

RAPPORT

Schulich School of Medicine & Dentistry
Western University / Alumni Magazine / 2014

HEALTH CARE CRUSADER

Dr. Danielle Martin, MD'03 is touted
as a national hero and tough defender of
Canada's health care system

WELCOME TO THE FAMILY

LIGHT AT THE END OF THE ALZHEIMER'S TUNNEL

A LESSON IN CANADIAN MAGIC



Western



44 GRADUATION GIFT

Dr. Caitlin VanDeCappelle's four-year journey at Schulich Medicine changed her life in more ways than one. Grateful for the experiences, she made an extraordinary graduation gift

RAPPORT

Schulich School of Medicine & Dentistry
Western University
Alumni Magazine / 2014

SCHULICH MEDICINE & DENTISTRY

The Schulich School of Medicine & Dentistry at Western University is one of Canada's preeminent medical and dental schools. Since 1881, the School has helped educate generations of physicians, dentists, scholars and scientists who continue to transform research, and the practise of medicine and dentistry, in Canada and around the world.

Schulich Medicine & Dentistry's reputation has been built by dedicated teachers, breakthrough discoveries, a commitment to social responsibility, strong strategic partnerships and extraordinary leadership. The School continues to be a global leader in optimizing life-long health.

RAPPORT

Rapport Magazine is published by the Schulich School of Medicine & Dentistry at Western University.

EDITOR

Jennifer Parraga, BA'93

CONTRIBUTING WRITERS

Emily Leighton, MA'13; Crystal Mackay, MA'05; Pat Morden, BA'77; Jennifer Parraga; Kristin Tate, HBA'09; Kathy Wallis; Christine Ward, BA'89

PHOTOGRAPHY

Susan Bradnam, Kevin Kavanaugh, Crystal Mackay, Paul Mayne, Dana Nosella, Adela Talbot, BA'08, MA'11 and Nation Wong
Cover photo: Nation Wong

ART DIRECTOR

Greg Salmela

DESIGN

Aegis Design Inc.
www.aegisbrand.com

FOR MORE INFORMATION

Schulich School of Medicine & Dentistry
Western University
Rix Clinical Skills Learning Building
Room 2700, London, ON
Canada N6A 5C1

To receive additional copies of Rapport or provide suggestions for future issues, contact us at comms@schulich.uwo.ca or visit www.schulich.uwo.ca/rapport

519.661.3459

www.schulich.uwo.ca



18 WELCOME TO THE FAMILY

A new crop of faculty members with exceptional credentials and a raft of fresh ideas have recently joined the Schulich Medicine & Dentistry family



EDUCATION

06 BENCH AND BEDSIDE

At Schulich Medicine & Dentistry, undergraduate students have an opportunity to experience the research world first-hand

10 SEEING TEACHING MORE CLEARLY

A group of eight PhD students learned about teaching by developing an innovative lab course in medical imaging



12 DOCTOR TIMES TWO

Dr. Taryn Taylor, MD'10, is adding a PhD to her MD through the Clinical Investigator's Program

14 CURRICULUM EVOLUTION

Using popular culture and technology, Brad Urquhart, HBS'01, PhD'07, is changing the School's curriculum and inspiring students to learn in new ways

RESEARCH

16 RESEARCH NOTABLES

22 BREAKING BAD

Walrus, elephant and narwhal tusks may hold the secret to slowing cancer growth and blocking excessive bone loss which results in arthritis, osteoporosis and gum disease



23 IMPROVING POLICIES AND LIFE FOR TRANS PERSONS

A first of its kind study in Canada has provided a clear picture of the impact social exclusion has on the physical and mental health of trans persons in Ontario

24 UNDERSTANDING CANCER'S UNIQUE ADVANTAGE

David Litchfield, PhD'87, has been working for two decades to understand how cancer cells find ways to cheat death

02 DEAN'S MESSAGE

03 CHECK-UP

34 ALUMNI OF DISTINCTION

36 ALUMNI PROFILES

42 COMMUNITY

Students from across Schulich Medicine & Dentistry are inspired early on to live the school's values and make a commitment to the community



44 FUNDRAISING

48 INTERNATIONAL

ROBARTS DISCOVERY

26 SOLVING THE ALZHEIMER'S PUZZLE

A team of researchers at Robarts Research Institute is studying Alzheimer's disease across the entire spectrum from the cellular and molecular level to monitoring behavioural changes in animal models, right through to looking for anatomical and metabolic changes in the brains of patients



30 BATTLING CONCUSSION IN THE LOCKER ROOM AND THE LAB

Arthur Brown, PhD, and Greg Dekaban, PhD, are doing something BIG. As part of a city-wide group studying everything from why concussions occur to how to prevent them

32 IMAGING IN MOTION

David Holdsworth, PhD, and his team at Robarts Research Institute are finding new ways to study how our bones and joints work together in motion

DEAN'S MESSAGE

For the past three years, the Schulich School of Medicine & Dentistry has been experiencing a time of intense renewal.

The success we are achieving is possible thanks to our founders and past leaders. Their vision and entrepreneurial spirit has uniquely positioned us to look forward, and develop new approaches to our hiring, recruitment, curriculums, and research programs, while strengthening the foundation of our School.



Dr. Michael J. Strong
Dean,
Schulich School of Medicine & Dentistry
Interim Director,
Robarts Research Institute

Through this issue of Rapport Magazine you will have an opportunity to meet some of our newest faculty members, the leaders who are at the heart of the School's renewal, and the students who are benefiting from their expertise and energy.

In the past 18 months, the School has experienced its most significant hiring wave in more than a decade. These new faculty, have brought with them exciting new research programs and fresh ideas.

Ava-John Baptiste, PhD, who teaches in our new Master of Public Health Program, Patrick Lajoie, PhD, whose research is focused on Huntington's disease at the cellular level, and Eric Arts, HBSc'90, PhD, the new Chair of the Department of Microbiology and Immunology and one of the most important researchers studying HIV/AIDS in the world today, are just three of these talented young faculty who are now part of the Schulich Medicine & Dentistry family.

Our award-winning faculty members are also the catalyst behind curriculum renewal. Brad Urquhart, HBSc'01, PhD'07, the 2014 recipient of the Marilyn Robinson Award for Teaching Excellence at Western University revamped one of the School's most popular online courses utilizing the latest technology while courting pop culture.

Meanwhile, Associate Professor Aaron Ward has developed an innovative lab course in Medical Biophysics and is instructing graduate trainees how to teach, so they will be better prepared when they face their own students in the future.

This past year, we launched our "Commitment to the Community" initiative and celebrated how our faculty, staff, students and alumni contribute to the communities in which they live, work and play. It was gratifying to read the stories of how our people live the School's value of social responsibility. Their stories helped to create a greater sense of commitment and inspired all of us to consider the value we can bring to organizations at home and around the world.

Amidst this renewal, our outstanding research programs continue to achieve new heights while having an impact on the

delivery of health care. Greta Bauer, PhD, is researching the development of new policies for trans persons. Her work has already made an impact and led to changes in provincial policy and local emergency room services.

A group of researchers at Robarts Research Institute is finding new ways to understand and treat Alzheimer's disease. The team is investigating early detection and diagnosis, and trying to pinpoint the event or mechanism that initiates the debilitating disease.

We remain inspired by our alumni who continue to live the values of the School and have become entrepreneurs in their own right. This year, we are pleased to introduce you to Drs. Danielle Martin, MD'03, Alex Baron, MD'94, and Steve Nazarian, PhD'07. Their stories, along with those of our alumni of distinction award recipients, demonstrate the tremendous impact Schulich Medicine & Dentistry is having on the communities around us.

Be Extraordinary is Western's fundraising campaign, and this year, our School benefited from some extraordinary gifts, including a legacy gift from Mrs. Marion Murray, a former staff member, and Dr. Caitlin VanDeCappelle, MD'14, one of our most recent graduates.

Their donations will support our future and ensure we will continue to grow, continue to strengthen our programs to meet the needs of our students, and achieve our vision to become a global leader in optimizing life-long health.

I hope you enjoy this year's issue of Rapport. We are exceptionally proud of our faculty, staff, students and alumni and are most pleased to share their stories and accomplishments with you.

A handwritten signature in black ink, appearing to read "Michael J. Strong".

CHECK-UP



Ayden Scheim, PhD candidate

National honour School's first

■ Ayden Scheim, a PhD candidate in the Department of Epidemiology and Biostatistics, has been named one of 14 Trudeau Scholars, a prestigious doctoral scholarship presented nationally by the Pierre Elliott Trudeau Foundation.

Scheim's research takes a social-epidemiological approach to understanding HIV-related sexual risk, poor mental health, substance use and their co-occurrence among trans persons in Ontario.

The scholarship supports outstanding doctoral students who are committed to solving issues of critical importance to Canada and the world. In addition to an annual grant of up to \$60,000 for a three-year period, Trudeau Scholars benefit from the expertise and knowledge of the network of foundation fellows and mentors.

Scheim's win is unique, as he is the first successful candidate from a medical school to receive this scholarship. Epidemiology is considered a social science despite being housed at the Schulich School of Medicine & Dentistry, qualifying Scheim for the honour.

Leadership in research and innovation celebrated

■ One day, three events and hundreds of community members—Robarts Research Institute's leadership in research and innovation was celebrated at the annual Taylor Symposium, Public Forum and Leaders in Innovation Dinner. The Symposium offered up a full day of research presentations, while the Public Forum, moderated by CBC medical columnist, Peter Lin, provided community members with a chance to hear about the latest research focused on cardiovascular health.

Actor, activist and heart attack survivor Martin Sheen toured the labs at Robarts and then took to the podium, inspiring a crowd of nearly 400 people at the Leaders in Innovation Dinner. The evening event featured the presentation of the 2013 J. Allyn Taylor International Prize in Medicine to Dr. Salim Yusuf.



Martin Sheen toured the labs at Robarts

Canada's first pain management residency program

■ Schulich Medicine & Dentistry is home to the country's first pain management residency training program.

The two-year subspecialty residency will train experts in the treatment and rehabilitation of acute, chronic and cancer pain conditions. Dr. Pat Morley-Forster, BSc'73, professor, Department of Anesthesia and Perioperative Medicine, and director, Pain Management at St. Joseph's Health Care London, worked for the past seven years to find ways to better train physicians to treat chronic pain, a condition that currently affects one in five Canadians.

Schulich Medicine & Dentistry and St. Joseph's are leaders in pain management and home to a multidisciplinary pain clinic, as well as the Earl Russell Chair in Pain Management. The two-year residency program includes one full year in the multidisciplinary clinic exposing residents to a range of experts. The hope is that these new pain specialists will be not just experts in their fields but also leaders and ambassadors for this new discipline.

Homecoming medical match-up: From the gridiron to the lecture theatre

■ Wearing a purple and white Western football jersey, Dr. Richard Reznick, dean, Faculty of Health Sciences and director, School of Medicine at Queen's University, admitted defeat to Dr. Michael J. Strong, dean, Schulich Medicine & Dentistry, in front of a crowd of Schulich Medicine & Dentistry staff and students in January, 2014.

Dr. Reznick ended up in enemy territory after losing a friendly bet to Dr. Strong on the 2013 Homecoming football game.

The event began with light-hearted teasing from both sides, as Dr. Strong proudly presented his football rival with the winning jersey. Dr. Reznick then presented a lecture to medical students, entitled "Beyond competency: New concepts in medical education." The event was an exciting finale to the homecoming medical match-up and a proud moment for Schulich Medicine & Dentistry.



Dr. Reznick engages medical students during the homecoming medical match-up lecture

CHECK-UP



Dr. Michael Rieder, Distinguished University Professor

Diamond anniversary celebrated

■ The spring of 2014 brought with it a celebration recognizing the 75th anniversary of the Department of Microbiology and Immunology. This special occasion was marked with a full-day Symposium, special reception and celebratory dinner. Many alumni, as well as former and current faculty, attended the event.

New home welcomes trainees

■ The historic Medical Arts Building in Windsor was officially opened in June 2014 and now serves as a temporary residence for clerks and medical trainees completing their rotations or electives in Windsor.

The 83-year-old heritage building is more like a boutique hotel than student residence. There are 15 smaller suites with mini kitchenettes, three smaller hotel size rooms, 2 two-bedroom apartments, a large three-bedroom apartment, and a penthouse suite on the top floor. There is also a full common area kitchen, outdoor patio, gym, spa

Schulich Proud

■ Each year, the spring signals the awarding of Western University's most prestigious awards in the areas of teaching, leadership and research. Once again faculty members from across Schulich Medicine & Dentistry received many of the University's highest honours.

Described as innovators, hailed as superb, and considered simply the best, Jerry Battista, MSc'73, PhD, and Brad Urquhart, HBSc'01, PhD'07, received two of Western's teaching honours. Battista received the Edward G. Pleva Award for Excellence in Teaching, and Urquhart received the Marilyn Robinson Award for Excellence in Teaching.

Dr. Mandar Jog, Department of Clinical Neurological Sciences, was named a 2014 Faculty Scholar. He was recognized with 12 of his peers for significant achievements in teaching and research. The recipients of Faculty Scholar awards are considered all-around scholars and receive \$7,000 each year for scholarly activities.

In the area of research achievement, Dr. Stewart Harris, professor, Department of Family Medicine, and Dr. Charles Weijer, professor, Departments of Philosophy and Medicine, were awarded a Hellmuth Prize. The honour recognizes faculty members with outstanding international reputations for their contributions in research—one of the defining hallmarks of a university. With only two prizes offered annually, it is a significant accomplishment that both recipients are Schulich Medicine & Dentistry faculty.

Established in 2005, the Distinguished University Professorship recognizes sustained excellence in scholarship throughout a substantial career at the University. Scholarship is broadly defined to include research, teaching and service to the community. Dr. Michael Rieder and Cheryl Forchuk, PhD, were two recipients this year, each receiving their award at convocation ceremonies.

area, boardroom and corporate office. It is conveniently located directly across the street from the Windsor Regional Hospital—Ouellette Campus.



Medical residents enjoy new boutique-style residence

SLI partnership

■ Recognizing the depth of talent and expertise focused on concussion research and care across Western University and London, Ontario, Sports Legacy Institute Canada (SLI) has established a partnership with Western University.

The organization's new Canadian home base is now located at Schulich Medicine & Dentistry. Together SLI and Western University will explore opportunities to work together to build awareness, create education programs and support research focused on sport-related concussion.



Master of Public Health Class of 2014 celebrate building opening

New facilities form foundation for expanded education mission

■ The openings of two new facilities that support Schulich Medicine & Dentistry's education mission were celebrated this past year.

The Western Centre for Public Health and Family Medicine is now home to the research and academic programs for the Department of Family Medicine. Complete with the latest technology and teaching facilities, it also houses the new Schulich Interfaculty Program in Public Health.

The General Anesthetic Suite, completed in January 2014, is an important achievement and puts Schulich Dentistry at the forefront of dental education. Because of this new Suite, the School will be able to offer dental students more hands-on clinical experience, provide more specialized support for patients with complicated requirements and continue its commitment to exemplary care. The Suite represents a collaborative approach to health care, giving dental students the opportunity to work closely with the General Anesthesia program and other specialties.



