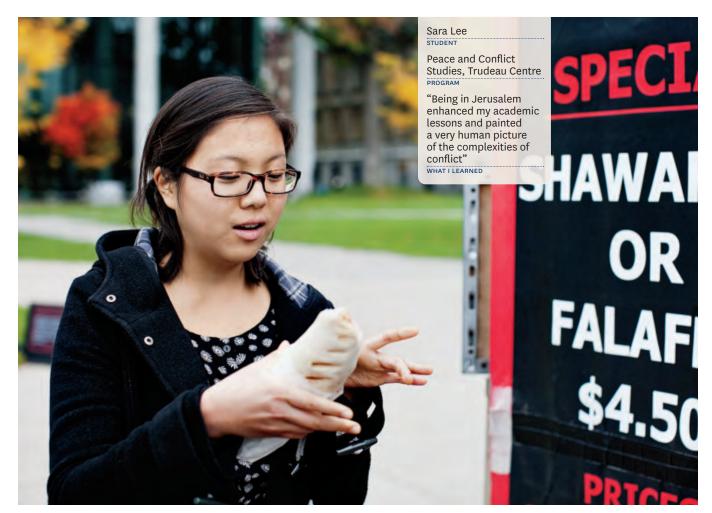
Hospitals in developing countries typically rely on oxygen cylinders, which are heavy, can explode and are laborious to

refill, or on oxygen-generating machines, which require a steady power supply that may not be available. Bradley and a team of Gambian technicians have developed a battery-powered version of this machine that can last up to 20 hours without grid power.

For her thesis, Bradley hopes to research several other options, including solar-powered oxygen generators. But she notes that a one-size-fits-all solution won't work. "It's about understanding the local situation."

The Centre for Global Engineering was founded in 2009 to bring together faculty and students to tackle global engineering challenges such as improved sanitation and cleaner water. While the centre's focus is on the developing world, it aims to devise better, more sustainable solutions for all. Addressing problems in low-income countries "definitely forces you to be more creative," says Bradley.

- ALLYSON ROWLEY



Conflict Zone

In Jerusalem, Sara Lee discovered that everything in Israel connects with the Palestinian question, even the food

IN 2007, SARA LEE entered U of T with a very clear purpose: to become a medical doctor. But in her third year of undergraduate work, she began to yearn for a different kind of educational experience. "I needed to understand how my studies could help me contribute to the world in some way," she says.

Lee's search led her to the social sciences where, after just two courses, she was hooked. She soon switched from life sciences to the Peace and Conflict Studies program at the Trudeau Centre.

This past summer, eager for international experience, Lee completed a summer placement, studying conflict resolution at the Hebrew University of Jerusalem. It proved to be a profound experience – and learning opportunity.

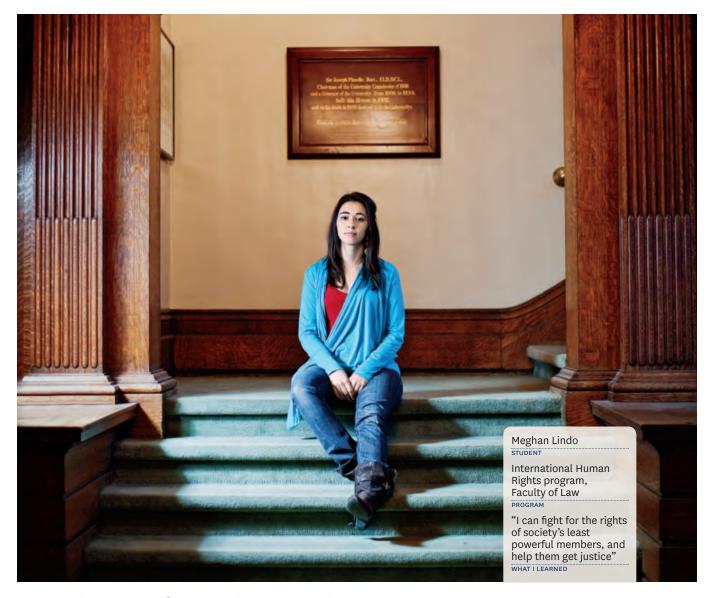
While she studied the causes and meanings of conflict in the classroom, protests were taking place in the streets – some by extreme political groups, some in solidarity for peace. And with flotilla activists docked in the Mediterranean, security levels were extremely high. "It's one thing to learn that conflict is a huge part of Israeli society, but once

you're there you realize *everything* is about the conflict. Wherever you go, you are constantly being searched or passing through metal detectors."

Prior to leaving for Israel, Lee had received a grant to conduct independent research abroad, so she extended her stay to complete in-person interviews. Her research topic was the role of cuisine in the social construction of identity. In Jerusalem, even talk of falafel and hummus leads to deeply conflicting and contentious opinions. Most Israelis voiced the opinion that their national cuisine was borrowed from many different sources. But Arab Israelis were fiercely adamant that the cuisine of Israel had been appropriated from *their* culture. "Being surrounded by such diverse opinions forced me to be less narrow in my thinking," she says.

Lee's goal now is to pursue a MD-PhD, which combines medical studies with graduate research. "I want to study ways in which culture affects cognition and health, and also contribute to the world through the practice of medicine."

- ANNE PERDUE



Rights of Girls and Women

Law student Meghan Lindo worked in Kenya to seek justice for victims of sexual assault

LAST SUMMER, instead of interning at a Bay Street law firm, Meghan Lindo travelled to the city of Meru, in Kenya, where she spent eight weeks helping prepare evidence for legal cases. The cases all involved sexual offenses against girls. Neither the 2010 constitution, which has strong provisions for the protection of women and children, nor a 2006 law against sexual violence is being adequately used to protect girls against rape, says Lindo, who travelled to Kenya under the auspices of the International Human Rights program at U of T's Faculty of Law.

Lindo was working on what has become known as the "160 Girls" project, a set of cases that aims to test these laws. It involves 160 young female victims of sexual assault who are all seeking justice. Lindo and others helped by interviewing victims and their families, collecting evidence from hospitals,

attending court proceedings and documenting events as they occurred.

Lindo interviewed a 13-year-old girl who said she had been sexually abused by a family member. The girl reported the crime to the police, but they refused to record her statement or even the fact that she had come to the police station to report it. "They said at worst it was a case of parental neglect," recalls Lindo. But she and her colleagues documented both the crime and the failure of the police to respond.

The experience has galvanized Lindo. She's always been interested in human rights and child welfare, but the time she spent abroad underscored how important her legal training can be in creating positive change. "I left Kenya with a sense of fulfilment and renewed sense of purpose," she says.

- ALISON MOTLUK



Water, Power and the Boardroom

Rotman's international study tours taught Michael Odam the ins and outs of doing business in low-income countries

THE THIRD TIME power went off in the FedEx boardroom, Michael Odam realized he definitely wasn't in Toronto any more.

