UNIVERSITY OF TORONTO

The Surgical Spotlight

ON ALUMNI, FACULTY, RESIDENTS, STUDENTS & FRIENDS OF THE DEPARTMENT OF SURGERY

EVENTS AND STORIES FROM FALL AND WINTER 2015-2016

Lee Errett named Professor of Global Surgery

Lee Errett and his wife Mitze Mourinho

For more than 20 years, Lee Errett has spent part of the year performing surgeries in under-serviced parts of the world. He has operated on every continent (he removed a foreign body from a man's foot in Antarctica). In July 2015 he was appointed the first Professor of Global Surgery at the University of Toronto.

"My goal, is to learn from all the talented surgeons here who have done work across the globe and do what I can to help in further developing the program."

"The most compelling demographic for health - and your ability to access surgical care - is where you were born" says Lee. It is true that health outcomes are really a lottery of birth place. This applies to the simplest of surgical procedures. Prolonged and unsafe labour can be dealt with only by incremental improvements. Congenital deformities like cleft lip can have a transformative effect on the patients and families when addressed early. Morbidity from hernias and common abdominal issues like appendicitis can be reduced dramatically when treated appropriately. Basic fracture therapy can decide whether someone returns to work or never works again. All of these sorts of conditions can be effected in the poorest of countries with resource limited environments.

Indeed, even more complex surgeries can be performed in under-resourced settings."

Sir Magdi Yacoub commenting when he visited the heart surgical unit at St. Michaels stated that "heart surgery raises all the boats: anesthesia, ICU, hospital hygiene… everyone benefits".

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INSIDE

Despite the work of committed individuals and organizations, the urgent need for surgical care in the world's poorest regions has been widely under-recognized as a broader global health issue over the past few decades. Most people when asked to name global health challenges cite HIV/AIDS, maternal and child health and infectious diseases. Surgery has not featured on the agenda of major international health agencies, global health funders or national governments. Yet, approximately one third of the global burden of disease is due to surgical conditions, and contrary to common assumption, this burden falls predominantly on people living in low- and middle-income – developing – countries (LMICs).

Recent data from the Lancet Commission on Global Surgery (a two year global collaborative effort established by the Lancet journal to generate research, metrics and recommendations for improving surgical care in LMICs) shows that worldwide 5 billion people cannot access safe, timely and affordable surgical care, should they need it. As a result, common surgical conditions such as appendicitis are still diseases with high case fatality rates in many parts of the world. High-income countries have ten times as many operating rooms and one hundred times as many surgical providers as low- and middle-income countries. Not only do untreated surgical conditions have major health impacts in the world's poorest regions, they also have significant social and economic impacts; failure to improve access to surgical care is likely to knock 2% off GDP in LMICs over the next 15 years as a result of lost labour and productivity.

However, after much inattention, surgery is now gaining recognition as a legitimate component of global health. This has led to the emergence of the discipline of 'global surgery', a field that aims to improve health and health equity for all who are affected by surgical conditions, or have a need for surgical care, with a particular focus on underserved populations. There is growing interest in how high-income countries can partner with LMICs to improve surgical capacity through education, training, research, policy and implementation. There is also interest in how the principles of global surgery can be used to improve inequity in surgical care at home, including for minority and indigenous populations.

In years past, the *modus operandi* of surgeons looking to engage in global health was the surgical mission model. These short-term outreach programs temporarily brought surgeons to where help was needed most, allowing patients access to essential surgical care where they would otherwise have gone without. While there is still a role for these programs, the potential for impact is far greater when high-income country actors work together with low-income country partners to build local surgical capacity over a prolonged period of time. Programs like Rwanda's *Human Resources for Health* program, which aims to train hundreds of specialist physicians in the landlocked African nation over a seven-year period, leverages high-income country clinical expertise to assist local health leaders in training and growing a local health workforce far beyond what is possible in a two-week mission trip. These kinds of programs are only as strong as the partnerships they are based on: to develop them, buy-in is required from surgeons, hospitals, national governments and funding agencies in low-income countries, high-income country hospitals and clinicians, national governments, and funding agencies. This is the model of partnership Lee Errett seeks to generate with the countries the University becomes involved with. "In these partnerships, the learning goes both ways" he says.