Challenge Accepted

■ It took less than the required 24 hours for Dr. Michael J. Strong and his lab to accept the Ice Bucket Challenge from colleague Dr. Don Stuss of the Ontario Brain Institute. Dr. Strong is one of Canada's leading researchers focused on Amyotrophic Lateral Sclerosis (ALS). He has spent the past 25 years working to unlock the mysteries of this rare neurological disease. The Ice Bucket Challenge was established in the summer of 2014 to raise awareness about and funds for ALS research.

Degrees of honour

■ Two of the country's medical and scientific leaders received honorary degrees this past spring at convocation ceremonies for Schulich Medicine & Dentistry programs.

Dr. Tom Feasby and Dr. Jacob (Jake) Van Dyk, MSc'71, who are former faculty members at Schulich Medicine & Dentistry, were recognized for their outstanding contributions.

Trained in neurology at Western, Dr. Feasby has made significant scientific discoveries that have advanced the understanding of nerve diseases. He served as Dean of the Faculty of Medicine at the University of Calgary from 2007-2012, founded Canada's leading stroke program

in Calgary, as well as the Calgary Neuromuscular and ALS Clinics.

During his award-winning teaching career, Dr. Van Dyk served as head of physics and engineering at London Health Sciences Centre's Regional Cancer Program. A professor emeritus, Dr. Van Dyk's research focuses on the implementation of radiation technology in clinical cancer treatment. Throughout his distinguished career, he has played a leadership role in academic and professional organizations, including the Canadian College of Physicists in Medicine, the Canadian Organization of Medical Physicists, the American Association of Physicists in Medicine and the International Atomic Energy Agency.



Eric Arts, PhD

International research leader comes home

■ Eric Arts, HBS'90, PhD, one of the most important researchers studying HIV/AIDS in the world today, is now the new Chair of the Department of Microbiology and Immunology. It's a homecoming of sorts, as Arts developed his research interests while completing his HBS in 1990 from the very department he will now lead.

Arts and his research team,

including members of the Uganda Core Lab at the Center for AIDS Research, have provided the international medical community with a better understanding of how various strains of HIV mutate in different parts of the world, causing not only major differences in disease development but also varying timelines in terms of progression to full-blown AIDS.

Arts will continue his work with several of his team members who are joining him from the top-ranked U.S. institution Case Western Reserve University.

BENCH AND BEDSIDE

AT SCHULICH MEDICINE & DENTISTRY, UNDERGRADUATE STUDENTS HAVE AN OPPORTUNITY TO EXPERIENCE THE RESEARCH WORLD FIRST-HAND

BY PAT MORDEN, BA'77

When it came time for university, Dr. Brent Lanting, BSc/MD'06, MSc'14, was torn between business and engineering. He chose engineering. One day in a materials class, the professor passed around some high-tech hip implants. "I looked at them and was fascinated. I felt like this is what I was born to do."

Dr. Lanting completed a research project for his undergraduate thesis in engineering with an orthopaedic surgeon. By then, he was in a combined engineering and medicine program, and was able to take advantage of the Summer Research Training Program with Schulich Medicine. He went on to design, test and build a simulator for dynamic testing of upper extremities. He completed both degrees, and trained as a resident in orthopaedic surgery. Recently he completed his MSc.

Lanting says doing research as an undergraduate helped him grapple with the vast array of knowledge needed to practise medicine. "Research enables you

to take possession of one element of medicine and feel that you really know it," he said. "Learning becomes an active, rather than a passive, process. When you feel confident in that one part of the knowledge, then the other parts become more interesting." He adds that doing research also helped him build a network of collaborators, people he still consults with today.

Lanting was one of many medicine and dentistry students who had and still continue to have the opportunity to conduct research while they are still undergraduates.

In addition to integrating research into the core curriculum, the School offers several programs that encourage and support students to spend time in the lab. Among the programs are the Summer Research Training Program, the Schulich Research Opportunities Program, the Dental Summer Research Program, and the new Schulich Windsor Opportunities for Research Excellence Program. →

“Research enables you to take possession of one element of medicine and feel that you really know it.”





Dr. Brent Lanting

EDUCATION

Denise Figlewicz, PhD, vice dean, Research & Innovation, believes these programs are critical to the development of effective clinicians. "We are living biological entities—how we operate and how we get sick happens at the cellular and sub-cellular level," she said. "Whatever you study in research, you are learning about a part of the overall fascinating biology of humans."

Figlewicz says some people know they want to do research from an early age, and the School's undergraduate research programs enable them to get started. It's equally important for students who don't think they have much interest in research to get their feet wet. "You never know which ones will love it and dive right in."

Dr. Jason Zimmerman, DDS'14, was one of those. He heard about the summer research opportunity early in his first year and soon connected with a supervisor, Dr. Walter Siqueira.

He developed a project focused on acquired enamel pellicle, the protein film that forms on teeth, in children. Pellicle both protects against and promotes tooth decay. "Preventive dentistry is one of the major research foci in our field," said Dr. Zimmerman. "Childhood cavities can cause pain, make children miss school and make it difficult for them to concentrate. Yet there has been very little research on pellicle in children."

Dr. Zimmerman's project showed that the pellicle on children's teeth is quite different from that on adult teeth, sharing only about 40 per cent of the same proteins. "That means we can't take the therapeutic approaches

we use on adults and transfer them to kids." He hopes the research, which has been published in the *International Journal of Molecular Sciences*, will encourage other researchers to explore new therapies specific to children.

Dr. Zimmerman feels his research efforts helped make his academic program more meaningful. "In dentistry you get a lot of information about how to treat various conditions, and all that stems from research," he said. "A lot of people dedicated a lot of time and effort in creating the knowledge we learn."

“Whatever you study in research, you are learning about a part of the overall fascinating biology of humans.”

Dr. Harinder Sandhu, vice dean, and director of Schulich Dentistry, says that the undergraduate research experience often positions students well for graduate studies. Dr. Zimmerman is now pursuing a graduate program in orthodontics at the University of British Columbia (UBC). And the benefits go much deeper, Dr. Sandhu believes. "If you have a research background and you can critically analyze the research that has been reported on a new technique or treatment, you'll be a much better practitioner. It's amazing the difference it can make." →

Dr. Jason Zimmerman discovered the benefits to research and the value of the process early on as a dentistry student



Caitlin Chang's interest in research started earlier than Dr. Zimmerman's. Always fascinated by science, she participated in a summer internship program at the Deeley Research Centre at UBC while still in high school. She was also involved in research during her first degree. "I really enjoyed doing research and found it very rewarding," she said. She chose to attend Schulich Medicine & Dentistry in part because she was aware of the School's emphasis on research excellence.

"If you have a research background and you can critically analyze the research that has been reported on a new technique or treatment, you'll be a much better practitioner."

Schulich's Summer Research Training Program enabled her to spend the summers following first and second years working in the lab. She worked with Dr. Cindy Hutnik, professor, Department of Ophthalmology and Pathology, on research in ophthalmology. The project looked at the effect of medications designed to lower intraocular pressure in people with glaucoma, comparing the effects of preservative-free medications with those formulated with preservatives on the trabecular meshwork.

The research demonstrated that the preservative benzalkonium chloride caused damage to the trabecular meshwork, while the preservative-free medication, tafluprost, was safe at all doses and appeared to have a protective effect. "Given the role of the trabecular framework in draining the aqueous humour, the implication of the study is that benzalkonium chloride may actually be making things worse in glaucoma," said Chang. A paper based on the work has been accepted by the *Journal of Clinical & Experimental Ophthalmology*, and presented at several conferences.

"We are proud of the ingenuity, creativity and drive students provide to move research projects forward."

Chang says her experience helped her develop time management, critical thinking, problem solving, communication and literature review skills. "All of these skills can be applied to medical practise," she said. "For clinicians, participating in research encourages continuous reading to stay up-to-date with current developments, and gets people to think at a deeper, more reflective level."

Beyond the practical benefits, Chang says she feels good about contributing to the process of knowledge creation. "It's important that we as a society invest in medical research because the findings will continue to benefit many people for years to come." She is currently thinking about future opportunities to do research.

"Participating in research gets people to think at a deeper, more reflective level."

Dr. Gary Tithecott, MD'79, MBA'11, associate dean, Undergraduate Medical Education, believes research is a skill that all students should have. He points out that the role of a physician has evolved into that of "a caregiver who asks questions, knows how and where to seek the answers, interprets an exploding base of knowledge, and advises patients, colleagues, systems and society on the best methods to improve patient care."

Research skills help make students competitive for residency programs and prepares them to conduct research projects

during their careers as clinicians, he said. "Research makes students better scientists, a core part of being a physician, and better prepares them to lead during residency and in practice."

Just as important, undergraduate students make important contributions to the research output of the School. "Many students are key to asking the questions, seeking out and interpreting the existing literature and delivering the final paper," said Dr. Tithecott. "We are proud of the ingenuity, creativity and drive students provide to move research projects forward."

Figlewicz agrees, noting that many undergraduates are authors on peer-reviewed articles and win awards at conferences.

There are intangible benefits. "If you walk into a lab filled with young people, there's a buzz, an energy level that lifts the whole operation." Dr. Sandhu added, "The brightest young women and men come to our School, so when they bring their own ideas forward they are often successful in moving the research forward."

"If you walk into a lab filled with young people, there's a buzz, an energy level that lifts the whole operation."

More than 45 medical students and up to a dozen dentistry students have the opportunity to do research through the School's summer programs. Figlewicz sees the potential for growth. "We are bringing in new faculty members so there are more opportunities for students."

Dr. Brent Lanting is now an assistant professor with the Division of Orthopaedic Surgery at Schulich Medicine & Dentistry and an orthopaedic surgeon at London Health Sciences Centre. He helps supervise a number of master's students and has several research projects on the go. His secret for carving out time for research in his busy clinical schedule? "If you love your project and really want it to happen, you'll find the time." ■

SEEING TEACHING MORE CLEARLY

A GROUP OF EIGHT PhD STUDENTS
LEARNED ABOUT TEACHING BY
DEVELOPING AN INNOVATIVE LAB
COURSE IN MEDICAL IMAGING

BY PAT MORDEN, BA'77

It's hard to imagine a PhD student in medical biophysics getting really excited about imaging a mango, but that's what happened during a new graduate course offered during the 2013-2014 academic year.

The course was the brainchild of Assistant Professor Aaron Ward. Once on track to becoming a high school math teacher, Ward had formal training in pedagogy before "making a hard right into science." Now a faculty member in the Department of Medical Biophysics, he saw two major gaps in the teaching program.

Undergraduate students took a course in medical imaging but had little opportunity to apply the theory to practise. Getting time on existing clinical imaging systems was very difficult. "They might ultimately find themselves at the helm of a clinical imaging system," said Ward. "It's great when you press 'go' and get an image. But when things don't go right, you need to know more than just the theory." →



TOP: Eli Gibson performs an ultrasound scan of a string phantom specially designed by his team to teach students

BOTTOM: Zahra Hosseini demonstrates how to orient the TerraNova MRI system according to the earth's magnetic field

LEFT: Aaron Ward, PhD, engages with trainees

The solution? To use miniaturized imaging systems—a cart-mounted CT scanner that uses visible light rather than X-rays (the DeskCAT, invented and first built at Schulich Medicine & Dentistry), a tabletop MRI machine (the Magritek TerraNova-MRI) that uses the earth's magnetic field, and a veterinarian ultrasound (the SonoSite 180plus).

But equipment alone was not enough. Ward recognized that a thoughtfully designed curriculum would be needed to use the mini-machines effectively.

That's where the second gap came in. "PhD trainees often go on to an academic career, in which they have both research and teaching duties," said Ward. "But as a rule, they're not formally trained to teach." To plug the two gaps, he designed a graduate course in which a group of eight PhD trainees were challenged to create a curriculum based on the three miniaturized imaging machines.

The course began with a deep dive into pedagogical theory. Each week, one of the students took charge of a topic such as evaluation or cognitive load, explored the theory, and then presented to the group. With a theoretical background in place, the students divided into three working teams and set to work developing curriculum for the machines. As they worked, they were supported by faculty members with expertise in the three imaging modalities: Charles McKenzie, PhD '99; John deBruyn, PhD; Tamie Poepping, PhD '02; Jim

Lacefield, PhD, and Jerry Battista, MSc '73, PhD.

"We had no background using these machines at all," said Sarah Mattonen, a PhD trainee in medical biophysics. "We got a basic introduction and then explored at our own pace, learning their ins and outs." The trainees were encouraged to choose a modality they were not familiar with from their own research.

Anthony Lausch, also a PhD trainee in medical biophysics, says that each problem they encountered became a learning and teaching opportunity. Knowing that the course materials would actually be used was a strong motivator. "We've all had courses that weren't particularly challenging, or perhaps weren't organized in the best possible way," he said. "This was a way to counteract some of the darker moments in our undergraduate experience."

Working with the mini-MRI, Zahra Hosseini, a PhD trainee in biomedical engineering, says her team was "ecstatic" to get a recognizable image of a red pepper and then a mango. "It's one thing to sit in a classroom and be told facts about MRI," she said. "It's a whole different story when we were trying to get that thing to work. We learned way more than we would have if we'd just taken an MRI course."

Ward was deeply impressed by the enthusiasm and commitment of the students, who insisted on handing in a more fully complete set of curriculum materials than Ward himself initially thought necessary. He was also delighted with the quality of their work. "We're going to make only minor tweaks before delivering the course next winter. This is going to fill a big gap in terms of our students being able to get their hands on real equipment to implement the theory they're learning." Another graduate course based on the same principles but focused on teaching problem-solving techniques is now in development.

Eli Gibson, a PhD trainee in biomedical engineering, says he's always been interested in teaching but also felt some "background terror" at the idea of developing a course and facing a classroom full of students. "This course helped with the terror," he said. "Learning about how to teach and develop a course before you're thrown in the deep end of the pool makes it a lot less intimidating."

Lausch agrees, adding, "Before this, teaching was a nebulous, uncertain thing. Now that we've learned about ways to approach it, teaching seems like a new way to express yourself, a new challenge." ■

DOCTOR TIMES TWO

DR. TARYN TAYLOR IS ADDING A PhD TO HER MD THROUGH THE CLINICAL INVESTIGATOR PROGRAM

BY PAT MORDEN, BA'77

Four years of undergrad, four years of undergraduate medical education and six years of residency, you'd hardly think Dr. Taryn Taylor, BSc'06, MD'10, would be open to extending the length of her education. But that's exactly what she's doing.

In 2016, Dr. Taylor will complete her residency in obstetrics and gynaecology and her PhD in Health Professions Education.

And she's not alone. There are a dozen students in the Clinical Investigator Program currently, and Program Director Dr. Michael Rieder hopes there will soon be many more.

The program is Royal College certified and designed to provide research training for residents. "There is an acknowledged shortage of clinical investigators pretty much everywhere in Canada," said Dr. Rieder. "We need more people who can translate research findings into meaningful changes in practice, and this is one way to develop them."

Dr. Taylor didn't start her medical training with a research career in mind. The Chatham, Ontario native was influenced to pursue medicine by her mother, a public health nurse, as well as a family doctor with whom she completed a co-op placement during high school. "I remember very vividly being at my first delivery," she said. "I've still got one of the green towels as a memento of the day."

Dr. Taylor did her clinical clerkship in Windsor, Ontario, where she soon found herself an integral part of the hospital's obstetrics and gynaecology team. "It was such a joy and privilege that women, particularly those in labour and delivery, allowed me to be part of their incredible experience," she said.

Meanwhile, Dr. Taylor had also discovered the joy of research.