The 34-year-old engineer and recent MBA graduate was in New Delhi last May, participating in the first of two international study tours offered by the Rotman School of Management. The tours – his first took him to India; his second, to Brazil and Chile – gave Odam the opportunity to visit at least one city in each country, and to learn about local businesses through visits to banks, manufacturing facilities and service organizations such as law firms and television stations.

Although both regions boast rapidly emerging economies, they still contend with challenges unknown in North America, such as constant power outages. "In a city like Bangalore, people only get potable water for an hour a day," says Odam. "There are 1.1 billion people in India, and 70 per cent of them don't have access to a toilet. You can read about those numbers - but when you're there, experiencing the sights, sounds and smells of a country, it really motivates you to take that experience and try and do something with it."

As a global product manager for General Electric, Odam is now doing just that. (Odam continued to work for GE while earning his MBA through Rotman's evening program.) His job requires him to travel the world, promoting and selling tools that battle water scarcity by treating waste and industrial water, as well as removing salt from ocean water.

Odam says the tours were especially beneficial in that they exposed him to every level of society – not just the white-collar world. On a visit to Mumbai's Dharavi slum, made famous in the movie Slumdog Millionaire, he was able to observe local recycling programs. And in an impoverished area of São Paulo, he attended a soccer game put on by the Gol de Letra foundation - an educational NGO started by two famous Brazilian athletes.

Born and raised in Peru, Odam came to Canada when he was 16. "At first I thought there was no need for me to do a study tour in Latin America," he says. "But you realize that even locals don't get this kind of access to various companies: to spend time with people, listen to presentations and get questions answered." - CYNTHIA MACDONALD



Neighbourhood Watch

Students in U of T Scarborough's City Studies program learn first-hand how local immigrants are adapting to life in Canada

FARRAH CHANDA ASLAM was born and raised in Toronto's east end. But it was a U of T Scarborough city studies course that opened her eyes to the experiences of Canadian newcomers in the Kingston-Galloway/Orton Park neighborhood not far from campus.

As part of the course, Aslam did a placement at Newcomer Services for Youth – a program run by the Toronto District School Board. She remembers meeting one young woman from Rwanda, who had lost her entire family in the Rwandan genocide. Unemployed and socially isolated, the newcomer was discouraged, but still grateful for the chance to build a new life in Canada. Aslam also met Iraqis, Congolese and Afghans.

For Aslam, who is pursuing a master's degree in social work and community development at U of T, the experience gave insights into the difficulties newcomers to Canada face. Their training and degrees often aren't recognized, and employers want "Canadian experience" before they will hire them. They also often lack family and other social supports. "I learned a lot about the lives of some of these youths –

about their prospects for employment. How their parents often don't have meaningful employment, or have to work three or four jobs to make ends meet," she says.

Aslam's experience with newcomers came while she was an undergrad at U of T Scarborough, taking a course designed to get students out into the community. "The city studies courses let students learn about urban issues first-hand on a neighbourhood scale," says Susannah Bunce, the geography professor who initiated the city studies program in 2008. Because Scarborough is home to so many immigrants, the students inevitably end up working with new Canadians. Often they're able to help.

Aslam recently received a Facebook message from one Congolese immigrant she met at a newcomer centre where she was volunteering. She helped him navigate through the university application process. He got in touch to say he was now a student at the University of Ottawa.

"The experience teaches you about power and privilege," says Aslam. "Those are lessons you can apply outside of the classroom." - KURT KLEINER



Real Life 101

Humanities for Humanity brings U of T students and Toronto residents together to explore life's "big ideas"

AT UNIVERSITIES, STUDENTS OFTEN talk about emerging from academe into the "real world." But in one novel U of T course, the real world comes to university: U of T students sit sideby-side with Toronto residents - many of whom never went on to higher education - to discuss classic texts, such as economist Adam Smith's The Wealth of Nations.

James Janeiro, a master's student at the School of Public Policy and Governance, says the Humanities for Humanity course has given him a fresh perspective on ideas that shape our society.

The non-credit course, founded six years ago and offered through Victoria University and Trinity College (and one part of Victoria's "Ideas for the World" program), brings together 30 students and 30 community members once a week. The participants start with a meal together, and then listen to a lecture from a U of T expert - philosophy professor Mark Kingwell on Machiavelli, for example. Afterward, they break into small groups for discussion.

The exchanges are often lively and eye-opening, says

Janeiro (BA 2010 Victoria). Kingwell's Machiavelli lecture, for example, prompted many participants – some of them newcomers to Canada - to talk about their interactions with politicians and the state and their expectations from elected officials. "We had a very in-depth, detailed conversation about the nature of politics and what people want from their government," he says.

After completing his master's degree, Janeiro hopes to attend law school, and then enter the foreign or civil service, with the eventual goal of running for elected office. He values Humanities for Humanity for the variety of perspectives if offers - and for taking "academic" topics out of the classroom and away from students' typical concerns about exams and quizzes.

"It's not necessarily about teaching people European history or how to speak Mandarin," Janeiro says. "It's teaching people to think in a way that goes beyond the confines of what they know and what they've studied, and what they're comfortable with." - scott anderson



The Universe in a Lab

Physics undergrad Aysha Abdel-Aziz is making her own unique contribution to a massive international research project

FOR THE WORLD'S PHYSICISTS, there's a lot riding on experiments being conducted at an underground facility near Geneva, Switzerland. It is here, at the particle physics lab of the European Organization for Nuclear Research (CERN), that scientists hope to finally solve unanswered questions about the fundamental building blocks of the universe.

So it was big news when then-second-year physics student Aysha Abdel-Aziz learned she'd be travelling to Europe for the summer to work at CERN – as part of Woodsworth College's Science Abroad program.

The program gives science students the same opportunity to study abroad that language, history and art students have long enjoyed, says Yvette Ali, Woodsworth College's director of professional and international programs. At a time when international scientific collaborations are more common than ever, the program is intended to give science students a taste of living and working in a foreign country, often with scientists of many other nationalities.

Abdel-Aziz says that it was enlightening to work in Geneva with enthusiastic scientists from all around the world. She

was impressed that her co-workers routinely continued their scientific discussions after work over dinner and wine. "CERN is such a great place for physics," she says. "I feel you get to make an actual contribution."

Working with U of T physics professors Pekka Sinervo and William Trischuk, Abdel-Aziz was part of a team seeking to improve the function of the particle detectors. The detectors are made of silicon, and when atoms are smashed together and fly apart the particles hit the strips and create an electric signal. But as energies get higher the resulting radiation quickly degrades the strips.

Abdel-Aziz helped with new detector strips, which are made of diamond. Because the signals transmitted by the diamond strips are weaker, the scientists had to figure out how to filter out noise that could mask them. Abdel-Aziz worked on software that addressed a component of the problem.