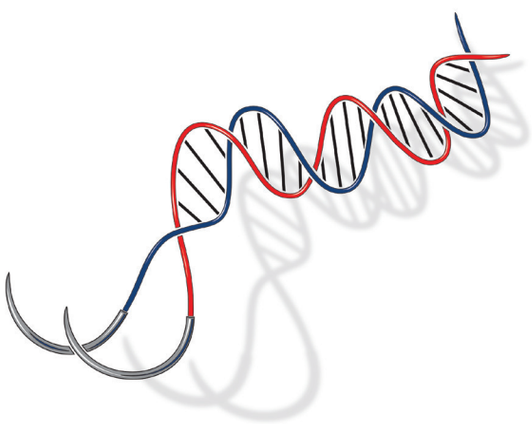
Global surgery programs across North America and Europe are blossoming. Established global surgery programs at Harvard University, UCSF, Oxford University, King's College London, McGill, and the University of British Columbia demonstrate that the field has been accepted as an academic surgical discipline. Many of these programs have been driven by an overwhelming demand from medical students and surgical residents to develop skill sets at the interface of clinical surgery, health research and policy and global health practice, and to study, train and work in a global context. The University of Toronto in particular has enormous potential to contribute to the growing movement for global surgery. As the largest academic surgical institution in North America, the community of surgeons that can contribute both research and clinical capacity building is vast. At present, over 40 surgeons are engaged in global health work, and there is great potential for further collaboration and growth. Collaborations with institutions in China, Ukraine, Ethiopia, Botswana and South Africa already exist and Lee Errett is in the process of further strengthening these existing partnerships and forging new ones, including in Jamaica and Cuba. Lee says: "Toronto surgeons are globally minded, are committed to health equity, and have

Canadian sensibilities for global health work. They value an ethos of partnership, and have world-class surgical skills and research expertise to bring to the table."
The goal of the program is to become leaders in the education, training and clinical care. Documenting successes and failures with the view that these observations can translate into valuable research projects is another objective. In order to accomplish this, the following are the intents:

1. Define the burden of surgical disease along with the obstacles that prevent optimal care,
2. Maintain communication through tele-medicine for care and education.
3. Collaborate with ministries of health and local health providers to enhance and develop surgical and anesthesia care.
4. Support faculty from low and middle income counties (LMICs) and the University of Toronto to excel in Global Surgery.

Doing all this requires funding. "The need is great and the task daunting. Nonetheless we have the people with the knowledge, expertise and the will to make significant strides. The most important issue will never be independent of where you are born but we can get the great satisfaction of making it less important to some than it has always been" says Lee.

Martin McKneally & Lee Errett



Reflections on the First 5 Years

James Rutka

Some of you may know that I have completed my first 5-year term in April. I am very grateful that following a successful external review by Dr. Carlos A. Pellegrini from the University of Washington Seattle, and Dr. John Kortbeek University of Calgary, Dean Trevor Young has now appointed me for the next 5 years.

I want to take this opportunity to reflect on our many successes and achievements these past 5 years. At a glance, we have nearly 250 full time faculty members, 250 residents and 200 clinical fellows. We received approximately $40 - 45 million in annual research funding annually, we have a total of $150 million in terms of endowed chair funding $22 million held in trust funds, and $3 million annually in advancement funding. Over the past 5 years, the Department of Surgery has published over 7,000 peer-reviewed manuscripts with an overall citation impact of 1.54. We have 10 Canada Research Chairs, and 63 endowed University Hospital Chairs.

Some of the highlights from these past 5 years include the establishment of the Surgery Exploration and Discovery (SEAD) Course, the creation of a Faculty Development Day, the establishment of the Department of Surgery Prep Camp for all PGY1 residents, the establishment of the Best Practices in Surgery Work Group, writing of the late career transitioning guidelines, establishment of Surgeon - Global Surgery Academic Job Description, harmonization of departmental academic salaries, initiation of the Competency - Based Curriculum in the Division of Orthopaedics, establishment of University of Toronto City Wide Brain Tumor Bank initiative, establishment of 3 departmental lectureships, hiring of the departmental strategic planning implementation coordinator; hiring of a departmental communications coordinator, and hiring of a medical illustrator.

While I am very proud of these statistics and numbers in particular, the one I am most proud of is the prodi-

gious academic output by our faculty members, residents and fellows.

We have been exceedingly fortunate in the numbers of promotees who have gone forward at the Decanal Committee in the Department of Surgery. There have been more than 77 successful applications over the past 5 years. We have had 63 new faculty recruits in the past 5 years, and 62 full time surgeons and 8 scientists passed their Continuing Appointment Reviews.

I have been exceedingly pleased with the Department of Surgery medical student curriculum, which included new Breakfast Seminars with the Chairman, SEAD Course, Suture Tying workshops, and Life in Surgery series among other things. Barry Rubin hosted the first Practice Management Financial Planning Seminar for senior residents, Faculty Development Day has been established, and is now run conjointly with the Department of Anesthesiology. We established the Ben Alman Lectureship in Surgical Science, the Robin McLeod Lectureship in clinical epidemiology, and the Balfour Lectureship in Surgical Ethics.

Our Strategic plan, *Transforming Surgery: Beyond the Cutting Edge* runs from 2012 -2017. We are almost at the end of this plan, but in actuality, there is no end point. Rather, there are frequent adjustments along the way. My plan in 2017 is to run a "refresh" of the strategic planning document process with a goal in mind of fine-tuning those areas that still need additional attention in the Department of Surgery.