For her second-year research project she worked with Drs. Barbra DeVrijer, Jeff Nisker and Debbie Penava on the care experience of obese pregnant women.

Dr. Taylor admits the project, which involved one-on-one interviews, was a lot of work in a short period of time. But she was hooked. "It was a real pleasure, and it opened up a whole new world that I had never really thought about before."

The project led to further discussions and thought, and ultimately Dr. Taylor decided to pursue a master's in medical education.

As it happened, the Centre for Education Research & Innovation (CERI) at Schulich Medicine & Dentistry was just about to launch a new graduate degree in Health Professions Education in cooperation with University of British Columbia, through Maastricht University in the Netherlands. Dr. Taylor was able to work with Lorelei Lingard, PhD, who is the inaugural Director at CERI, while supported by faculty members at Maastricht.

Dr. Taylor's research topic stemmed from her own experience. "One day after being on call, I found myself going through the McDonald's drive-through, which is something I wouldn't normally do, and thinking, 'Why am I here?'"

Already aware of the controversy around resident duty hours, Dr. Taylor decided to focus her research on what residents do when their on-call shift ends, and why some stay in the hospital and others go home to rest after being up all night.

In her first study, she interviewed 24 residents across six surgical and non-surgical programs. She found that both residents who stayed in the hospital and those who went home did so because they believed it was the

“Having residents involved broadens the scope of the research, and also markedly increases its impact.”



Dr. Taylor relaxes at home after a shift at the hospital

right thing to do. “Regardless of the decision they made, they felt they were demonstrating a commitment to patient safety and to their education,” she said. “The ones who left the hospital did so because they felt fatigued and thought they might not be able to do their clinical work safely or learn effectively. Those who chose to stay had a sense that they knew their patients better as a result, and that there were limitless educational opportunities the next day.”

As an invited participant at the Canadian Consensus Conference on Resident Duty Hours, Dr. Taylor’s research has been used to inform discussions around work hours at a national level. She is now taking the research further, exploring what residents do in the recovery period after being on-call and why, and how they make judgments about what is safe to do when they’re fatigued.

She hopes her work may shed new light on the controversy around resident working conditions and lead to more effective policy. “It’s very tempting to focus on the number of hours and give a prescriptive recommendation,

but I think it’s more complicated. In doing this work, my opinions on the matter have certainly evolved.”

Dr. Taylor is the first person to go through the Clinical Investigator Program on a “fractionated” model. She completed her first two years of residency in obstetrics and gynaecology, and then spent eight months working on her master’s. She then moved back to the hospital for four months, and then returned to research for three months. When it became clear that her research questions could readily comprise a doctoral thesis, Dr. Taylor applied to convert to a doctoral degree.

She will move back and forth between the two worlds until both the residency and the PhD are complete. “I have this sense that I’m studying it as I’m doing it,” she said. “I have moments when I’m in the hospital setting and something catches my mind and makes me think of my research. Certainly, I’m much more conscious of what I’m doing when I’m post-call or fatigued and why.”

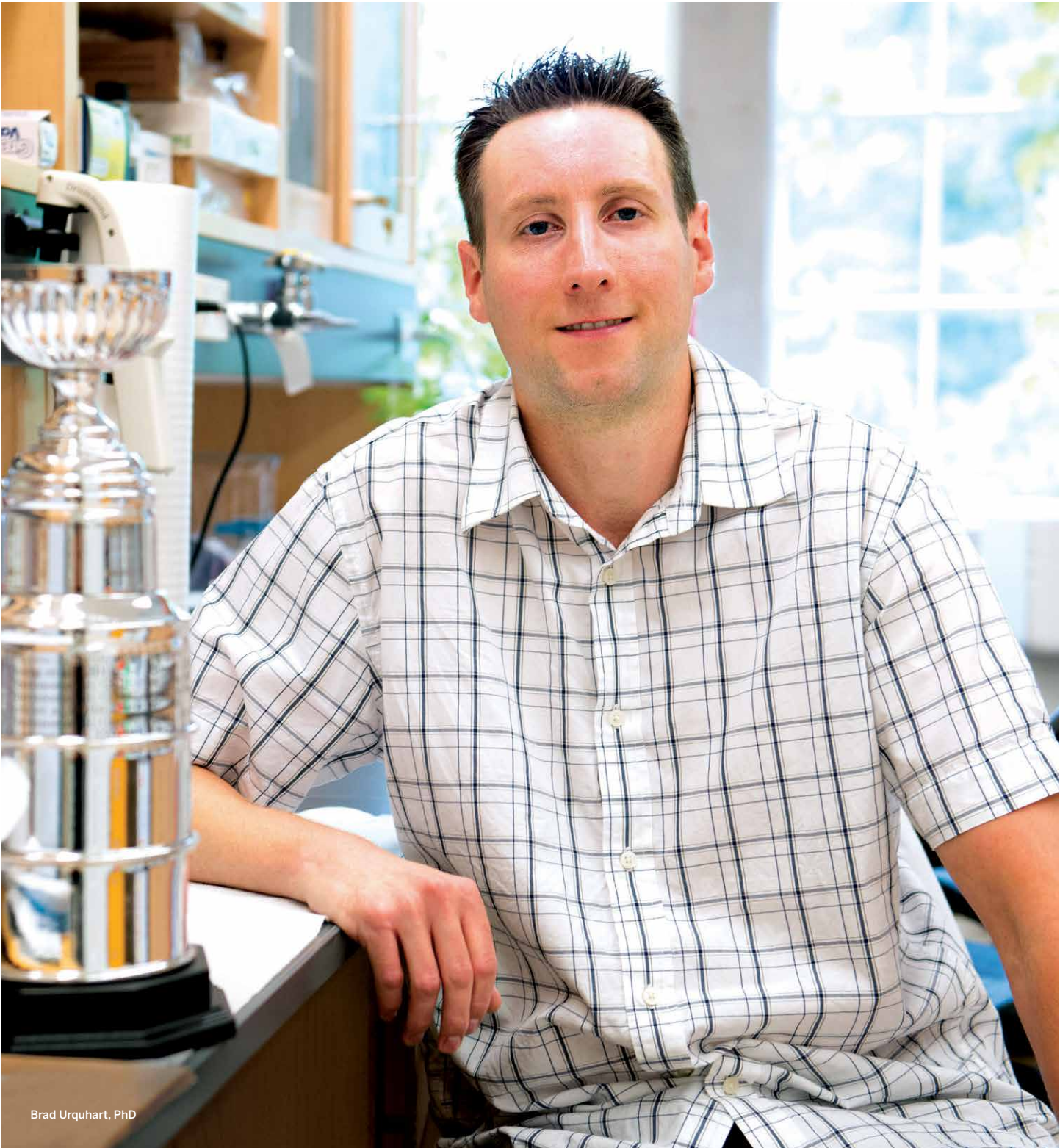
For Dr. Rieder, that’s a big part of

why the Clinical Investigator Program works. “It enhances the residency experience by focusing the resident in on a particular area of research need.

Having residents involved in the program also ensures other residents are exposed to cutting-edge research.” Although Dr. Taylor’s research is largely qualitative, many in the program interact closely with basic scientists at the School.

He believes research training makes for better doctors. “It causes you to be more thoughtful as a practitioner,” he said. It enriches the research environment at Schulich Medicine & Dentistry. “Having residents involved broadens the scope of the research, and also markedly increases its impact.”

As for Dr. Taylor, she is looking forward to starting her clinical career, knowing that research will always be part of her life. “I don’t know what I want the balance to be,” she said. “I do know that I want to continue to move between the two worlds.” ■



Brad Urquhart, PhD

CURRICULUM EVOLUTION

USING POPULAR CULTURE AND TECHNOLOGY, BRAD URQUHART, PhD, IS CHANGING THE SCHOOL'S CURRICULUM AND INSPIRING STUDENTS TO LEARN IN NEW WAYS

BY JENNIFER PARRAGA, BA'93

It's a Hollywood scandal. An actor known more for his coverage in the tabloid press than his stage and screen prowess is found dead in a hotel room in Las Vegas. The crime scene is littered with clues, many that could lead investigators to determine what went wrong that fateful night. Was it murder?

No, this isn't the latest opening scene to the CBS network weekly television hit "CSI". It's part of an online course offered through the Department of Physiology and Pharmacology.

The course and its unique approach is just one of many innovations Brad Urquhart, HBS'01, PhD'07, has brought to the School's curriculum.

It's also one of the reasons Urquhart received the 2014 Marilyn Robinson Award for Excellence in Teaching, one of Western University's highest teaching honours.

When Urquhart first encountered the online course, it was being presented as an e-pack that students would purchase and work through independently. They could then email questions or connect through a discussion board for further instruction.

The purchased course was less than acceptable to Urquhart, because of its lack of engagement and factual and foundational errors.

"I didn't like the way the course was run," he said. "When I was 'teaching' the class—I didn't feel like I was teaching."

Urquhart approached Schulich

Medicine & Dentistry colleagues to make the necessary changes. Together with Professor Tom Stavaky, MSc'92, PhD, and Jay Loftus, an instructional designer with expertise in e-learning, he redeveloped the program to make it more interesting.

Using a variety of media, nearly 600 students annually work through the crime scene, clicking on clues, investigating the murder while learning the curriculum. There's even music reminiscent of the well-known television series to add extra flavour.

The majority of students taking Urquhart's courses want to go into medicine, dentistry, optometry, pharmacy or advance to their graduate studies training.

He feels a great deal of responsibility to ensure they are prepared. "My main goal is to make pharmacology as exciting and fun as it can be," said Urquhart. "When you are teaching, you can't glaze over principles; you want students to be well prepared. I see it as my job to ensure the students appreciate the different concepts and can apply them in real life."

Urquhart got an early start to teaching, working as a teaching assistant for several pharmacology classes while he was completing his PhD. He quickly learned that students have very high expectations and want information presented in an interesting manner.

Using popular culture, providing hands-on experience and inspiring students to think

out of the box are just a few of the principles Urquhart uses to make all his online and in-class courses in physiology and pharmacology more interesting and engaging.

In doing so, he is evolving the curriculum for the benefit of all students.

Continuous innovation isn't always easy for Urquhart; however, when he sees the light bulb come on for his students, it is the greatest feeling.

In addition to the online course, Urquhart also teaches pharmacology to dentistry and nursing students, as well as a pharmacology lab class, and he team-teaches a third-year pharmacology class. He will be adding a fourth-year toxicology class to his schedule for the 2014-2015 academic year.

When Urquhart is not teaching, he is a dedicated researcher. The focus of his work is on personalized medicine. He works closely with nephrologists Drs. Andrew House, BSc'88, MSc'02, and Matt Weir, MSc'13, and is determining why people with kidney disease respond to medication differently.

In the end, however, Urquhart believes his greatest achievement has been the success of his students. True to his creative character, he has found a unique way to celebrate his students' publications and graduations. Each accomplishment is engraved in his lab's "Stanley Cup." The cup is brought along for team celebrations to local restaurants and can be found in a place of honour in the lab. ■

Hope blooms for seizure patients



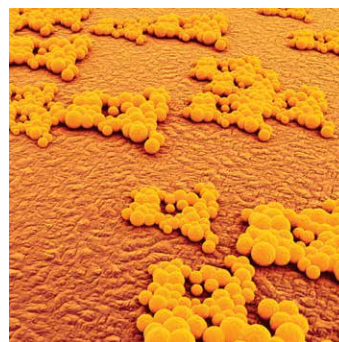
■ Michael Poulter, PhD, Robarts Research Institute scientist and his team have identified a compound in the root of the delphinium flower that acts as a powerful anti-seizure medication.

Drawn from the lavender-coloured delphinium *denudatum* flower, the root extract molecule blocks the activity of an ion channel, called the sodium channel, responsible for the excitation of nerve cells.

Poulter, who also serves as a Professor with the Department of Physiology and Pharmacology, also found that treatment with this medication not only suppresses seizures but actually stops the progression of the disease. The next step for Poulter is to begin the development of a pharmaceutical company to commercially develop this promising drug—when, and if, it gains approval. He is doing so with funding from the Ontario Brain Institute, and other private-sector investors.

Re-engineering streptococcal bacteria to fight colon cancer

■ New research has shown how the bacteria primarily responsible for causing strep throat can be used to fight colon cancer. By engineering a streptococcal bacterial toxin to attach itself to tumour cells, they are forcing the immune system to recognize and attack the cancer. Kelcey Patterson, PhD candidate, directed by John McCormick, PhD, associate professor in the Department of Microbiology and Immunology, have discovered that the engineered bacterial toxin could significantly reduce the size of human colon cancer tumours in mice, with a drastic reduction in the instances of metastasis. By using mouse models that are stripped of their immune system, they were able to create a humanized mouse, one that would not only grow human colon cancer cells but would also support a human immune system to test the anti-cancer immunotherapy. McCormick believes their research provides important pre-clinical evidence that shows this may work in humans. “This work represents a “next-generation immunotoxin” that we hope will eventually lead to a new class of cancer therapeutics,” he said.



Grace Parraga, BSc'84, MSc'86, PhD, and her trainees tested a new device designed to help COPD sufferers

Using imaging to help lung disease sufferers breathe easier

■ Grace Parraga, BSc'84, MSc'86, PhD, and Dr. David McCormack from Schulich Medicine & Dentistry and their team at Robarts Research Institute, aided in the development and testing of a new device designed to help people suffering from chronic obstructive pulmonary disease (COPD) and other mucus-producing lung diseases. The Aerobika* Oscillating Positive Expiratory Pressure (OPEP) Therapy System was developed by Trudell Medical International and is a drug-free, easy-to-use, hand-held device that aims to help people with lung disease breathe easier. Parraga and Dr. McCormack used unique lung imaging techniques at Robarts using hyperpolarized helium to show that the device improves breathlessness and better a patient's quality of life.

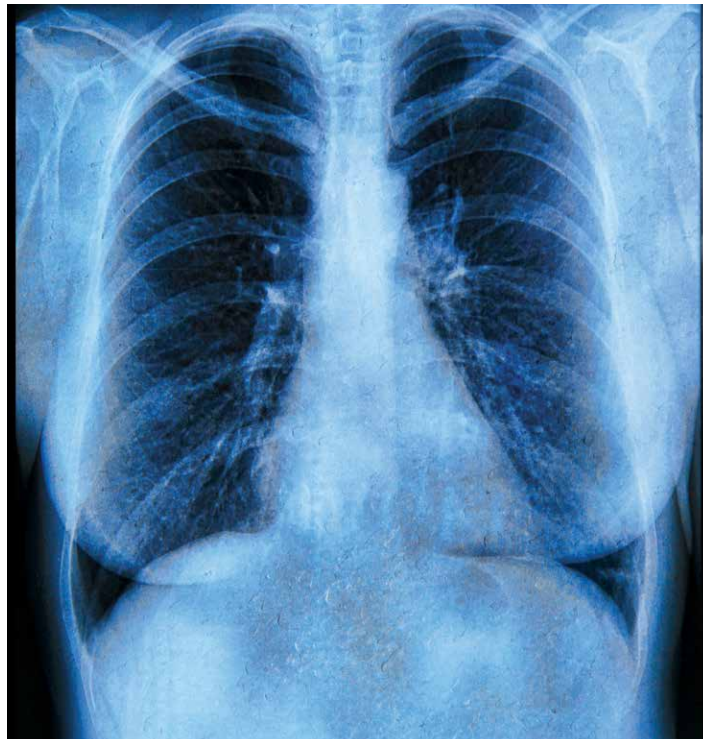
Protective pathway identified to counter toxicity associated with Alzheimer's disease

■ Research led by Marco Prado, PhD, Robarts Research Institute scientist, has identified a pathway used by the brain that tries to protect itself from toxicity that occurs with Alzheimer's disease (AD). Prado and his colleagues at Robarts and the A.C. Camargo Cancer Center in Brazil have done extensive work on the role of prion protein. They found that toxicity of amyloid-peptides, one of the major culprits in AD, may be decreased by preventing it from interacting with the prion protein. When a protein called stress-inducible phosphoprotein 1 (STI1) interacts with the prion protein preventing the interaction of amyloid-peptides, it protects neurons. "You have to think of AD as one big puzzle. Every year scientists are putting new pieces in, and now we found that STI1 is one of the pathways in the puzzle," said Prado. "The disease is very complex, but new clues on how we may be able to help the brain to resist the toxins in AD are starting to emerge."