The experience has made her consider switching from theoretical to experimental physics. She'll be able to give it more thought next summer – the CERN scientists have invited her back. – KURT KLEINER



The Statue and the Monk

Sarah Richardson gets an insider's perspective on the rise of religious monuments in India

THE STUDY OF ART HISTORY took on a whole new meaning for PhD student Sarah Richardson the day she met the "monk engineer."

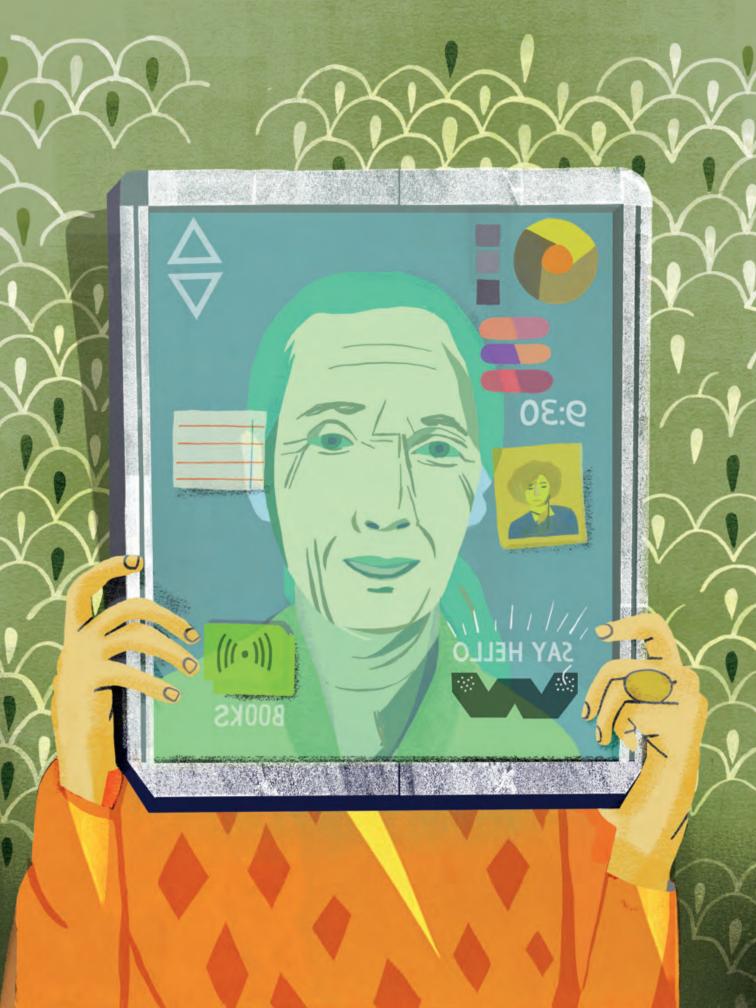
That's the nickname for Sonam Paljor, a Buddhist monk whom Richardson encountered in a small Himalayan mountain town in the summer of 2009. Richardson was investigating the construction of a 40-metre-high Buddhist statue, which Paljor had overseen. The monk explained how the monument incorporated traditional artistic and architectural elements that have been used in Buddhist culture for centuries. For Richardson it was a rare opportunity to meet someone directly involved in the creation of an artwork she was studying.

"He wasn't actually an engineer, but that's what the people called him because they respected what he did – helping to build this enormous statue that's now a tourist attraction, but also full of historical religious features and meaning,"

says Richardson, 32, whose specialty is 14^{th} -century Tibetan Buddhist art.

Richardson spent six weeks in the field assisting Kajri Jain, a visual studies professor at U of T Mississauga, with her research on modern Buddhist and Hindu statues in India. This unique aspect of Indian culture may yield interesting insights about a country that is emerging as a global economic force. Richardson's role included photographing statues, interviewing artists, architects and craftspeople involved in creating them, transcribing interviews and developing detailed photo descriptions. Prof. Jain's research will culminate in a book on the recent rise of monumental religious statues in India.

"I learned so much about how contemporary Indian monuments draw on religion for different reasons – to attract pilgrims, or to act as new sites of political and social power," Richardson says. "Getting up close to this aspect of Indian culture opened so many doors." - SHARON ASCHAIEK



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A U of T lab is harnessing computers to make life better as we age

OR MOST OF HER LIFE, Rose Franke was a voracious reader. A retired high school teacher, she had, over a lifetime, acquired an extensive library stocked with the classics, from Chaucer to the Brothers Grimm. Then, like thousands of Canadians in their 60s, she developed glaucoma, which caused her vision to fade. Now in her late 70s, she is learning braille and has tried using podcasts and audio books. She even managed to track down a braille copy of Virgil in Latin. But not all books are available in these formats, and they can be difficult to use - especially if you're someone who likes to study the text closely.

A volunteer recorded himself on CDs reading books, and Franke was able to use them because her CD player had large, raised buttons. However, her grandson Xavier Snelgrove wondered if there might be a simpler way to recreate the warmth of one-to-one reading. At the time, Snelgrove, then

a fourth-year student in engineering science, was working at the Technologies for Aging Gracefully lab (TAGlab) - a group within U of T's department of computer science that aims to help the old, the infirm and the impaired lead better, more social, more autonomous lives. The lab was founded in 2009 by Ronald Baecker, a computer science professor with extensive experience in computer animation, computer graphics and, most important, human-computer interaction.

At around the same time Snelgrove was thinking about how to assist his grandmother with reading, Baecker was having his own social epiphany. Attending a family party where an iPad was the gift of honour, he watched in amazement as a group of people whom he hadn't thought were particularly interested in technology took up the tablet with glee. So great was their enthusiasm that Baecker wondered if his lab could find a way to use the iPad to help people read.

Back at the lab – actually a suite of offices on the seventh floor of the Bahen Centre for Information Technology -Baecker and Snelgrove discussed options. What they envisaged eventually turned into an iPad application that allows readers to record their own audio versions of downloaded books. The application, which they call the Accessible, Large-print, Listening and Talking ebook, recreates the experience of reading aloud with (or to) a friend or loved one. While a regular iPad can "read" books aloud using a standard computerized voice, the TAGlab's ebook allows users to substitute the computer voice with the voice of someone they know. Friends or family members record their version of the text at the same time as they're reading aloud. The computer picks up the thread if and where they leave off, though not, as yet, in the original human voice - the technology is not quite there yet. Text and audio are synchronized so you get the best of both regular and audio books, and previously read text is marked so it's easy to find your place. Many of the app's features aren't yet finalized, but it's hoped that even people with visual or motor impediments will be able to control the playback using voice, touch or a highly simplified keyboard.