As I was assembling the self- study survey for the Dean and external reviewers, this 300 hundred page document paled in comparison to the more than 800 pages that were required to publish all of the citations for the Department of Surgery. The external reviewers were indeed impressed with this phenomenal output and, at the end of the review, acknowledged the positioning of the Department of Surgery within the top five programs in the world.

It has been my great honor to steer the Department of Surgery on a course which has taken us to greater heights these past five years. Needless to say, I look forward to working with all of you over the next five years to see all that we can accomplish together.

James Rutka, RS McLaughlin Professor and Chair
Department of Surgery, University of Toronto

Welcome New Residents

Ron Levine

A fantastic cohort of new residents has beaten the competition to enter the Gallie Program in July 2015. They have diverse and interesting backgrounds.

Forty-four residents have entered the department. Thirty-four have come through the CaRMS match and are Canadian Medical School graduates. Five have come through the IMG match and include Canadians who have studied abroad and are returning to Canada for their surgical training as well as Permanent Residents who have obtained their MD in foreign countries and will be practicing in Ontario. Five are "visa trainees" who will return to their home country following training. What a great gift this diverse group of bright young minds brings to our department. Welcome new residents!

Ronald H. Levine, MD
Director, Postgraduate Surgical Education
Department of Surgery

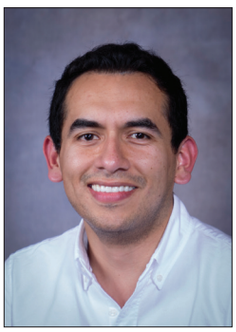
Omamah Almousa, G.S

Maryam Alomair, C.S

Rabab Alsahrani, N.S.

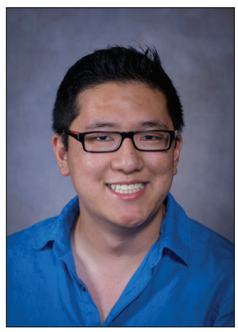
Nouf Alotaiby, G.S.

Arash Azin, G.S.

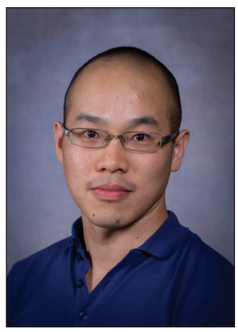


Fernando Angrita Celis, G.S.

Tan Chen, O. S.

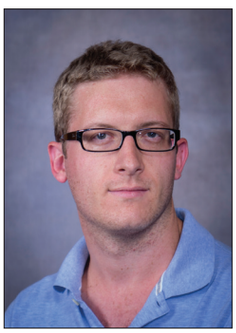


Douglas Cheung, U.S.



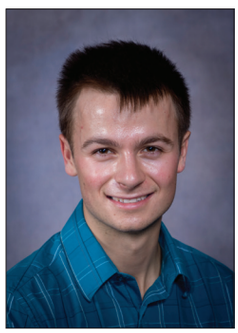
Kwan Chu, O.S.

Meghan Crookshank, O.S.



David Cyr, G.S.

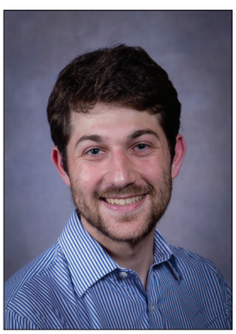
Anna Dare, G.S.



Benjamin Davidson, N.S.

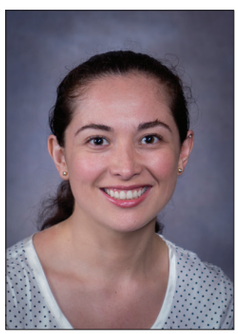
Hilary Felice, O.S.

Lauren Gordon, V.S.



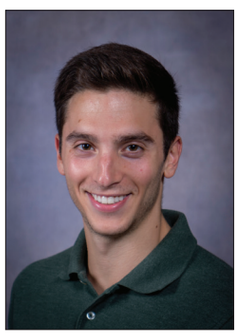
Alexander Gregor, G.S.

Jessica Holland, G.S.



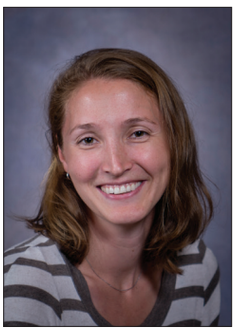
Maria Jimenez, G.S.

Daniel Jones, G.S.



Jordan Levy, G.S.

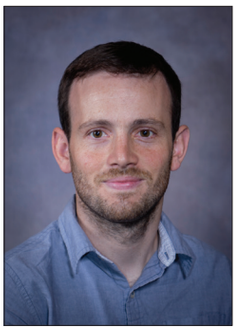
Zachary Lim, O.S.