Shedding light on why breast cancer often spreads to the lungs

■ Alison Allan, PhD, associate professor, Departments of Oncology, and Anatomy and Cell Biology, is shedding new light on why breast cancer often spreads or metastasizes to the lung. Previous work by Allan's research team has shown that a specific type of breast cancer cell, the breast cancer stem cell (CSC), is responsible for metastasis in animal models, particularly in the lung. Allan developed an innovative ex vivo (outside the living organism) model system that simulates different organ environments. They observed that breast CSCs have a particular propensity for migrating toward and growing

in the lung, and they identified specific interactions between breast CSCs and lung-derived proteins that could be disrupted to reduce the metastatic behaviour of breast cancer. The translation of this knowledge to the clinic could have important implications for improved treatment of breast cancer. The results of this study will also lay the groundwork for future clinical studies aimed at investigating whether increased breast CSCs in the primary tumour may predispose some patients to lung metastasis, and if so, whether directed monitoring (i.e., by imaging or ex vivo analysis) may be beneficial for early detection and successful treatment.



Dr. Amit Garg

'Off-pump' heart bypass surgery may reduce risk of perioperative kidney injury, but no difference in long-term function

■ Up to 30 per cent of patients undergoing cardiac surgery suffer mild or moderate kidney injury. Dr. Amit Garg, a nephrology professor in the Department of Medicine, led a large study which found patients undergoing coronary artery bypass graft surgery who were not put on a heart-lung machine (off-pump), had a reduced risk of post-operative kidney injury compared to patients who were put on-pump. The study also found there was no difference in kidney function one year after surgery. The findings, published in *JAMA*, have implications for determining acceptable adverse effects, and weighing the costs of using interventions solely to prevent mild or moderate kidney injury.

WELCOME TO THE FAMILY

THE PAST THREE YEARS HAS BEEN A PERIOD OF GREAT RENEWAL AT THE SCHULICH SCHOOL OF MEDICINE & DENTISTRY. PART OF THAT HAS INCLUDED THE HIRING OF 23 EXCEPTIONAL NEW FACULTY MEMBERS

BY PAT MORDEN, BA'77



Dr. Michael J. Strong, Dean



Dr. Michael J. Strong, Dean of the School, admits it is an opportune time to be seeking out talent.

Because of funding pressures throughout the university system, there are many brilliant young PhDs looking for their first academic positions. Dr. Strong and his colleagues have been quick to seize the opportunity to beef up the School's research strengths.

Fortunately, the School is in excellent shape to make this investment. Shortly after Dr. Strong assumed the Dean's chair, he hired a consulting firm to examine the administrative structure and recommend improvements. Ultimately the result is reduced costs, and Dr. Strong promptly moved the freed-up funding to the academic side. In the end there is a new crop of faculty members with exceptional credentials and a raft of fresh ideas and approaches at the School.

Dr. Strong says the new faculty members were selected on the basis of "fit" both in terms of finding research partners and enhancing existing research strengths, and finding a place within the School's collegial environment.

Recruits underwent an extensive series of interviews before being invited to join the School and then were carefully oriented to ensure they made the right connections. A monthly lunchtime lecture series allows new researchers to present their work and connect with others who may share similar interests. "The auditorium is always packed," said Dr. Strong.

So, what impact are the new recruits having? Dr. Strong says it's probably too early to tell. "This is a really difficult time in the research world from a funding point of view," he points out. "It will be a good five years before we know the full impact. But already we can see many are successfully attracting grants and are integrating well into their departments."

He points, in particular, to the new Interfaculty Program in Public Health, which welcomed its first students in September 2013. "It's wonderful to see how dedicated the new faculty members are to a brand-new program, and how well they are working together as a team. They are beginning to explore how they as a group can answer new research questions."

Will the hiring continue? Not at the same pace, said Dr. Strong. "The next big step is to let people settle in and understand how they can move their research forward, and help them wherever we can. I'm sure we'll see great things." →



Meet two of the School's new faculty members

Value for Money in Health Care

Ava John-Baptiste

PhD, faculty member of the Department of Epidemiology and Biostatistics

When Ava John-Baptiste, PhD, was a young girl going to school in Toronto, her first love was math. But the idea of pursuing an academic career in math terrified her. Now as a health economist, she's doing what she loves most—using mathematical models to evaluate different options for health care.

John-Baptiste completed her undergraduate and master's degrees at the University of Toronto and then worked as a research assistant for Dr. Murray Krahn. Dr. Krahn introduced her to health economics and evaluation, and she went on to complete her PhD in the field.

Following two postdoctoral fellowships, John-Baptiste became a faculty member at Schulich Medicine & Dentistry. She teaches in the new Schulich Interfaculty Program in Public Health, and has a clinical appointment in the Centre for Medical Evidence, Decision Integrity and Clinical Impact (MEDICI), operated by the Department of Anesthesia & Perioperative Medicine.

As a health economist, John-Baptiste helps to answer a crucial question: What is the best way to distribute health resources in society?

In striving to answer the question, she conducts comparative assessments of different health options to determine which offers the best value for money. "Those of us who work in economic evaluation are challenged by how to do things better, how to account for costs better,

and how to account for value," she said.

As part of MEDICI, John-Baptiste is studying a number of medical procedures and techniques. One example is electroconvulsive shock therapy (ECT). Although given a bad name in popular culture, ECT is part of the psychiatrist's toolkit in treating mental health disorders, such as major depression. In fact, hospitals are experiencing a growing demand for ECT that is putting pressure on their ability to deliver the treatment efficiently.

John-Baptiste and her team are looking at the cost-effectiveness of ECT compared to other therapeutic options, such as deep brain stimulation, anti-psychotic drugs, or antidepressants. "We hope to provide information that helps decision makers better understand who benefits most from access to this therapy."

In addition to her research with MEDICI, John-Baptiste is very excited about her role in the Schulich Interfaculty Program in Public Health, where she teaches public health economics.

It's important, she says, to ask the same questions about value for money for health promotion programs, such as teaching children not to smoke. This can be more challenging than comparing the cost-effectiveness of different drugs or treatments. "How do you quantify the benefits of a community garden that gives people the opportunity to grow fresh fruits and vegetables, provides a pleasant natural setting and strengthens the community?" she asked.

The program, which has just completed its first year, is partnering with a number of health agencies including the Middlesex-London Health Unit and the Lambton Public Health Unit to develop cases that help students to address real-world health issues.

As an interfaculty program, it draws from experts in law, aboriginal health, family medicine, business, science and health sciences. Says John-Baptiste: "We've all come together to develop and deliver a very innovative program we hope will eventually show the value for money of public health intervention, as well as produce compassionate and knowledgeable leaders in public health."

Ava John-Baptiste, PhD



Patrick Lajoie, PhD

**Fighting Huntington's
disease at the Cellular Level**

Patrick Lajoie

PhD, faculty member
of the Department of
Anatomy and Cell Biology

"This is an ideal research environment for the basic cell biology I do. Other researchers here can translate my basic research and apply it to animal models of various diseases, making it more relevant to people's health."

Patrick Lajoie, PhD, is talking about what attracted him to Schulich Medicine & Dentistry. Lajoie is a new faculty member of the Department of Anatomy and Cell Biology. Following completion of his PhD at University of British Columbia, he did a postdoctoral fellowship at the Albert Einstein College of Medicine in New York.

Lajoie's research looks at how cells react to various stresses. He focuses on how cells respond to misfolded proteins. If proteins don't fold properly, cells can't function properly. Misfolded protein accumulation is associated to many

human diseases. "I'm trying to understand the mechanisms that cells have evolved to cope with this process," said Lajoie.

Much of Lajoie's research has focused on Huntington's disease, a neurodegenerative disorder affecting the muscles and the brain. There are two possible ways to cure such a disease: either target the misfolded mutant huntingtin protein and get rid of it, or modulate the downstream events the signalling pathways that result from having misfolded proteins around.

The first approach developing drugs to get rid of the misfolded protein has met with little success. Lajoie takes the second approach, working to discover how the signalling pathways actually work.

Much of his research uses a yeast model. This simple model organism can help to understand the basic cellular mechanisms and responses. These insights can then be translated to animal models, and ultimately to human disease.

Using fluorescent microscopy, Lajoie has been able to label proteins and then track them. Through this process he identified another contributor to Huntington's disease misfolded protein stress. "We have found scenarios where

misfolded proteins accumulate in the cell because of the expression of the mutant protein that causes Huntington's disease."

Lajoie is also looking at the effects of bear bile acid, used in traditional Chinese medicine for years. Bile acid appears to have a limited effect in diseases caused by misfolded proteins. "We're using our molecular tools to understand what it does," said Lajoie. "Once we know the mechanism, we hope to design better drugs to alleviate the stress on cells."

In addition to Huntington's, Lajoie is looking at other diseases that result from the misfolding process, such as certain types of cancer and cardiac hypertrophy. He is also studying aging. "We are trying to understand how the signalling pathway is activated in aging," he said. "This could potentially help us to increase life spans."

Lajoie is looking forward to working with other researchers at Schulich Medicine & Dentistry to take his basic research to the next stage of translational research. "We have a very extensive collaborative environment not only in my department but within the School," he said. "There's an excellent mix of expertise and knowledge that complement each other." ■

BREAKING BAD

SCHULICH MEDICINE
& DENTISTRY RESEARCH
DISCOVERY MAY HELP
PREVENT BONE LOSS

BY CHRISTINE WARD, BA'89

A walrus tusk may hold the secret to slowing cancer growth and blocking the excessive bone loss that results in arthritis, osteoporosis and gum disease.

Cellular physiologist Stephen Sims, PhD, and his team across Western use walrus, elephant and narwhal tusks, confiscated by the Canadian Wildlife Service and donated to the University, to test the resorptive activity of osteoclasts, and the cells responsible for the destruction of old bone. In a healthy person, osteoclast activity is balanced by the work

of osteoblasts, the cells that form new bone.

"Our skeleton is constantly being remodelled by the osteoclasts and osteoblasts," explained Sims. "About every 10 years, the human skeleton is entirely rebuilt." However, this healthy turnover and renewal of bone is disrupted in people with arthritis, osteoporosis and some metastatic cancers, where the rate of bone loss outweighs that of new bone growth.

"Your bones go bad. Breaking bad. In the case of rheumatoid arthritis, the bone adjacent to the inflamed joints is resorbed excessively, which can lead to compromised joint function, pain and loss of mobility." Excessive bone absorption also contributes to the pain experienced when breast and prostate cancer spreads to the bone.

Sims, fellow physiologist Dr. Jeff Dixon, MSc'75, DDS'77, and Ryan Shugg, MSc'11 partnered with U.S. biotechnology company Gilead Sciences, Inc.; Nihon University in Japan; and the University of Calgary to explore a family of signalling enzymes called PI3Ks. PI3Ks had already been shown to control cell function, and Gilead researchers had further proven that blocking the enzyme could help in the treatment of chronic lymphocytic leukemia.

Using thinly sliced tusks coated with bone cells, the team discovered one PI3K isoform in particular (the delta isoform) selectively blocks osteoclast activity.

"We believe that this is going to be

helpful in situations where people have tumour metastases in bone, because it's going to allow you to block the bone resorption while also slowing tumour growth," said Sims. "Patients who are undergoing therapy for breast cancer often receive therapy to block the excessive bone resorption. This is a new tool that may offer some selective actions to reduce bone destruction."

Gilead Sciences is now looking to apply the discovery, published in the December 2013 issue of *The Journal of Biological Chemistry*, to new therapies for the management of arthritis and cancer.

Sims and Dr. Dixon see other potential applications as well. They are exploring the role of the PI3K isoform in treating periodontitis, an inflammation in the oral cavity that can lead to the loss of bone around the teeth. It's this work that continues to hold interest for Shugg, who completed his master's degree in Sims' lab in 2011 and is now a dentistry student.

"As with any pharmaceutical, there's no silver bullet," said Shugg. "No drug does only what you want it to do; there are always side effects. It's a matter of diminishing the side effects by establishing greater selectivity." While rigorous testing is still required, he sees potential benefits for the practise of dentistry.

Sims agrees. "We're laying the foundation that allows people to make advances improve therapeutics and patient care." ■

"Your bones go bad. Breaking bad. In the case of rheumatoid arthritis, the bone adjacent to the inflamed joints is resorbed excessively, which can lead to compromised joint function, pain and loss of mobility."



Stephen Sims, PhD
and Ryan Shugg, MSc'11

IMPROVING POLICIES AND LIFE FOR TRANS PERSONS



Greta Bauer, PhD

“Pa-thol-o-gize”:
to view or
characterize
as medically or
psychologically
abnormal

BY KATHY WALLIS

When Greta Bauer, PhD, first started doing research on the health and well-being of trans persons nearly a decade ago, she was met with suspicion and mistrust from some trans community members. That didn't surprise her. Nor did it deter her.

Bauer, an associate professor in the Department of Epidemiology and Biostatistics, says it's understandable because some of the most pathologizing research in the world with regard to trans people has come out of Ontario. It's research that tries to answer why people are trans; rather than asking what their lives are like, if they experience discrimination or even how they access health care.

So Bauer and her colleagues set out to make their research project, called Trans PULSE, intensely community-based.

“When you're working on research about social equity you need to make sure you're asking the right questions,” said Bauer, who also holds a master's in Public Health.

The research team (which includes trans and non-trans researchers) conducted broad community consultations to identify which issues should be studied. “People told us how they were not able to meet their health care needs, and sometimes felt exhausted trying to navigate a system that in many ways wasn't set up for their participation.”

They also engaged the trans community to help find survey participants. “We had to come up with new ways to sample hidden populations in order to produce meaningful data,” said Bauer. Each participant was asked to recruit up to three others for the survey, resulting in 433 respondents.

The study, the first of its kind in Canada, provides a clear picture of the impact social exclusion has on the physical and mental health of trans persons in Ontario. It delves into issues around depression and suicide, access to family

physicians and social services, emergency department care and parental support. And the findings are making an impact.

When the Ontario Human Rights Commission recently announced a new policy on gender identity, it cited Trans PULSE. Bauer calls that tremendously rewarding.

“Everything we've produced through the Trans PULSE Project has created reactions we can see, and as a researcher you're not always aware of what happens with your research once it goes out into the world.”

Indeed, Trans PULSE has garnered global attention. Bauer says researchers from Brazil and Germany have contacted her or come to London to learn from the experience. As well, the mental health sections of the survey have been duplicated in studies in the United Kingdom and Ireland.