While still in a prototype stage, the new ebook is a good example of what TAGlab does. It uses technology as a support, not a replacement, says Mike Massimi, a PhD student and assistant director of the lab. "We're taking something that people already do, which is read out loud to each other, and we're just inserting the technology there as a support to help the social experience of reading.... You could very well have a text-to-speech machine read every single book to you and some people would say it's the same outcome, but it's not. There's a layer of humanity that we try to address."

In the future, computers may be so good at mimicking the tone and rhythm of speech that their synthesized sentences will be indistinguishable from a human's. But at the moment, says Liam Kaufman (MSc Medical Science 2008, BSc Computer Science 2011), a research associate who is working on the ebook, human speech has the edge. "Computer-synthesized text [or text-to-speech]...rarely conveys emotions or personality. Recordings capture both the story and the reader's emotions and personality."

s time goes on, TAGlab's research is almost cer-

tainly going to become more important. The oldest baby boomers are now turning 65 and seniors are one of the fastest-growing age groups in Canada. According to the 2006 census, more than one million Canadians are now aged 80 and up. By 2050, a third of the population in high-income countries is expected to be 60 or older and, for the first time in the history of the world, the old (defined as 60 and up) will outnumber the young (those under 15). With an aging population comes a change in values. Things that were once taken for granted – mobility, autonomy, the ability to cook, clean and do small things for oneself – become both fraught and perplexing.



TAGlab is determined to make aging a little easier. Staffed by everyone from undergrads to post-docs, the 30-person lab looks for ways to help older people, or those with physical or mental challenges, to live better lives through technology. To date, the lab has achieved its biggest success with MyVoice, a smartphone app that helps people with aphasia or other speech impairments to communicate. The app is location-based, meaning it uses GPS technology to supply the user with a context-sensitive list of words and phrases – coffee-related words when the user is at Tim Hortons, for example, or "What's playing?" for a trip to the movie theatre. (See "Say the Right Thing," Autumn 2011.)

Baecker says TAGlab is interested in almost anything that empowers people in gentle, non-intrusive ways. While other researchers are developing technologies that monitor every aspect of an older person's existence – sensors that watch for falls, for example - TAGlab's approach is to support people in everyday tasks, with the goal of preserving their dignity and autonomy. Take the issue of faltering memory. Because so much of our sense of self depends on remembering who we are and what we've done, much of the lab's work has investigated ways to bolster memory. In one experiment, older adults with dementia or mild cognitive impairment were sent on outings equipped with lightweight cameras that automatically took pictures every minute or so. They carried the cameras around their necks and afterwards they were shown pictures of their experience. "One of the things we found," says Kaufman, who worked on the project, "is that it would increase their memory of a given event." Simply wearing the camera to a museum, park or a family gathering helped people remember the specific event better. And, of course, remembering what's happened around you makes it easier to connect with other people.

One of the challenges of this kind of work, says Massimi, "is that you try not to think like a computer person, even though you are. If you ask most computer people to solve a problem, they'll solve it in a particular way that's very efficient, very quick....So if you ask them to create a system that reads books to blind people, you're going to get basically a tape recorder that plays back a file." But TAGlab researchers

come from a variety of backgrounds and have more than just coding on their resumés – they've taken courses on everything from psychology and medical science to graphic design. ("We look for people who haven't just studied math and computer science," says Baecker.) And they think differently.

In the case of the ebook, says Massimi, they realized that it was "not just about transmitting information from a file to your ear as fast as possible. It's about the experience of reading. It's about being able to connect to other people around reading. It's about...having the freedom to choose what to read, how you read it and when."

As exciting as all these developments are, no amount of technology is going to help an elderly person who doesn't have an adequate support system – or who is resistant to technology. But that, too, is part of the lab's raison d'être. The team works diligently to get feedback about their projects. In a process called iterative design, they go back and forth between concept and reality, testing their ideas against the actual needs of their target users. They tested an early prototype of the ebook with Snelgrove's grandmother and they're now trying it out with a person who has multiple sclerosis. "We don't just create a design that we want to use," says Kaufman. "We will create a design and see how the user likes it and then make changes based on that."

The best example of the lab's user-friendly philosophy may be the communicating picture frame – a computer so simple it doesn't look like a computer. Discreetly disguised as a bedside picture frame, it's actually a touch screen (with a wireless connection) designed to help people in chronic pain communicate with a minimum of effort. One tap on its picture and the computer sends a simple message to a friend or loved one - either "I'm missing you" or "I'm not feeling well today." With a good support network, the user will get a cheery video message back. Friends and family can either create a new video message or use a previously recorded one. A notification pops up when the new message arrives, the user taps the screen and the video starts playing. In the future, the user may also be able to replay old video messages. The technology itself is more complicated than it sounds, but to the person sending the message, it's seamless. "One touch by the person with chronic pain and they get a great deal of information back from the family," says Massimi.

When their own expertise in a field runs dry, the TAGlab team often consults with experts in other areas, especially the social sciences. Over the years they've worked with people in nursing, neuropsychology, social work and neurology. In the case of the communicating picture frame – and other strategies for alleviating loneliness in chronic-care settings – the team has collaborated with Véronique Boscart, a nurse-researcher at Toronto Rehab who taught in the Lawrence S. Bloomberg Faculty of Nursing for six years. Boscart works with people in chronic care and she's acutely aware that the best solution does not always require new technology. Some of the people she works with would be happy with a laptop and an Internet

connection. But Boscart likes TAGlab's bottom-up approach and is happy to provide feedback on their ideas based on her own extensive clinical experience. "There are very few people who focus on solving clinical situations," she says. "Quite often research happens in an ivory tower and by the time that knowledge is transmitted to the clinical setting a lot of it is lost. I think what TAGlab does is create real solutions for real people and real problems. That's the beauty. Ron Baecker really thinks outside the box."

t's not easy working with senior citizens, says Baecker.

Members of the TAGlab team often become close to the participants, and a couple of the participants have died during the course of the team's research.

Baecker himself doesn't seem too daunted by age. He's 69 and will become a professor emeritus in 2013 but he hopes to keep working until age 99. Asking for any longer - expecting to live into the three digits – is "presumptuous," he says. He traces back the inspiration for his current research to an academic paper on electronic prostheses he read about a decade ago. Nearing 60 at the time, and dealing with an ill sister, Baecker recalls thinking that prosthesis technology hadn't come very far since the paper was originally published - in 1990. He and some U of T colleagues decided to try conceptualizing a few possibilities of their own. They came up with ideas for electronic memory aids and presented them at the first international conference on technology and aging, held in Toronto in September 2001. They went on to collaborate with health professionals at Baycrest, building technologies that could improve the lives of people with Alzheimer's and amnesia. "I started thinking this is really what I should do for the rest of my research life," says Baecker.

With about a dozen projects on the go, the TAGlab seems well on its way to realizing its goal of empowering older adults. By keeping its technologies deceptively simple and easy-to-use, it aids the old and infirm without ever impinging on their autonomy. Snelgrove's grandmother will have to wait a little longer for her own personal copy of the Accessible, Large-print, Listening and Talking ebook, though. The lab likes to make sure its products are glitch-free before they're released, and the app is still sprouting features. But it will come to market, sooner or later. Baecker has a strong track record for developing viable products (prior to TAGlab he was involved with four startups, one of which, the webcasting firm Captual Technologies, was recently sold to Desire2Learn) – and it's part of the lab's ethos.

The goal, says Massimi, is to discover people's needs, develop the technology to address these needs and then actually get the technology into people's hands. "That's what we like to do. We like to take stuff out of the lab and get it working."

Brent Ledger is a Toronto writer and former columnist for Xtra! and the Toronto Star.



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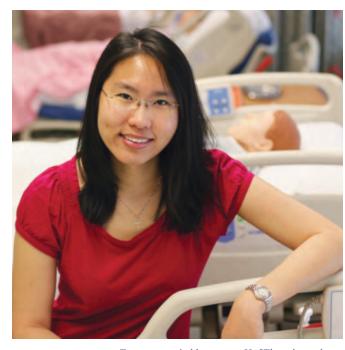
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All About Alumni

"Would you like to play Pong?"

Dag Spicer, senior curator, Computer History Museum **p.59**



Urban Explorer

Torontoist editor Hamutal Dotan seeks out stories from the underground

WHEN HAMUTAL DOTAN WAS 12, someone told her what "philosophy" meant. "I thought, 'There's a word for the stuff in my head that no one else talks about?" says Dotan. She went to the public library and started reading a book of Aristotle's writings, which made no sense to her. But by the time she re-shelved the book, Dotan wanted to be a philosopher. Much later, she decided she also wanted to be a writer.

Now 34, Dotan is the editor-in-chief of *Torontoist* – a website

founded in 2004 and devoted to all things Toronto. Every month, about a quarter of a million people visit the site – which covers municipal politics from the left, the arts (from graffiti to theatre) and the just plain quirky (poutine-eating contest, anyone?). *Torontoist* contributors have more flexibility to write in their own voices, unlike the impersonal tone that often characterizes print media. "We occupy this hybrid space," says Dotan, who became editor in January. "We do traditional reporting, but we're not constrained by a formulaic style."

Active tweeting and *Torontoist*'s open Flickr group, which has around 150,000 photos, have helped to build a community of engaged readers. Daily posts distil overwhelming amounts of info into useful dispatches, whether it's brief and snarky summaries of Toronto-related news or a short list of things

PHOTO: CORBIN SMITH WINTER 2012 57



In October, *Torontoist* won three gold Canadian Online Publishing Awards for best website, news coverage and blog

To Serve and Connect

New alumni president hopes to foster greater sense of community



SOME ALUMNI REMAIN CONNECTED with the U of T community long after they've doffed their mortarboards. But new University of Toronto Alumni Association (UTAA) president Matt Chapman wants to offer even *more* opportunities for grads to remain engaged with the university and each other.

Chapman (MBA 2000), a partner at private equity firm TorQuest Partners in Toronto, has served as a UTAA board director for several years. He intends to promote the university's alumni mentorship programs, which connect students with grads. He'll also promote community-engagement projects, which offer easy networking opportunities for alumni who want to work together on issues in their own backyard. In terms of U of T's recently launched fundraising campaign, Chapman intends to keep alumni abreast of its goals and messages.

Chapman started his MBA at the Rotman School of Management in 1998, and served as the academic student representative for the MBA program. In 2000, David Ossip (BA 1988

UTSC) – founder of a new software venture called Workbrain Corporation – recruited MBA students Chapman and Daniel Debow. Together, they helped launch the company. Chapman continued to help steward it after his graduation, and eventually it grew to 500 employees. When the company went public in 2003, Rotman dean Roger Martin became chair of the board.

Not long after graduation, Chapman felt a pull back to the U of T classroom, offering his services as both a mentor and speaker. And so it should be no surprise that he remains immensely committed to the university today. "I am very proud of my alma mater," says Chapman. "The University of Toronto is one of Canada's finest institutions, with tremendous local, national and global impact. So, like many alumni, I am always looking for ways to give back." – SARAH TRELEAVEN

OVERHEARD



Property tax has a role, and an important role, in funding local government. But I think it's not the only tax that local governments – particularly cities such as Toronto – should have.



Enid Slack (MA 1973, PhD 1977), director of the Munk School's Institute on Municipal Finance and Governance, at "Is Toronto Broke?" Daniels Faculty of Architecture, Landscape, and Design, October 4.



to do in the city. *Torontoist* originally belonged to a network of city sites called *Gothamist*. It had no full-time staff to deal with the business end, and would have shut down a couple of years ago if three Torontonians hadn't formed a company to keep it afloat. While the site is still in the *Gothamist* network, St. Joseph Media (the publisher of *Toronto Life*) acquired it earlier this year.

Dotan, who's lived most of her life in Toronto, took the scenic route to journalism by way of academia. After high school, she went to Israel to study the Talmud and explore Judaism. She stayed about a year, despite realizing early on that she wouldn't continue practising religion. At U of T, Dotan attended Innis College and devoted herself to philosophy: she ran the philosophy course union and edited the *Undergraduate*

Journal of Philosophy. She moved to Pittsburgh for a PhD in philosophy but found herself at odds with the cloistered grad-student lifestyle. Dotan left the PhD program, returned to Toronto and, in 2008, began writing for *Torontoist* to reintegrate into the city. She now manages a team of about 75 regular contributors.

In addition to editing, Dotan still writes political and opinion pieces. She hasn't left philosophy behind, either, even though she's not studying full time. "My baseline world view about what government should be doing, and how representation should work, is informed by reading I did in ethics, political theory and the nature of a good society," Dotan says. In the future, she'd like to explore long-form magazine writing. For now, she's got a city to cover. - JANE BAO

All About Alumni



Computer Whiz

Dag Spicer talks tech at his Silicon Valley museum

HE RECITES THE THREE WORDS in a nasal monotone: "Computer... History...Museum." His head falls to his shoulder, while his eyelids droop from apparent ennui. "Three words to slow your heart rate, right?" Dag Spicer is a senior curator at that museum, which is in Mountain View, California – in Google's hometown and in the heart of Silicon Valley.

But his institution is anything but snooze-inducing, even for non-techies. "We keep the focus on the people who made

"We keep the focus on the people who made this revolution happen on their stories" this revolution happen – on their stories," says Spicer (BA 1993 TRIN, MA 1995). And so here are not just the nifty devices, but also an account of the quirks of their various inventors and popularizers. "Check out his handlebar mustache," the former hardware engineer says of the Victorian-era gent

who came up with a census tabulator. Of a supercomputer's progenitor: "He had an amazing home bomb shelter."