Nearly a decade and dozens of research publications later, Trans PULSE is now wrapping up. Bauer said, “This has been an amazing project in terms of people's commitment to it and their willingness to work together.” ■



David Litchfield, PhD '87

UNDERSTANDING CANCER'S UNIQUE ADVANTAGE

DAVID LITCHFIELD, PhD, HAS BEEN WORKING FOR TWO DECADES TO UNDERSTAND HOW CANCER CELLS FIND WAYS TO CHEAT DEATH

BY CRYSTAL MACKAY, MA'05

David Litchfield, PhD '87, believes the key to fighting cancer is finding out exactly why it is that cancer cells refuse to die.

By studying the complex network of signals and transmission of information between cells, Litchfield, a professor and chair in the Department of Biochemistry at Schulich Medicine & Dentistry, and his team are aiming to pinpoint why and how cancer cells are able to adapt in ways that allow them to survive when normal cells under the same circumstances would die.

"The ability of cells to adapt is what maintains our health. We can adapt to our environment, and our nutritional state, so our survival and our good health is a consequence of our adaptability," said Litchfield. "Cancer cells acquire exceptional adaptability, giving them a unique advantage."

This adaptability, it turns out, is what makes designing cancer therapies so difficult.

Litchfield's lab is looking specifically at protein kinases. The promise of protein kinases as therapeutic targets was revealed in 2000, when a drug called Gleevec was approved for use in North America to treat a specific form of leukemia. The drug, which targets the protein kinase BCR-Abl, has proven to be highly effective. It is so effective, in fact, that there are currently an estimated 100,000 leukemia patients around the world living productive, active lives because of it.

The thing that's striking about Gleevec is that while there are some patients who do acquire resistance, it has proven to be extremely durable. Now, the goal is to find other therapies that work just as well.

This, says Litchfield, is the challenge.

Researchers have been successful in targeting other protein kinases in specific pathways to block cancer cells from proliferating, but Litchfield says often these drugs work really well for a few weeks and then they suddenly stop working. The cancer cells, then, come back even more aggressively than before.

Litchfield describes how this can happen because protein kinases are organized into complex networks, so that when one is blocked, the cell can use different protein kinases within the network to get around the blockage.

"This is why instead of looking at individual targets, you really need to look at the entire network," Litchfield said, likening it to a football game. "If you are keyed on the fullback only, as soon as he pitches the ball, you have a whole new problem."

Litchfield's lab is looking specifically at the role of protein kinases of which there are 500 coded in the human genome, with an estimated 200 to 300 expressed in any individual cell. "So that's a pretty big football team," Litchfield said.

Using various techniques, including proteomics and biosensors to watch what is happening in live cells, Litchfield and his team are aiming to anticipate how this complex network is going to adapt. This will enable them to key in on not only the primary target, but any additional pathways as well.

Litchfield calls this approach "precision medicine." Because cancer isn't just one disease, the idea is that by understanding the underlying molecular defects of each unique disease, researchers can match the intervention to those defects.

"If we can understand the network adaptations that are unique to each individual form of disease, this will lead to combination therapies that shut down the entire network of pathways," said Litchfield. "Although you are hearing this from an eternal optimist."

And it's that eternal optimism that keeps Litchfield engaged in this work. The advances he has seen in understanding cancer during the past two decades give him hope they will be able to find ways to stop it.

"Much of what we are doing now was unimaginable when I first started doing research two and a half decades ago," he said. "It seems that every day there are more opportunities to learn than there were the day before." ■

DISCOVERY



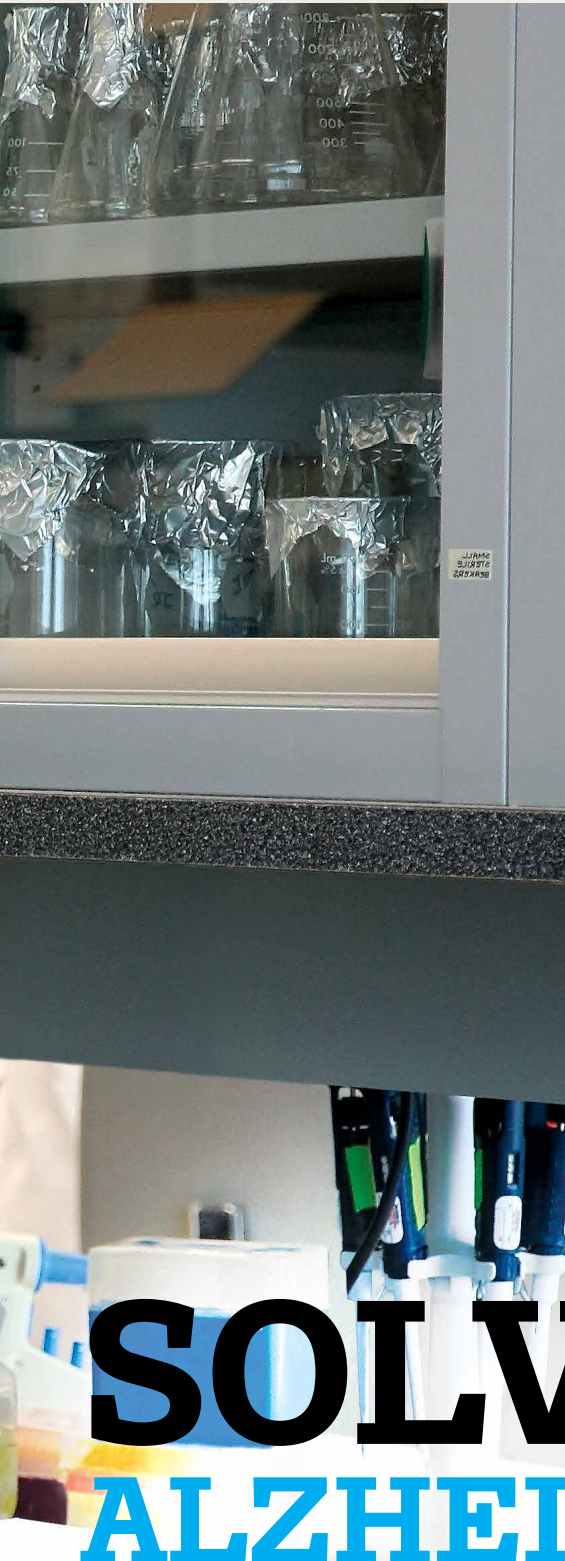
LIGHT AT THE END OF THE ALZHEIMER'S TUNNEL

Dr. Steven Pasternak, neurologist and scientist at Robarts

ROBARTS DISCOVERY



Jane Rylett, PhD



For those diagnosed with Alzheimer's disease, the journey is a long and frightening one. It is a slowly progressing disease that takes over the mind of its sufferers, leaving them confused and unsure of who they are. And the reality is that it's not a question of *if* you are going to get Alzheimer's disease, it's a question of *when*

As we continue to live longer and as our population ages, the number of people affected is staggering. Nearly 750,000 Canadians are currently living with Alzheimer's disease, with that number expected to double in the next 20 years. A group of researchers at Robarts Research Institute is vigorously working to find ways to understand and treat the disease in order to slash those numbers. Their motivation shines a harsh light on the prevalence of the disease. →

BY CRYSTAL MACKAY, MA'05

SOLVING THE ALZHEIMER'S PUZZLE

ROBARTS DISCOVERY

"I spent my whole life studying this disease and then my father got Alzheimer's," said Jane Rylett, HBS'75, PhD'80, one of a team of researchers investigating various aspects of Alzheimer's at Robarts. "I suddenly had an entirely new perspective on it, watching it happen right in front of me."

Rylett's story is not unique; she is one of three in the group whose family has been directly impacted. This tough reality solidifies the group's collective commitment to solving the mysteries of this complex disease.

In Rylett's lab, the team is looking at the changes in the microenvironment in brain tissue that surrounds nerve cells and how that affects their function and communication with other cells. "What we are aiming to do is identify the changes occurring in the brain that might appear even decades before the person has any clinical symptoms," said Rylett. "And this is always the challenge because how do you know that what you are looking at relates to someone who is going to get the disease in the end?"

The team at Robarts is studying Alzheimer's disease across the entire spectrum from the cellular and molecular level, to monitoring behavioural changes in Alzheimer's animal models, right through to looking for anatomical and metabolic changes in the brains of patients.

"This collaboration at Robarts is absolutely

wonderful because we can look at the very fundamental discovery-based part of it, and we can also translate those findings into developing therapeutics and do drug testing," said Rylett. The goal of all of these studies is to understand the underlying causes of the disease so that it may be detected earlier at a time when the patient has a better chance of responding to therapies.

"You can imagine that it is very hard to study a disease that takes 80 years to develop," said Dr. Steven Pasternak, a neurologist and scientist at Robarts. Every day he sees patients come through his clinic who are suffering from the early symptoms of the disease. Dr. Pasternak says the discouraging part is that when a person first starts to have memory deficits and begins to show even the earliest symptoms, the nerve cells in the brain have already started to die, causing damage that can't be reversed.

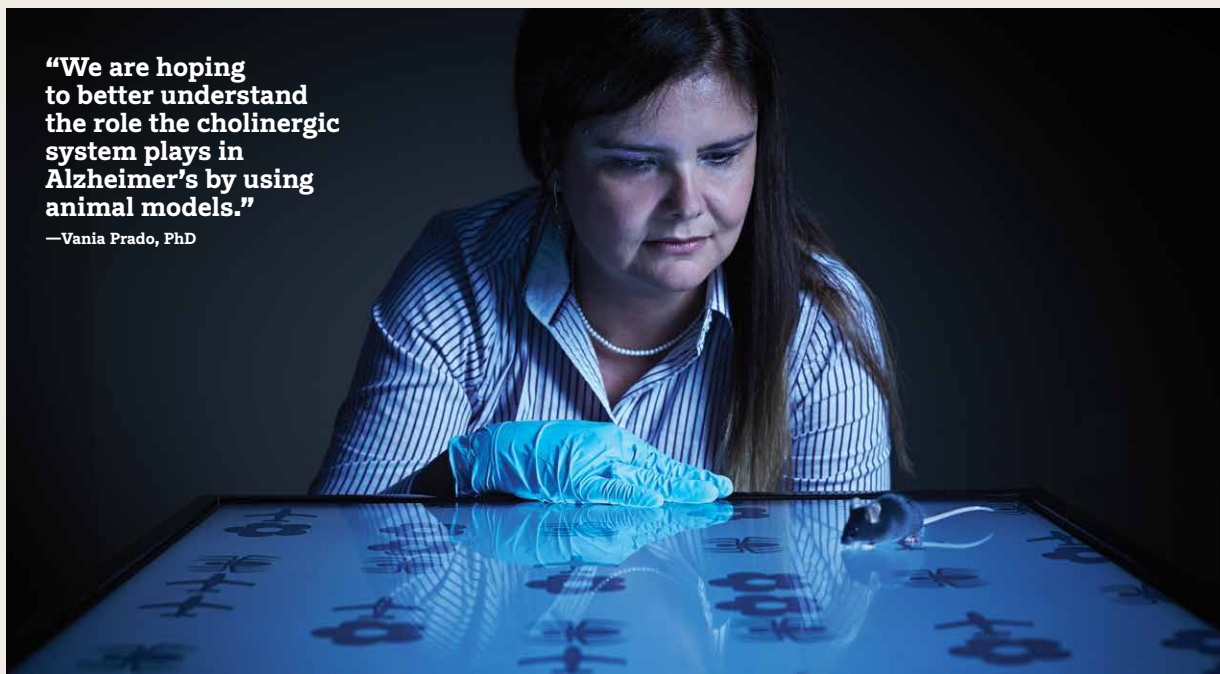
Armed with this knowledge, Dr. Pasternak and imaging scientist Robert Bartha, PhD, are developing new imaging contrast agents that attach themselves to specific proteins associated with the disease. Their focus at the moment is on trying to detect changes in the synapse, based on the working theory that the earliest changes that happen in Alzheimer's happen here. The goal is to use these contrast agents to develop an MRI screen that will identify patients who are on the road toward the disease but who aren't yet showing symptoms. →

RIGHT: Robert Bartha, PhD, is working on developing an MRI screen that will help identify Alzheimer's disease in patients before they show symptoms

BOTTOM: Vania Prado, PhD, uses touch-screen technology and pattern recognition with mice to mimic the cognitive testing that is used with actual Alzheimer's patients

"We are hoping to better understand the role the cholinergic system plays in Alzheimer's by using animal models."

—Vania Prado, PhD





Robert Bartha, PhD

“People always ask me why I care about early diagnosis considering that at the moment there is no treatment,” said Bartha. “But I think we can get closer to developing treatment if we can identify who is going to get Alzheimer’s disease earlier.”

Currently, clinical trials for new therapies are tested on patients in the end stages of the disease when much of the brain has already deteriorated. By testing drugs before this deterioration has occurred, scientists believe they will have a clearer picture of whether or not there is a benefit.

For early detection to be successful, much of the work at Robarts is focused on pinpointing the event or mechanism that initiates the disease. Vania Prado, PhD, and her team are focused on the changes that occur in the cholinergic neurons, which are the first to be affected in Alzheimer’s.

Using genetically modified mouse models and sophisticated cognitive testing, the Prado lab is looking at how these changes in the brain affect memory and behaviour. Prado and her colleagues are using touch-screen technology and pattern-recognition testing in mouse models that mimic the tests used with Alzheimer’s patients. Working in collaboration with other scientists, they are also attempting to identify the cellular and molecular changes that occur in the brain when these neurons are shut off.

“By doing this, we are hoping to better understand the role the cholinergic system plays in Alzheimer’s, and at the moment because we can’t detect the disease early in humans, using animal models becomes critically important,” Prado said.

She says by understanding the mechanisms causing the disease, the hope is they will be able to delay the onset, or ideally, prevent it altogether.

For Prado, a search for a cure hits close to home. Like Rylett, Prado’s mother has been diagnosed with the disease and she has watched it take its hold first-hand. ■

BATTLING CONCUSSION IN THE LOCKER ROOM AND THE LAB

Arthur Brown, PhD, and Greg Dekaban, PhD, are doing something BIG as part of a city-wide group studying everything from why concussions occur to how to prevent them

BY CRYSTAL MACKAY, MA'05

Robarts Research Institute scientists Arthur Brown, PhD, and Greg Dekaban, PhD, are thrilled to see that what started out as a phone call to the head of athletics at Western University has quickly snowballed into a city-wide, cross-disciplinary effort to understand concussions from every possible angle.

In order to get a clear picture of the impacts of concussion, they wanted to find a group of people who had a high probability of sustaining head injuries. By doing so, they could establish a baseline before they were injured and then be able to monitor the effects of the injury over a period of time.

"That's when I picked up the phone and called Thérèse Quigley, who wasn't a scientist or a physician; she was the Director of Sports and Recreation Services at Western," said Brown. That phone call eventually led Dekaban and Brown to begin studying the women's rugby team and was the impetus for the formation of a cross-disciplinary group.

The Brain Injury Group (BIG) London is comprised of more than two dozen professionals from across the city including physicians, scientists, educators and public health professionals interested in studying everything from the biomechanics of why concussions occur to how to prevent them.

"As our interests grew and our questions became more sophisticated, the group continued to expand," Brown said. They quickly brought on imaging scientists like Robert Bartha, PhD, and Ravi Menon, PhD, to track the physical effects of the injury on the brain.