A playful polymath who lists his outside interests as limnology – the study of freshwater environments – and Cycladic art, Spicer is in his element wandering through the beeping, flashing, whirring components of the exhibit, adding his own comments to the hyper-stimulative mix. "This was the first computer to have a mouse.... This device was meant simply to store recipes and retailed for \$10,000. Even Neiman Marcus couldn't sell one.... Look at the built-in ashtray on this [American Cold War defense] computer – the hours, the days, the years they kept watching for the Russian bombers that never came.... Would you like to play Pong?"

Spicer's adeptness at patter makes sense: he's the son of the mandarin's mandarin, Keith Spicer, Canada's first Commissioner of Official Languages and the longtime head of the CRTC, and grew up in Ottawa with René Lévesque and other verbally agile political figures at the dinner table. At U of T, the younger Spicer studied everything from chemistry to classics – "I would have taken interpretive dance if they'd offered it" – and left a PhD in the history of science at Stanford University to join the fledgling museum in the mid-'90s. "It was supposed to be just a year, but, well, I stayed."

He's given a romp of a tour, and he must know that, but at the end, Spicer's hosting instincts kick in, and he asks: "Were you terribly bored?" - ALEC SCOTT

The 2,000-Year

"Computers" have assisted humans through history

ANTIKYTHERA MECHANISM (150–100 BC): The multiply geared machine, dredged up from the depths of the Aegean Sea at the turn of the 20th century, helped the ancient Greeks predict the location of the planets and moon and the timing of eclipses – making it the earliest known astronomical calculator.

HOLLERITH ELECTRIC TABULATING SYSTEM

(1889): Herman Hollerith's machine won a contest to tabulate the 1890 U.S. census, using punch cards. His patents eventually became the basis of IBM's business, and the company made punch cards a central element of computing up to the early 1980s.

ENIGMA MACHINE (1928): It was used by the Nazis to send secret messages during the Second World War – secret until British intellectuals used Polish intelligence and a computing device named the Bombe to break the code. Encrypting and decrypting technology remains relevant for sensitive emails.

XEROX ALTO (1973). The personal computer as we know it grew from a model Xerox – it had the first mouse, rudimentary email and whatyou-see-is-what-you-get laser printing.

GOOGLE SERVER RACK (1999). With a company founded in their garage, Google founders Larry Page and Sergey Brin assembled racks of electronics and the software that enabled their search engine to achieve world domination. (See photo of rack above, behind Dag Spicer.)

See pictures of these machines from the Computer History Museum at www.magazine.utoronto.ca.

PHOTO: MARK RICHARDS WINTER 2012 59

THE TWO OF US

Monique and Haijo Westra

Monique Westra (née Kaufman) (MA 1975) and Haijo Westra (MA 1974, PhD 1979) of Calgary first spotted each other in an elevator – and it was love at first lift.



MONIQUE: We met in an elevator in 1974 in Robarts Library. I was an art history student and had been up all night preparing for an exam; I was drunk with fatigue. But then I saw this gorgeous man holding a patterned wallet and I asked if it was from Mexico. That got us talking. He was Dutch, and I thought he was brilliant, gentle and different.

Two years after we married in 1975, Haijo got a job at the University of Calgary. Ten years later he was on sabbatical, and we spent an academic year in Provence, France. It was a great adventure. We travelled, took beautiful walks in the countryside and went to the beaches where it seemed like I was the only female who was not topless. We made a lot of friends and became integrated into the daily life of a small town. It was a unique opportunity for our two young sons, Adam and Evan, and they became fluent in French. Both boys are now graduate students in philosophy.

We have a great respect for each other, and we're very good friends. We have a high level of tolerance through the lows, because things aren't always easy sailing. I had breast cancer in 1998, and my doctor said that he wished he could clone Haijo because every woman should be so lucky to have such a supportive husband. That was a very profound moment.

HAIJO: When I first started seeing Monique, her intensity and keenness came out right away. At the time, she was doing tours for the AGO and had internalized all of this art-history material, and could give great off-the-cuff lectures. She really got into her thesis topic, *The Burghers of Calais* by Rodin, to the point that sometimes it felt like the bearded old French sculptor was sleeping between us. In Calgary, Monique has worked as a curator at the Glenbow Museum and she still writes, organizes art exhibitions on a freelance basis and paints. The way she manages to get into the works of art, and how she understands and interprets them, is really remarkable.

I love sailing, and I keep a sailboat in Victoria. Monique's not as keen, but I take her under optimal conditions so she can read a book on board. We really like to travel together. We recently went to Berlin for three weeks to visit our oldest son, and our main activity was touring and visiting museums.

I recently retired from teaching Greek and Roman Studies at the University of Calgary. Just this morning, I was working on a new project: cleaning behind the fridge. I'm continuing with my academic work but it's much better than the old routine of always rushing around. Now we have more time for each other and for long walks with our new dog, Murphy.



Antarctica's Intrepid Explorer

January 1912 was the pinnacle of Captain Robert Scott's South Pole expedition: he and four companions arrived at their destination by sled (although they soon discovered the Norwegian explorer Roald Amundsen had beaten them by a month). What few Canadians know is that one of the expedition members – Sir Charles Seymour Wright – was a Canadian and a U of T grad.

Wright earned a degree in math and physics from U of T in 1908. While doing postgrad work in physics at Cambridge University, he applied for a position on Scott's ill-fated 1910–13 expedition. Hired as the glaciologist, Wright explored the McMurdo Sound Dry Valleys – snow- and glacier-free areas that are so unusual that NASA uses them to simulate conditions on Mars.

While mapping one region of the Dry Valleys (which in 1959 would be named Wright Valley), Wright named three surrounding mountains after U of T president Robert Falconer, Prof. A.P. Coleman of geology and Prof. John McLennan of physics.

When it became obvious that Scott had met with misfortune, Wright became the search party's navigator. On Nov. 12, 1912, he located the frozen remains of the polar explorer and two of his companions on their return journey. (A few days later, they located another body.)

Wright went on to an eminent scientific career: Prior to the First World War, he outlined on paper a simple version of today's Geiger counter, and, during the war, he developed wireless trench communications. In the 1930s Wright directed the team involved in the early development of radar. During the Second World War, he developed technology that detected anti-shipping mines – which led to his knighthood in 1946.



While suffering from sciatica in 2010, Marc Lewis was prescribed oxycodone. Four months later, he cut them out completely – recognizing he still had an addict's brain



Life Recovered

A neuroscientist recounts his personal experience with drug addiction

WHEN MARC LEWIS GOT HIS FIRST TERM PAPER BACK as a graduate psychology student at the University of Toronto, he was shocked by his professor's first comment: *I wish there were a grade beyond A+*. All he could say in return was: "Are you sure?"

Lewis, you see, was hardly a typical "A" student. At the time, he had only recently concluded a 15-year battle with drug addiction – a struggle that cost him his job, his reputation, his girlfriend and his first shot, years earlier, at a graduate degree. It also got him arrested more than once, for crimes ranging from marijuana possession to drug theft from medical centres.

By the time he turned 30, Lewis's nightmare finally ended and his demons have remained vanquished to this day. After

His 15-year battle cost him his job, reputation and girlfriend. It also got him arrested going on to complete his PhD at U of T in 1989, he stayed in Toronto and embarked on a long career as a developmental psychologist and neuroscientist. Now, he has drawn on both experiences – squandered youth and triumphant adulthood – to write a compelling new

autobiography, entitled *Memoirs of* an Addicted Brain.

In it, he takes the reader from his first sip of alcohol as a depressed teenager in the mid-1960s, through to experiments with hallucinogens in California, as well as nitrous oxide and opium in Asia. "There was so much to try," he says of that famously psychedelic era, "and I was pretty adventurous." But the '60s gave way to the '70s, and Lewis more than succeeded in painting them black. Memoirs culminates in a shameful denouement, as the aspiring psychologist embarks on a series of drug thefts – from labs in Toronto to medical centres in Windsor and Thunder Bay, Ontario. His last theft resulted in a conviction with a year's probation.

In the end, Lewis learned what all addicts eventually do – that "you have to go through a certain amount of suffering before you're ready to stop." He sat at a table, wrote the word NO on a piece of paper and took care to look at it many times a day. During the few years that he was fighting his addiction, he worked a series of odd jobs back in his native Toronto. Lewis eventually felt emboldened to renew his studies, becoming an expert in the emotional development of troubled children and adolescents. "There's something raw and honest about emotions, which attracted me to studying them," he says. "They're so powerful, and they drive many aspects of how our minds work."

A brief stint doing clinical work gave way to a career-long concentration on teaching and research; eventually, Lewis turned his attention to neuroscience. Indeed, what sets his book apart from other drug memoirs is its fascinating explanations of what various drugs actually do to the brain. "I have a very strong interest in the neuroscience of addiction," he says. "I understand a lot about it both from my own personal experience and from all the research I did for the book. Because of that, I think I can be very creative and clever about how to study addiction."

Now 60, Lewis is retired from U of T and works part time as a professor in Holland. He lives with his third wife and their five-year-old twins, and hopes that his tale might serve as a warning and inspiration to others grappling with this most destructive of human behaviours. "There's not much point in studying addiction if you're not going to learn something that will help people to deal with it." - CYNTHIA MACDONALD

PHOTO: HILL PEPPARD WINTER 2012 61

60 SECONDS WITH Rachel Sklar

Online Media Maven



NEW YORK-BASED RACHEL SKLAR (LLB 1998) is a founding contributor to the *Huffington Post* and the popular media-industry site *Mediaite*. And she's a champion for women in the media and tech fields, too, with her Change the Ratio advocacy group. **Lisa Bryn Rundle** pries Sklar's attention away from mobile devices for an interview.

You've been featured on lists such as *Chatelaine*'s 80 Amazing Canadian Women to Watch and the *Globe and Mail*'s Ten Famous Canadians You've Never Heard of. Do you have a favourite list you've been included on? Lists get eyeballs. I was psyched to be on the Silicon Alley 100 list two years in a row. It was recognition – and that's really the basis of Change the Ratio. There has always been a ratio problem at conferences, panels and on these lists. They typically tend to be disproportionate to the number of women in the fields.

For all the differences from traditional media to new media, is sexism one of the holdovers in

your view? I wouldn't characterize it as sexism. I think of sexism as something deliberate. That, I think, is one of the reasons why men bristle at these kinds of complaints. They think you're accusing them of being sexist. It's more institutional bias. The ease of men referring men.

How does Change the Ratio try to address that? It's a lot of back-channel stuff. Addressing things on Twitter. Participating in discussions. I do a ton of matchmaking behind the scenes.... It's a community of awesome women.

Who are helping each other? Who are just awesome. It's not the job of women to be 100 per cent behind me in this. We're 50 per cent of the population, we're going to disagree. The most important thing that women can do for me in this *fight* – quote unquote – is be awesome. Because as women rise, I can say: Really, you couldn't find a woman?

Changing topics slightly... But I haven't finished on the lists. I loved being on Media Power Bachelorettes, by the *New York Observer*. I'm usually so annoyed that around Valentine's Day there are all these lists of "eligible bachelors" whereas women who are unattached are clucked over sympathetically. This was just in rank celebration of 50 powerful in-demand bachelorettes.

You describe yourself on Twitter as a media addict on the loose. What are some of the symptoms of your addiction? I don't know, like, as I'm talking to you I'm clicking through Twitter.

Do you feel personally implicated in the death of traditional media? God no. I'm not that worried about traditional media. I'm worried about quality; that's the easiest thing to cut.

You started off as a lawyer. Are there a lot of transferable skills? Oh yes. Law school forced me to become a clearer thinker and a clearer writer. As a media critic you do have to think hard about process and policy.... And there's nothing I love more than to find five hours to really wonk out on a nice juicy post.

Milestones

D'Arcy McGee (MA 1993), who died in May, left a legacy of education for seniors: he was president of Later Life Learning, a non-profit that partners with Innis College to sponsor university-level courses for retirees. McGee also worked with the college to raise money for Later Life Learning scholarships.

McGee was one of 75 recipients of this year's Arbor Awards – which recognize outstanding volunteer work by alumni and friends to U of T. The awards were presented on September 13, at the president's official residence of 93 Highland Avenue.

Other award recipients include

Nancy Hill (BASc 1981), who serves as a warden for the Ritual of the Calling of an Engineer – a ceremony for engineering students about to graduate.

She is also on the Engineering Alumni Association's honours and awards committee.

Designer **Carter Poy** leads an architectural and city perspectives tour in Shanghai for U of T students on exchange at Fudan University. In addition, Poy helped advise on renovations to U of T's Richard Charles Lee Canada-Hong Kong Library.

Linda DeGiorgio could be considered the ultimate basketball mom: her two sons played Varsity Blues basketball, and she was head of the parents' volunteer group for the men's basketball program. She also organized a gathering for parents and alumni after each home game.

For 6o years, **Lionel Metrick** (DDS 1951) has been a U of T volunteer: he has served as class secretary of the Faculty of Dentistry's Class of 1951 since graduation, and has organized class reunions every five years – including the 60th-anniversary reunion this past spring at Hart House.

Gordon MacKinnon (BA 1956 VIC, MA 1971), a member of the Soldiers' Tower Committee since 2007, has written a history of the campus war memorial and a number of biographical stories about U of T alumni who served in the two World Wars.