Using these brain images coupled with blood samples, they are aiming to pinpoint the

physical changes in the body that occur with relation to concussion.

"When trying to understand whether someone has a concussion or not, there isn't one biomarker that helps to diagnose it," said Dekaban. "So looking at it from different angles and with different approaches is critical."

Dr. Doug Fraser, a paediatric neurologist specializing in traumatic brain injury in children, has expanded the study to include adolescent hockey players. "We want to know who has an injury, how bad the injury is and what it means for them long-term," Fraser said. "This information may also help us to identify when we can intervene and begin rehabilitation, and how, and to what intensity we can intervene."

At the Fowler Kennedy Sport Medicine Clinic at Western University, Dr. Lisa Fischer, MD'93 and her colleagues saw just a few less than 1,900 concussion visits last year. Dr. Fischer says currently the diagnosis for concussion is done through understanding the mechanism of injury, and administering balance and neurocognitive testing. "Generally, someone with a concussion will have a normal physical exam," she said. "So the diagnosis is more or less subjective. We need better objective measures, not only to improve diagnosis but to aid in recovery as well."

And Fischer says in order to achieve this goal, it takes a whole team of experts. "We each bring our own expertise to the table, and when you bring it all together for a common goal, you are going to have a lot more success." ■



"When trying to understand whether someone has a concussion or not, there isn't one biomarker that will diagnose a concussion. So looking at it from different angles and with different approaches is critical."

—Greg Dekaban, PhD



Arthur Brown, PhD and Greg Dekaban, PhD

ROBARTS DISCOVERY

BY CRYSTAL MACKAY, MA'05

David Holdsworth's eyes light up when he talks about what the future has in store for studying bones and joints. Holdsworth, PhD, and a team at Robarts Research Institute and Schulich Medicine & Dentistry are working on a project that would allow them to see the human skeleton and all of its intricately connected parts, while in motion.

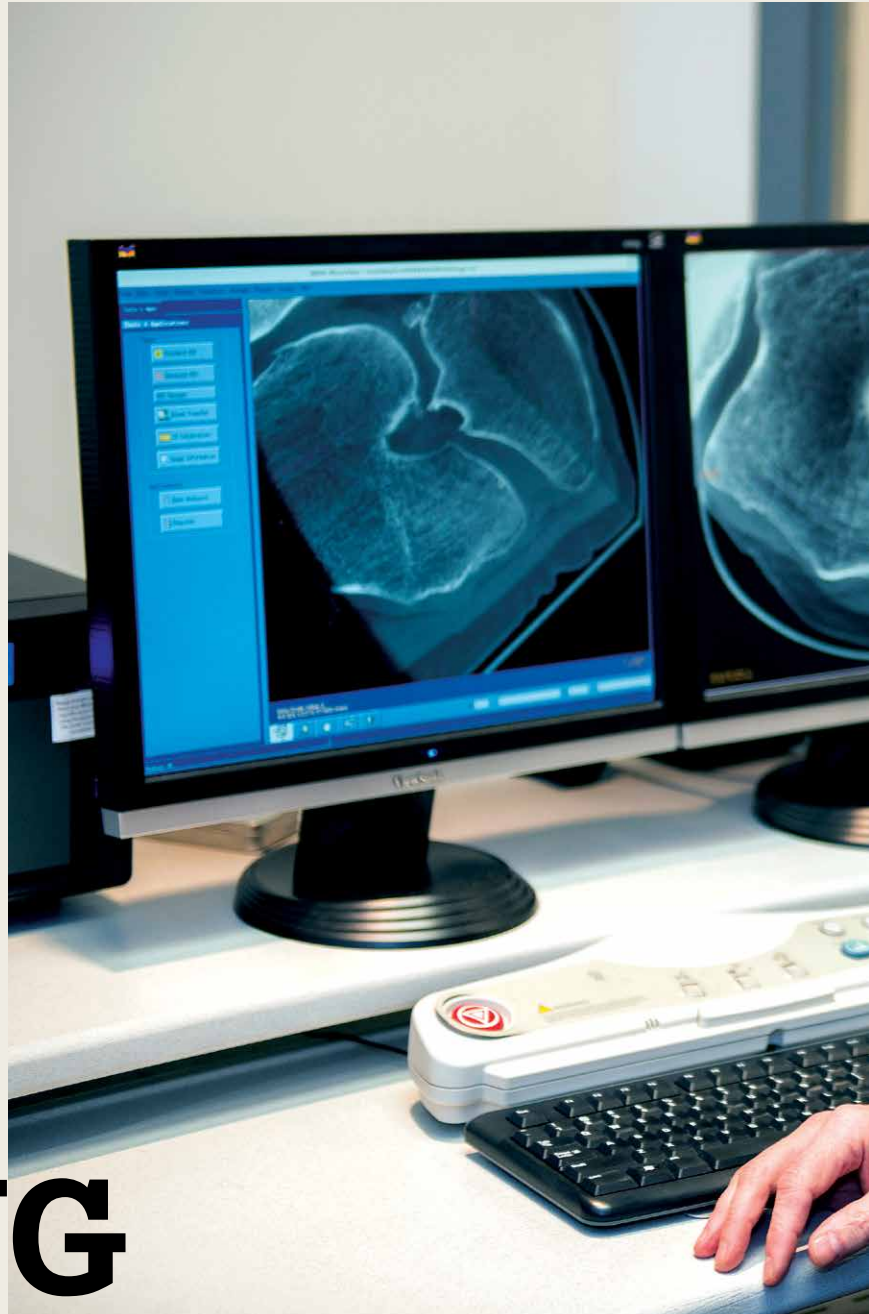
"Trying to understand the skeleton based on static images of a person lying on a table is like trying to understand consciousness by studying the mind of someone who is asleep," said Holdsworth.

A recent investment by the Canada Foundation for Innovation is allowing Holdsworth and his colleagues to build a state-of-the-art facility at Western University that uses a virtual-reality treadmill to simulate everyday activities, coupled with X-ray technology that can snap up to 30 frames per second.

The result will be the first imaging facility of its kind in the world with the capability of showing exactly how the bones and joints are moving in relation to each other almost in real-time. It opens up possibilities for treatment and diagnosis that Holdsworth says could be game-changing for orthopaedic surgeons.

"Your skeleton is typically in motion, from your spine to your hips to your knees, so we can learn so much more about what's going wrong if we can get these high-resolution images while the bones are moving," he said.

It is this certainty that bones and joints need to be studied in their constantly changing state that drives the bulk of Holdsworth's research program at Robarts. This includes research looking at the complexity of the entire human skeleton right down to how motion affects bone at the cellular level.



IMAGING IN MOTION

David Holdsworth and his team at Robarts Research Institute are finding new ways to study how our bones and joints work together in motion



David Holdsworth, PhD

Because the skeleton is constantly remodelling itself, Holdsworth and a team of collaborators are also interested in seeing the effect physical stimulation like exercise has on a bone cell's ability to regenerate.

Holdsworth and his team are working on building devices that will apply mechanical forces to bone cells while they are being observed under state-of-the-art microscopy. By doing this, they will be able to study exactly what is happening to the cell as it is being exposed to simulated exercise.

They hope it provides clues to developing treatments for conditions like osteoporosis, in which patients experience excessive bone loss.

Although his passion for bones and joints is palpable, Holdsworth wasn't always interested in this area of work. Schooled in physics and astronomy, Holdsworth changed his focus to medical biophysics based on a desire to improve human health. It was the late Dr. Sandy Kirkley who persuaded him to study the often life-altering conditions of the musculoskeletal system.

"She helped me realize that orthopaedic conditions aren't just what you get when you're 72 and you're retired; these were things that could be life-changing at 23," said Holdsworth. "One blown knee could mean a whole new career path."

Tragically, Dr. Kirkley was killed in a plane crash in 2002. She left behind a robust research program that was on the verge of ground-breaking discoveries. Committed to carrying on her legacy, her colleagues were determined to finish the work that she started.

In 2007, the Dr. Sandy Kirkley Chair in Musculoskeletal Research was established, a position that Holdsworth now gratefully occupies.

"She never endorsed the idea of boundaries in research," Holdsworth said. "That's how an astrophysicist like me ended up looking at the human skeleton." ■

ALUMNI OF DISTINCTION AWARDS

BY JENNIFER PARRAGA, BA'93

Dr. Al Yuzpe

MD'64, MSc'67

Professional Award

Dr. Yuzpe is a pioneer in the field of reproductive medicine and infertility. Early in his career, he first introduced the use of laparoscopy. As one of only a few in Canada to use the minimally-invasive surgical approach, he established a certification course for Canadian gynaecologists and taught the technique around the world.

This was followed by his development of the Centre for Assisted Reproductive Technology at London Health Sciences Centre for the investigation and treatment of infertility.

In addition to his clinical achievements, Dr. Yuzpe has served in many leadership positions across North America. He is a Professor Emeritus with the Department of Obstetrics and Gynaecology at Western University and a Clinical Professor at the University of British Columbia. Dr. Yuzpe has been a great inspiration to countless colleagues, medical students, residents and fellows.

Dr. Susan McNair

MCISc'94

Community Service Award

For decades Dr. McNair has worked to meet the needs of patients from the Regional Sexual Assault and Domestic Violence Centre, caring for them with dignity and compassion and ensuring easy access to health care, medication and emotional support.

She has also provided education to community agencies and medical residents, and she continues to raise awareness about care practices for this patient population. Dr. McNair makes herself available 24 hours a day to the Centre and its vulnerable patient population, often times with little or no compensation.

Dr. Theresa Hofstede

DDS'91

Young Alumni Award—Dentistry

As an oral maxillofacial prosthodontist, Dr. Hofstede's practice focuses on the highly specialized field of rehabilitation for post-cancer patients. One of only a very few specialists providing this type of service worldwide, Dr. Hofstede has published extensively in this area, written four book chapters and spoken at numerous symposiums. She is also committed to supporting the education of future maxillofacial surgeons, training 45 residents from around the world.

Since her graduation from Schulich Dentistry, Dr. Hofstede's achievements have led her to the position of Program Director of the Advanced Education Program in Maxillofacial Prosthodontics and Oral Oncology at the world-renowned University of Texas MD Anderson Cancer Center.

Dr. David Palma

MD'04

Young Alumni Award—Medicine

Dr. Palma is emerging as one of the most promising academic radiation oncologists nationally and around the world. Since joining the Department of Oncology at Schulich Medicine & Dentistry in 2010, he has established himself as an outstanding researcher, valued collaborator and wise mentor to trainees.

The impact of his research has been profound, as he currently co-leads two randomized clinical trials and has implemented two other single-arm prospective studies. Today he serves as resident coordinator, supervising several residents.



They are innovators, entrepreneurs, advocates, mentors and leaders. The 2014 recipients of the Alumni of Distinction Awards all exemplify the values of Schulich Medicine & Dentistry in their dedication to excellence, professional leadership and commitment to social responsibility

Dr. Arthur Worth

DDS '78
Alumni Award—Dentistry

Upon graduating from Schulich Dentistry, Dr. Worth quickly established himself as a dentist, researcher and leader.

In addition to maintaining his practice, Dr. Worth served on the Kent County Dental Society Executive, and in numerous roles with the Ontario Dental Association (ODA) including Director, Vice President and President. And he is credited for updating the entire governance structure during his term as President. He also served on the ODA General Council, chaired the ODA Health Policy and Government Relations Committee, and he currently serves as a Political Contact Dentist for the ODA. Throughout his career, he has been honoured with Fellowships in the Academy of Dentistry International, the Pierre Fauchard Academy, The International College of Dentists and the American College of Dentists.

Dr. Nii Otu Nartey

MSc '86
Honorary Alumni Award

It was thanks to an encounter with Dr. Wes Dunn, that Dr. Nartey attended Western University where he completed his postgraduate training in oral pathology. The story really begins, however, when Dr. Nartey returned to his home country Ghana, where he helped to establish a fulsome dentistry program at the University of Ghana Dental School. During his tenure as Dean of the School, more than 200 dental surgeons were trained, and the School received the Presidential Award of Innovation and Public Service.

Dr. Nartey was then appointed the CEO of the Korle-Bu teaching Hospital, Ghana's premier hospital. During his leadership, new funds were raised, facilities updated, state-of-the-art equipment purchased and revenues improved. Today he dedicates his time to the development of graduate students and continuing to improve higher education and dentistry in his homeland.

Rebecca Fahrig

PhD '99
Basic Science Research Excellence Award

Since her graduation, Rebecca Fahrig continues to set a standard of excellence as a researcher.

Now an assistant professor in the Department of Radiology at Stanford University, Fahrig's research activities have blossomed and grown. She is an extremely productive researcher with more than 90 manuscripts and 1,600 citations. Most importantly, her research has had a tremendous impact on the field and has resulted in innovations that have improved patient care around the world.

Brad Thompson

PhD '81
Basic Science Research Excellence Award

Brad Thompson is being recognized for his many seminal discoveries that have directly impacted several areas within the pharmaceutical and biotech industry.

As the CEO of Oncolytics Biotech Inc., he is considered one of Canada's foremost veterans in the biotech industry. His achievement and excellence represent a mark of true leadership in the application of basic science research into practical applications that improve lives and generate economic opportunity and prosperity through the biotech sector.

HEALTH CARE CRUSADER

GOOGLE DR. DANIELLE MARTIN, AND SPLASHY HEADLINES IMMEDIATELY APPEAR. SHE'S TOUTED AS A NATIONAL HERO AND A TOUGH DEFENDER OF CANADA'S HEALTH CARE SYSTEM

BY EMILY LEIGHTON, MA'13

It was her March 2014 appearance before a partisan U.S. Senate committee that garnered this media frenzy. Called as an expert to explain Canada's universal health care system, Dr. Martin's, MD'03, calm demeanour under pressure caught widespread attention.

"A lucky turn of phrase and the thing catches fire," she said. "I wasn't saying anything new. I've been giving that talk and bringing forward that evidence for a decade."

Dr. Martin is an outspoken critic of privatization at a time when money, power and influence are at stake. In 2006, she co-founded Canadian Doctors for Medicare (CDM—www.canadiandoctorsformedicare.ca) with a group of colleagues in response to issues around privatization and health care.

"The theme that defines my advocacy is equity of access," she explained. "And there is lots of work to be done. Those of us who support single-tier, public health care are not blind to the very real faults and challenges in our system."

Dr. Martin is also a family physician and vice president, medical affairs and health system solutions at Women's College Hospital (WCH) in Toronto.

Following completion of her bachelor

of science at McGill University, she worked in health care policy and politics. Believing this to be her professional calling, Dr. Martin enrolled in medical school to learn how the system worked on the ground and to better inform her advocacy goals.

It was at Schulich Medicine & Dentistry where she fell in love with family medicine.

"I really came to understand the power of the one-on-one interactions you have as a family physician and the way in which you can enrich and be enriched by those interactions," she said. "My time at medical school was a very important period in my development."

Through the curriculum and elective opportunities in rural Ontario, she uncovered a passion for patient care.

Her current role at WCH is a perfect fit for the 38-year-old, merging her medical training with important policy development. "I'm trying to roll up my sleeves and participate in on-the-ground improvement of the health care system," she said.

A team player, Dr. Martin is quick to acknowledge the importance of her colleagues and supporters. "What motivates me is feeling like I'm surrounded by others who feel as passionately as I do about the issues and that

we're all rowing in the same direction."

Dr. Martin returned to school part-time in 2010 to complete a master's degree in public policy with a focus on health economics.

She is currently involved in advocacy around pharmacare and coverage of prescription medications for Canadians. "I think this is a really serious issue for a lot of Canadians and for the future of the system," she said.

The experience before the United States Senate was a welcome challenge for Dr. Martin, despite political theatrics and posturing from several senators. "To be asked the tough questions offered me a terrific opportunity to set the record straight about Canadian health care," she said.

Although the appearance garnered widespread media attention and enhanced her own reputation as a strong and capable advocate, Dr. Martin says she is staying focused on the work that needs to be done and has no intentions of slowing down.

"Before I had a million YouTube hits, I had a big community of people who were all doing the same work that I was doing," she said. "And after a million YouTube hits we're all still doing the same work." ■



“To be asked tough questions offered me a terrific opportunity to set the record straight about Canadian health care.”

Dr. Danielle Martin



TAPPING INTO THE CRAFT BEER CRAZE

“Making beer and making pharmaceutical products isn’t all that different. Working in industry gave me experience with process controls, quality systems and getting to know a production environment.”

BY EMILY LEIGHTON, MA’13

“Two biologists and an engineer walk into a bar,” reads the first line of the Forked River Brewing Company’s online history. The start of a popular joke, it’s also the way the microbrewery came about.

Founders and co-owners Steve Nazarian, PhD’07, Andrew Peters, MSc’00, and Dave Reed, BSc’98, used their combined expertise of microbiology and mechanical engineering to bring their craft beers to market.

“We’ve taken our knowledge and applied it to making really great craft beer,” said Nazarian. “It’s not the cure for cancer, but we’re making people happy.”

Entering the Forked River headquarters in east London is like walking into a fermentation laboratory.

But the clink of glass on glass isn’t beakers, it’s the unmistakable rattle of beer bottles being filled and packaged. The distinct aroma of malted grain and hops hangs in the air.

Less than two years since launching, the Forked River Brewing Company is enjoying great success with local craft beer enthusiasts.

Brought together by a shared passion for brewing, the three co-owners were all part of a regional home brewing club for more than two years before turning their hobby into a business opportunity.

“Designing your own original recipes is a lot of fun,” Nazarian explained. “As home brewers, we always wanted to share our beer and liked the interaction with other beer lovers. We saw this as a perfect opportunity to continue doing what we love.”

The team created a simple business plan and investigated start-up costs. A small employment business grant helped get the brewery off the ground and it officially opened its doors in June 2013.

The instant success was unexpected. On opening day, Forked River sold out of 1,500 bottles within three hours.

That momentum hasn’t slowed; the brand has only grown in popularity during the past year. The company has a booming wholesale division with its two staple beers, Capital Blonde Ale and Riptide Pale Ale, and also produces one-off brews that fly off the retail location’s shelves.

“The local support has been overwhelming,” said Nazarian. “We’ve connected with many beer lovers and businesses in the community that we now rely on.”

Nazarian has a professional background working with product systems that prepared him well for life as a microbrewer. Following completion of his PhD at Schulich Medicine & Dentistry in microbiology and immunology, he worked at Viron Therapeutics Inc. in a variety of roles, ultimately serving as the Director of Preclinical Development.

“Making beer and making pharmaceutical products isn’t all that different,” he said. “Working in industry gave me experience with process controls, quality systems and getting to know a production environment.”

The transition to entrepreneurship also brought about a whole new set of skills.

“We’re brewers, we’re owners, we’re the salesmen, we’re the people who sweep the floors, we do the deliveries and the accounting,” he explained. “Like a lot of entrepreneurs, you have to be able to do everything.”

The most important goal for the Forked River brewers is to put London on the map for craft beer. With local demand increasing steadily, the company has been able to find a place on the shelf for their Riptide Rye Pale Ale at LCBO locations.

“Giving someone a beer they’ve never tried before and seeing their face light up, that’s what we lived for as home brewers and we can do that on a bigger scale now,” said Nazarian. ■

Military personnel at Camp Nathan Smith attend to Masah, a severely burned Afghani toddler



A LESSON IN CANADIAN MAGIC

DURING A 2010 HEALTH DISCOVERY MISSION IN AFGHANISTAN, DR. ALEX BARRON, MD'94, LEARNED FIRST-HAND OF THE INCREDIBLE EFFORTS BEING UNDERTAKEN BY CANADIAN MEDICAL TEAMS

BY EMILY LEIGHTON, MA'13

The purple-coloured toddler stood out among the crowd gathered at the gates of Camp Nathan Smith, a military base in Kandahar, Afghanistan.

The little girl, Masah, had been severely burned after a pot of boiling water scalded her entire body. Local physicians had covered her with gentian violet, a dated topical antiseptic, telling her family there was no hope.

Dr. Alex Barron, MD'94, remembers the event from his expedition to the country with the Canadian International Development Agency (CIDA) in 2010.

"In the First World War there was a saying that if a soldier was too purple, they weren't going to survive," the Schulich Medicine & Dentistry alumnus explained. "This little girl was head-to-toe purple."

Recognizing her critical situation, military personnel at the base offered to help the girl and her family.

With powerful emotion, Dr. Barron, a paediatric emergency medicine physician at the Hospital for Sick Children in Toronto, describes their efforts to save Masah as something he encounters regularly in his work.

"You become so close to the kids," he said. "You refuse to think of any possibility, other than that they will make it."

Following 10 days of round-the-clock care, it was clear Masah would survive. "The team did a heroic job looking after her," he said.

It is because of exceptional efforts like this that medical care in Afghanistan is known as Canadian magic.

"Families there were in awe of the Canadian medical teams," said Dr. Barron. "They called them wizards and really felt they had a magical ability."

Dr. Barron travelled to Afghanistan with CIDA on a discovery mission for child and maternal health. "Our mandate was to meet with families, local health care professionals and academic institutions," he explained.

The trip was more than two years in the making for the Canadian doctor.

With a significant military history in his family, Dr. Barron felt compelled to volunteer with Canadian forces in Afghanistan as a physician.

He now laughs at what happened next. "I still have the letters of rejection," he said. "The concern was that they'd never deployed a civilian paediatrician into a warzone before."

Undeterred and optimistic, Dr. Barron remained confident his time would come. "When the opportunity finally came to go as a member of CIDA, I said yes in about four milliseconds," he said.

On the ground, the assembled CIDA team came across common ailments and infections, and many cases of preventable diseases, such as measles, mumps and polio.

In rural areas of the country, families would travel for miles to reach a clinic without knowing if a doctor was even available or if they could afford proper treatment.

Dr. Barron explained that antibiotics are sold in price ranges, from placebo pills to ones actually containing the active ingredient, meaning socio economic status directly impacts treatment options.

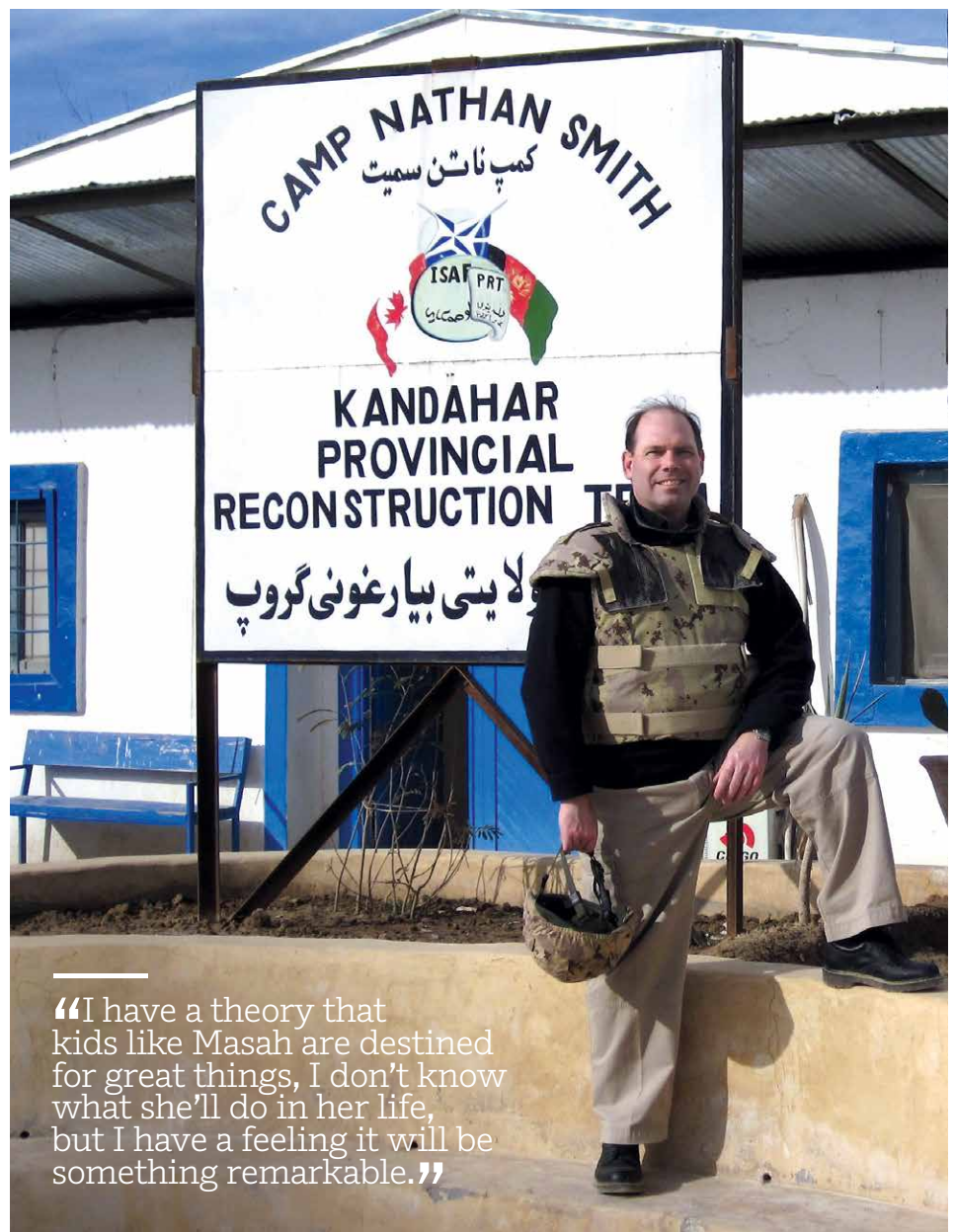
Another major issue the CIDA team encountered was the lack of trained birth

attendants, resulting in higher mortality rates among women. "These are young women we would never lose in Canada," he said.

"I wanted to be able to go outside the wire and meet the families, meet the physicians and the health care professionals who were providing the services and find out what the true issues were," he said.

Recounting his experience in Afghanistan, it is still the children that stand out in Dr. Barron's mind, particularly the purple-coloured toddler outside the gate.

"I have a theory that kids like Masah are destined for great things," said Dr. Barron. "I don't know what she'll do in her life, but I have a feeling it will be something remarkable." ■



FAMILY VALUES

STUDENTS ACROSS SCHULICH MEDICINE & DENTISTRY ARE INSPIRED EARLY ON TO LIVE THE SCHOOL'S VALUES AND MAKE A COMMITMENT TO THE COMMUNITY



“I’m fortunate, and the more fortunate I am, the more I need to give back. It’s a value system that many of my classmates have, which have been built through medical school.”

Supriya Singh, MD'14

BY JENNIFER PARRAGA, BA'93

Driving the six long hours down the 401 toward London and her medical school interview Dr. Supriya Singh, MD'14, felt anxious and uncertain. The nervous energy lessened, however, as she drove under a bridge at the exact time a train crossed over it.

She remembered her mother telling her that when this occurs, good fortune follows.

As she stepped into the lobby of the Medical Sciences Building (MSB) that day, her confidence grew and she began to feel at ease, like coming home to a family. “I knew that Schulich was home as soon as I walked in the door,” she said.

That was due in large part to the warmth and consideration offered by the students, the thoughtful approach of the interview process and the opportunity she was given to be herself.

Dr. Singh had been to interviews at other schools, but there was something different this time. “The way the students treated me, the way they included my mom in the process and the way they interacted with each other was special,” she said.

A community feeling that is accepting and caring is ingrained in the environment at Schulich Medicine & Dentistry. With a value system focused on social responsibility and diversity, it's no wonder.

Returning to the front steps of MSB several months later as a medical student, Dr. Singh began a four-year journey living those values in some of the most unexpected ways.

From day one of their orientation and throughout the life of their programs, the School's students are offered an opportunity to get involved in dozens of extracurricular and community activities.

Along with her peers, Dr. Singh became involved with a number of clubs and several nonprofit agencies. She chose St. Joseph's Hospice of London and Ark Aid Street Mission. At the Mission, she did everything from chopping potatoes and crushing cans to making presentations on the value of getting the flu shot. Dr. Singh came to see the benefits of involvement early on, realizing that there was more to medicine than could ever be taught in the classroom.

Dr. Singh also travelled to Tanzania through MedOutreach, an internationally based elective offered to medical and dental students, as well as nursing students from Western's Faculty of Health Sciences.

Calling her MedOutreach experience a "game-changer", Dr. Singh returned to Tanzania two more times. With the help of several organizations, including a school in Strathroy, she spent several years fundraising for homeless or "invisible children", as they are called in Tanzania.

She is hoping to set up a charity that funds daily meals and schooling opportunities for these Tanzanian children.

"I am fortunate," said Dr. Singh. "And the more fortunate I am, the more I need to give back." She shares this belief with her classmates. "It's a value system that many of my classmates have, which have been built through medical school," she said.

Jonathan Besney, BMSc'14 arrived on campus just a few days following Dr. Singh. Hailing from Alberta, his journey to London took a little longer however his experience of community and giving while at Western mirrors that of his fellow alumna.

While at Western, he felt a sense of community and family early on. He was exposed to numerous opportunities for community involvement. Two quickly captured his imagination: Hope for Relief, a volunteer tutoring program, where Besney would tutor children in grade seven and eight in math, science or English, and Crafting for a Cure.

As it turned out, his roommate's aunt, Pamela Bielak, was the founder and leader of Crafting for a Cure, an international, nonprofit registered charity that looks for opportunities to ensure children are having a positive experience when a hospital visit is necessary.

It wasn't long before the enthusiastic Besney was able to attract more than 300



Jonathan Besney, BMSc'14

“...volunteering is something that grounds me and motivates me.”

members to the Western University based club working directly with Crafting for a Cure.

They initially partnered with Children's Hospital of Western Ontario, but had so many committed volunteers and resources, they were able to expand their mandate and support to children through Merrymount Children's Centre, the Boys & Girls Club, the YMCA, the Ontario Early Years Centre and the Salvation Army preschool and special needs programs.

Although Besney led the club, he feels its success is a result of the contributions of his peers. "I couldn't have done any of this without other club executives and enthusiastic volunteers." The dedicated team included Kaylee Feldman, Noah Fenyes, BA'14, Jenna Horwitz, HBSc'14, Catherine Jewell, Jackie Lebonzon, BSc'14, and Debra Lipton, BSc'14. He believes the club only worked because it had so many

volunteers willing to give back and live the School's value of social responsibility.