Read about all the Arbor Award winners at www.alumni.utoronto.ca/arbor.

62 WWW.MAGAZINE.UTORONTO.CA PHOTO: COURTESY OF RACHEL SKLAR



FIRST PERSON

The Pirates of Somalia

In 2009, Jay Bahadur (BA 2007 Innis) travelled to Somalia to talk to some of the men responsible for hijacking dozens of ships owned by international conglomerates. Below is an excerpt from his interview with a former pirate named Momman, at Momman's expansive home in Puntland, in the northeast of the country.

Behind Momman's head on the divan lay a loaded Belgian semi-automatic pistol – the little brother, around these parts, to the AK-47. He was flanked on either side by two of his former foot soldiers, who casually lounged, fastidiously picking at stems of khat, a local drug fervently consumed by pirates.

The tale he began to recount was by now familiar to my ears. "Boyah [a pirate who claims to have hijacked more than 25 ships] and I used to fish together," he said. "At first, we operated together in the same group, but later we split into different ones.... We used to only go after illegal fishing ships." It wasn't until 1999, according to Momman, that Boyah attacked his first commercial ship. "We started attacking them when we realized we couldn't fight against fishing ships anymore," owing to the improved state of their armament. "Commercial ships go into our waters, and they don't pay any fees."

Momman's success soon elevated him, as with Boyah, to the position of financier. "I was the one who bought everything for the missions," he explained, sometimes for his own group, but also for others. "We helped each other out."

At first, Momman declined to answer any questions about his buccaneering past, but after a while he began to speak more freely, sounding almost nostalgic. "It was never that hard to climb up onto the deck – it depends on how high up the ship is, how fast it's going, but usually it's very easy. Personally, I've never seen the crew fighting back. Most people would go and lock themselves inside, some would come out with their hands out, saying, "What do you guys want?"

And was the crew ever afraid?

"Definitely, they would freak out. But we tried to calm them down, saying, 'We're not going to hurt you if you take our orders.' We would tell them, 'You'll be all right...we're not here to kill you.' We never had to kill anyone."

The stretch of the Gulf of Aden between northern Somalia and Yemen is one of the world's busiest human smuggling routes. Pirate groups, UN agencies have claimed, are directly involved in human trafficking. It makes sense: pirates already use Yemeni ports to obtain smuggled weapons.



Momman claimed that his generation had never been involved in such activities. According to Momman, the going rate for a trip to Yemen was \$200 for a spot in a "small boat" – holding about 30 people – and \$100 for a place in a more crowded "big boat" – one carrying 80 to 100 people. The business had a dual purpose that went beyond money: the pirates, said Momman, used the migrants as a cover to conceal their activities from both the Puntland government and international naval forces. Unlike piracy, transporting people is not a crime, at least until an attempt is made to enter a foreign state illegally.

Whether pirate gangs are amongst the many smuggling groups guilty of murdering their charges is unknown. But Momman doubted it: "They always deliver their people on time."

The desire to trace the poorly marked money trail always led my interviews to one central question: How do pirates spend their cash? Like most pirates, Momman took issue with the question. "This house is not mine, it's my wife's. I never used any piracy money to live on – it's *haram* to do so. We used that money to fund new pirate operations and to buy weapons. That's all. We don't build houses with it," he claimed.

The interview had reached its natural conclusion. I picked up my half-finished bundle of khat and tossed it gently into Momman's dwindling pile. He protested; take it, please, I said, and he accepted.

My last image of Momman, as his wife led us out the door, was of him reclining against a bolster, teacup in one hand, khat stalk in the other, staring pensively into the carpet.

Adapted from The Pirates of Somalia: Inside their Hidden World (HarperCollins 2011).

PHOTO: DAVID G.CHRISTEN WINTER 2012 63

Time Capsule



Winter 1905

Alumni and friends support Convocation Hall's construction It's difficult to imagine life at U of T without Convocation Hall, the stately beaux arts-style building that graces King's College Circle – but it wouldn't have existed without the donations of alumni and friends. After the University College fire of 1890 destroyed the previous Convocation Hall (which had been located in the college's northeast wing), the U of T Alumni Association launched a fundraising campaign to construct a new hall.

The association initially aimed to raise \$25,000, but as plans for the building expanded, so did the budget. Over the course of two years, donors contributed around \$50,000, which the Ontario government matched. The Class of 1884 raised \$1,500 – a significant amount for the time. City residents took an interest, as well: Timothy Eaton, of department store fame, gave \$1,000.

Designed by Frank Darling of Darling & Pearson (one of Toronto's finest architectural firms), the building was partly modelled on the Sorbonne theatre in Paris and accommodates about 1,700 people. Its cornerstone was laid in June 1904, and the hall officially opened in June 1907.

The building in the left of this picture is Stewart Observatory, which was dismantled in order to make space for Convocation Hall. The observatory was reconstituted on Hart House Circle in 1908, where it still sits.

On the day the cornerstone was laid, U of T Alumni Association president Dr. R.A. Reeve remarked, "Faith in the alumni and friends of the university, at times sorely tried but never lost, today has its reward."

- SUZANNA CHANG

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*No purchase required. Contest ends on January 13, 2012. Each winner may choose the prize, a 2011 MINI Cooper Classic (including applicable taxes, preparation and transportation fees) for a total value of \$28,500, or a cash amount of \$30,000 Canadian. Odds of winning depend on the number of eligible entries received. Skill-testing question required. Contest organized jointly with Primmum Insurance Company and open to members, employees and other eligible persons belonging to all employer and professional and alumni groups who have an agreement with and are entitled to group rotes from the organizers. Complete contest rules and eligibility criteria available at www.melochemonnex.com. Actual prize may differ from picture shown. MINI Cooper is a trade-mark, used under license, of BMW AG, which is not a participant in or a sponsor of this promotion.

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Get Involved!

The University of Toronto Alumni Association is bringing together alumni who want to make a positive impact in their community with fellow alumni and organizations that are already making a difference.

Contact us, and we will:

- Connect you with members of the university community who have also expressed interest in contributing to meaningful causes
- Provide you with support and education to be the most effective in your volunteer and community activities
- Share with other alumni the impact you and your organization are making

Together, the university, our alumni and our community partners are creating great opportunities for you to make an impact.

Join us at: alumni.utoronto.ca/volunteer/community-engagement

"We are very lucky to be given the opportunity to go to university and move forward in our careers. It is important to give back to our community – and to give others the same opportunity."

– Paul Nagpal

(MBA 2006 Rotman) volunteers at DiverseCity: The Greater Toronto Leadership Project

"I really enjoyed my time at U of T. The opportunity to support the university and Athletes for Africa while playing the Rock the Pitch tournament with friends and fellow alumni was a fantastic added bonus."

– Craig Allan

(HBA 2003 NEW) U of T alumni team member supporting Athletes for Africa