Graduating this year, Dr. Singh and Besney are beginning new phases of their lives. Each remains committed to their communities and will continue volunteering. "It's something that grounds me and motivates me," said Dr. Singh. "Maybe I won't be able to contribute as much now that I am doing my residency, but in the end when I am financially able, I can do great things—it is an investment into the future of what I can do."

In the end, it seems that Dr. Singh's good fortune and Besney's enthusiasm have spread across the community and halfway around the world, touching the lives of those needing a warm meal, a distraction from a day of painful medical tests, or just hoping for a chance to learn. ■

GRADUATION GIFT

DR. CAITLIN VANDECAPPELLE'S FOUR-YEAR JOURNEY AT SCHULICH MEDICINE CHANGED HER LIFE IN MORE WAYS THAN ONE. GRATEFUL FOR THE EXPERIENCES, SHE MADE AN EXTRAORDINARY GRADUATION GIFT

BY JENNIFER PARRAGA, BA'93

As far as graduation gifts go, Dr. Caitlin VanDeCappelle's, MD'14, was definitely unique. She turned the tables on the gift-giving tradition, and instead of receiving a gift, she gave one.

Along with her family, she donated \$50,000 to fund a scholarship for students at Schulich Medicine.

"One of the best decisions I have ever made was coming to Schulich Medicine," she explained. "The School has done so much for me, helping me to become a stronger person. I am not even sure if this fully repays them."

Dr. VanDeCappelle describes having an epiphany of sorts during her medical school interview, and it was then that she knew Schulich Medicine was where she wanted to pursue her studies. "I felt validated and really welcomed," she said.

Driven to succeed, she launched into her studies. But the anxious feelings she had experienced during her undergraduate studies seemed to bubble up more often than she had ever recalled before. She couldn't find her centre, wasn't sleeping and was running more than 10 kilometres each day.

Her roommate, a fellow medical student, suggested she go to the Learner Equity & Wellness (LEW) Office.

The guidance and support she received from LEW made a significant difference. She came to terms with her anxiety and learned how to manage it. "When I went to the office, Pam (Pamela Bere, MEd'98, manager of LEW) helped me to recognize that my anxiety was an issue," she said. "There should be a Pam in every school."

She also accessed the Student Development Centre at Western, and following an accident resulting in a concussion, received extensive support from the late Dr. Francis Chan.

Dr. VanDeCappelle's gratitude to the School goes beyond the support she received and extends to the tremendous opportunities for community engagement the School provided to her throughout her four years of study.

As a medical student, Dr. VanDeCappelle participated as an interviewer for medical school admissions, served on the Curriculum, Instructional Design and Undergraduate Family Medicine committees and performed medical education research.

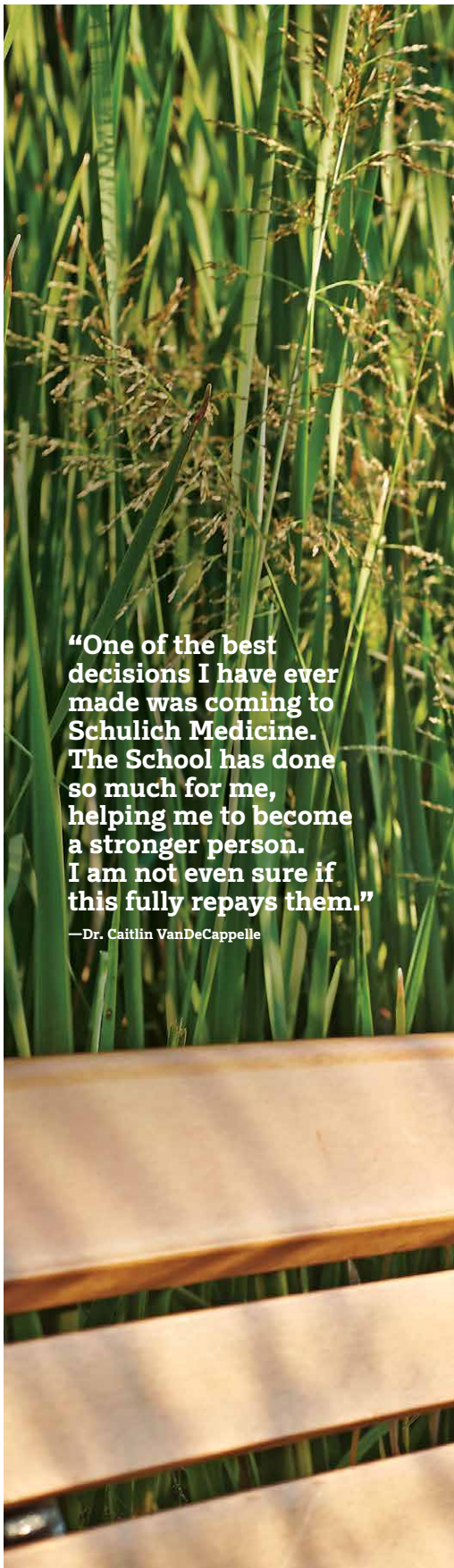
She also served as the charity liaison with the 2014 Class Council and managed fundraising for the class charity, the Canadian Mental Health Association. She's particularly proud of their work in donating \$8,000 to the Association this past year.

"The sense of community at Schulich Medicine is unparalleled," said Dr. VanDeCappelle, who believes all of these experiences create a greater sense of belonging for students, and helps individuals to grow and become comfortable with themselves.

The new scholarship she has funded will recognize a graduating medical student who has demonstrated leadership and participated in community-based activities.

"Schulich Medicine increases our value as people and helps to shape us to be stronger people, and more community focused," she said.

This scholarship is her way of enriching the focus on community and saying thank you. ■



"One of the best decisions I have ever made was coming to Schulich Medicine. The School has done so much for me, helping me to become a stronger person. I am not even sure if this fully repays them."

—Dr. Caitlin VanDeCappelle



THE BEST-KEPT SECRET

FOR 14 YEARS, BHAGI SINGH, PhD, HAD A SECRET. WHEN HE WAS FINALLY ABLE TO SHARE, HE LEARNED THERE WAS MUCH MORE TO THE STORY THAN HE EVER KNEW

BY CHRISTINE WARD, BA'89



Marion Murray

In 1999, the then Chair of the Department of Microbiology and Immunology was mulling over a way to honour his predecessor and friend Robert Murray, PhD, DSc'85, chair of the department for 25 years and a professor for more than twice that.

Singh pitched his idea to create the RGE Murray Lecture Series on the occasion of the department's 60th anniversary to his department colleagues. Murray's wife, Marion Murray, got wind of the proposal.

"A week later, my wife and I were invited to visit Mrs. Murray in her home," he said. "She asked me what I would need to create a lectureship in Robert's name. I said, about \$200,000."

Marion Murray didn't miss a beat. "How about \$1 million?" she asked.

Marion, who had spent 23 years in the department as a laboratory technologist, ultimately gave the department \$1.2 million and then promptly asked Singh to keep the gift anonymous until her death. "It was her money, her decision and she had a clear vision of what she wanted to do with it," said Singh.

In the years that followed, the two families became good friends. Even after retiring as chair in 2001, Singh continued to meet regularly with Marion to provide updates on her gift.



Western University President Amit Chakma, Robert Murray, PhD, DSC '85 with former Chair, Department of Microbiology and Immunology, Bhagi Singh, PhD



Robert Murray, PhD, DSC '85

Then, several years after her initial contribution, Marion took Singh into her confidence once more. "She wanted to make sure we were doing well by her initial gift and then she mentioned that she planned to include a bequest in her will," Singh said.

All of this remained a closely guarded secret until Murray's death in 2013.

Coincidentally, Singh was serving as interim chair in 2014; the 75th anniversary of the Department of Microbiology and Immunology when he heard more news. Marion had donated \$1.6 million to the Departments of Microbiology and Immunology, and Pathology in honour of her husband Robert and her late father, distinguished London pathologist and Western Professor Dr. Frederick Winnett Luney.

"I really was very surprised," said Singh. "It was so much more than I could have imagined."

The latest gift, announced by Singh at an event that included Dr. Robert Murray and Western President Amit Chakma, will establish three endowed scholarship programs in support of graduate students in Schulich Medicine & Dentistry. The details are not yet finalized, but the endowment is expected to generate about \$60,000 a year for graduate student stipends and travel to conduct research and attend conferences across North America.

Helping graduate students learn and

“Working with students, Marion realized how important it was for them to be able to get a good education. Her latest legacy will ease their financial burden and make it a bit easier to complete a graduate degree.”

—Susan Koval, MSc'70, PhD

succeed had always been a priority of Marion Murray. From 1958 until her retirement in 1981, Marion provided the technical support needed for the laboratory training of countless students in Microbiology and Immunology.

Associate Professor Susan Koval, MSc'70, PhD, was a master's student in 1968 when she met Marion for the first time. She relied on the seasoned technologist to help grow and maintain the specialized bacteria cultures used in her research. "Marion was a big resource within the department," she recalled. "She was meticulous at her job and always smiling. It was clear to all of us that she wanted our research to go well."

Even now, almost 50 years later, Koval occasionally still relies on Marion's culture collection and handwritten records. And soon, she says, the Department's graduate students will rely on her gift to help them complete their education. "Working with students, Marion realized how important it was for them to be able to get a good education. Her latest legacy will ease their financial burden and make it a bit easier to complete a graduate degree."

Singh agrees. "The whole purpose of her donation was to enhance the graduate program by recruiting the best students and having them learn and benefit from the best." ■

INTERNATIONAL FAMILY TIES

BY EMILY LEIGHTON, MA'13

Dr. Yige Bao, PhD candidate, describes the partnership between Schulich Medicine & Dentistry and his home institution of Sichuan University in China as a family relationship.

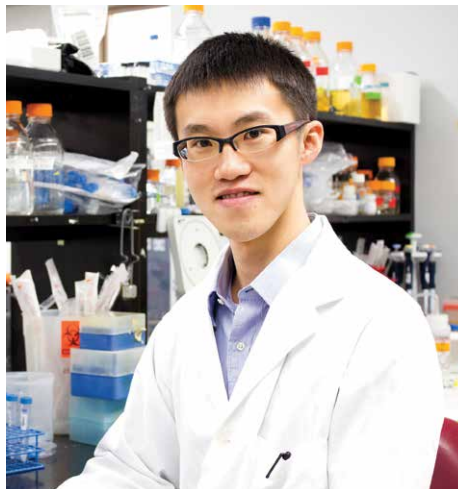
"It's business, but it's also a family of mutual support and collaboration," he explained. He believes this nurturing aspect of the relationship is essential to developing well-trained scientists.

Dr. Bao is the first trainee to participate in a dual PhD program between the two institutions, completing the initial stage of his postdoctoral studies at Schulich Medicine & Dentistry. He is investigating microbiota in the urinary tract and the role these bacteria play in the pathogenesis of certain diseases.

Dr. Bao's program is part of an extensive agreement between Schulich Medicine & Dentistry and Sichuan University. The Memorandum of Understanding was signed in late 2009. Since then, the partnership has expanded to include several initiatives.

Students from Sichuan University have the opportunity to participate in a research program through the China Scholarship Council. Five new students arrive at Schulich Medicine & Dentistry in fall 2014 and they will spend a year working at the School learning research methodology.

Other rotations between the two partners occur regularly, giving medical trainees international experience. With more than 5,000 beds and a large patient volume, West China Hospital at Sichuan University offers an exceptional environment for students to learn.



Dr. Yige Bao, PhD candidate

Faculty members at Schulich Medicine & Dentistry also support the partnership with short-term teaching exchanges and training courses for health care professionals in Chengdu.

The partnership encourages shared educational resources and teaching opportunities. One such opportunity is the broadcasting of surgeries taking place in London, Ontario, to West China Hospital using advanced technology.

Partnerships like this are crucial to the success of the School's international vision and commitment to global health engagement. Schulich Medicine & Dentistry is focused on collaboration and social responsibility around the world, sustaining innovative medical research, education and leadership.

"International partnerships create a bond and a relationship between the institutions and a greater understanding of each other," said Dr. John Denstedt, MD'82, the School's special advisor for internationalization, globalization and simulation, and chair/chief, Department of Surgery. "We both have assets to share and to learn."

The sharing of knowledge and resources is becoming increasingly important. By participating in these types of partnerships, the School is also better able to attract and retain internationally renowned faculty, as well as future leaders.

"We want to offer international opportunities so our community members can become citizens of the world and understand other cultures," said Dr. Denstedt.

There is a long history of Canadian involvement in the Chengdu region of China.

Dr. Omar Leslie Kilborn travelled to the area as a missionary of the Canadian Methodist Church in 1891. He was a leader in establishing medical and educational institutions in Chengdu, including the faculty of medicine. Dr. Kilborn and his family dedicated their lives to creating and improving medical facilities and training in the region, remaining in China until 1963.

This family is now reinvesting in the international partnership. The Kilborn Family Memorial Visiting Scholarship Fund, generously established by Dr. Bob Kilborn, will provide support for faculty and graduate trainees at Schulich Medicine & Dentistry to complete short-term visits to the West China Hospital at Sichuan University.

With this investment, the future of the partnership looks bright. Dr. Denstedt says there are many opportunities to expand Schulich Medicine & Dentistry's efforts.

"The hope is that we can continue to work toward increased research collaboration and resource sharing," he said. "Doing things together that are meaningful and real, that's how you influence positive change." ■



Get Ready to Lead

The New Schulich Master of Public Health at Western University

Life in Sri Lanka taught Yoshi Perera about the complexities of health care in the developing world. It also ignited his passion for making a difference in people's lives. With a medical degree under his belt, he turned to the new Schulich Master of Public Health to broaden his global understanding. Yoshi credits this 12-month, interfaculty, case-based program for focusing his commitment to equity, social justice and sustainable development.

"The Master of Public Health Program equips us with the skills and knowledge to actively fight for equal rights across the globe, to promote awareness of public health issues and to advocate for marginalized populations. We are ready to lead and create the foundation for public health for years to come."

Yoshi Perera, MPH'14

The New Schulich Master of Public Health:

- 12 months full-time
- intensive case-based learning
- interdisciplinary faculty
- 12-week practicum
- international field trip

To learn more about the program and our upcoming information sessions in London and Toronto, visit schulich.uwo.ca/publichealth



Robarts Research Institute Presents

LEADERS IN INNOVATION

—DINNER 2014—

LONDON'S PREMIER RESEARCH EVENT

NOVEMBER 20, 2014
5:30 to 9:30 p.m.

Purchase your tickets today
www.westernconnect.ca/leaders-dinner

Master of Ceremonies for the evening and host of the armchair conversation will be one of Canada's great public speakers – **Peter Mansbridge**, LLD'08, Chief Correspondent of CBC News and Anchor of The National.

SPECIAL GUEST VICTOR GARBER

Award-winning actor, advocate and champion in the fight against Alzheimer's disease



Mr. Garber will present a keynote address and take part in an engaging armchair discussion about research, his personal advocacy for Alzheimer's disease and his life as an actor.

Join us as we celebrate research innovations in neurological disorders, and the achievements of our 2014 J. Allyn Taylor International Prize in Medicine recipients, **Virginia M.-Y. Lee, PhD**, and **John Q. Trojanowski, MD, PhD**.

Proudly supported by the C.H. Stiller Memorial Foundation and the Family of J. Allyn Taylor



OFFICE OF THE DEAN
SCHULICH SCHOOL OF MEDICINE & DENTISTRY
WESTERN UNIVERSITY
LONDON, ON N6A 5C1