Jennah Mann, O.S.

Francois Mathieu, N.S

Amine Mazine, C.S.



David Mealiea, G.S.

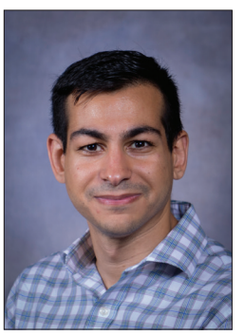
Alexandra Millman, U.S.

Hala Muaddi,G.S.

Imran Nagdee, U.S.

Chris Pasarikovski, N.S.

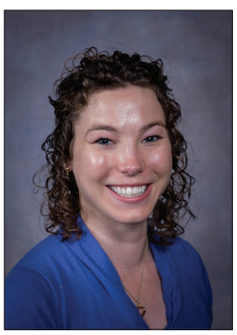
Isaac Perlus, O.S.



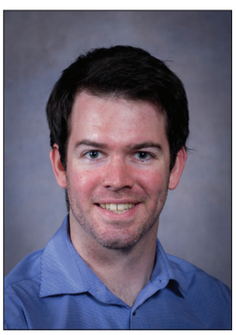
Khaled Ramadan, G.S.

Sangita Sequeira, G.S.

Tomas Saun, PRS



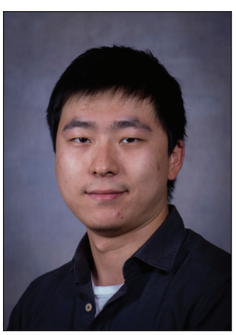
Kalila Steen, PRS



John Stirrat, G.S.

Jay Toor, O.S.

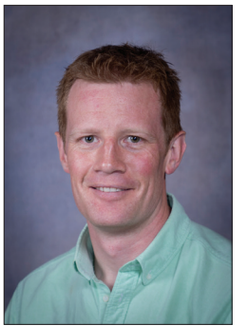
Stephanie Tung, G.S.



Yanliang Lex Wei, U.S.

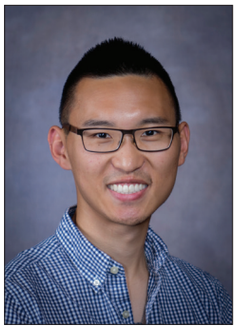
Ian Whatley, O.S.

Monica Yu, PRS



Caleb Zavitz, V.S.

Jeffrey Zuccato, N.S.



Kevin Zuo, PRS

**Dr. Ahmad Makhdoum's photo was not available at the time of this issue.*

Surgeon Peter Pisters returns to Canada as CEO of UHN

Peter Pisters

"It is a privilege to be in the Department of Surgery. That is where my roots and my academic identity lie, and my success is related to the senior surgeons who taught and mentored me. I feel it is now time to give back to Surgery - to work with Jim Rutka and to give opportunities to other surgeons.

I did my surgical training at New York University, an archetype US general surgery program, with a quintessential city hospital - Bellevue Hospital, the NYU Medical Center, and the Manhattan VA. I then travelled uptown to Memorial Sloan Kettering Cancer Center where Murray Brennan was my mentor. I was Murray's fellow and eventually his Chief Fellow. I was also in his laboratory. Murray created extraordinary opportunities for people. He had a great quest for data, and he taught classical patient care - how to be a physician in a way that was matchless. He offered me a great opportunity to stay on faculty at Sloan-Kettering, but suggested that I might first go and look at other jobs. When I looked at a position at MD in Houston, and found the opportunity to be excellent, Murray said 'No one has ever turned me down for an entry level faculty position, but as a mentor, I think you should take the MD Anderson job'.

"There, I did pancreatic, gastric, and sarcoma surgery; indeed Murray's same areas of concentration and study. In the spring of 2014, when the opportunity to come to Toronto arose, I called him for advice and guidance. You can't assess the impact of mentors, unless you have experienced a long-term mentoring relationship. When at MD Anderson, I mentored many fellows and faculty in a well-structured institutional mentoring program that we developed in Surgery. I now mentor my executive team and high potential contributors in leadership and administration, rather than in surgery. Interestingly, surgeons are underrepresented in healthcare management. They have superb qualifications - we are taught how to make decisions with incomplete information under critical time constraints. We work in teams from residency on throughout our careers, we calibrate our decisions, cataloging the unknown, and we make definitive decisions with a requirement to follow-up on the consequences.

"My second mentor was Bob Bell. I first met him at Western Ontario when he was a staff surgeon and I was a medical student in his clinic. Bob became a leader on the sarcoma team at Princess Margaret. I met him thereafter at meetings when I was leading the MD Anderson sarcoma group. We both eventually moved into administration. When I was thinking about going back to school for a Master's degree, I called Bob for advice. He supported my plan to go to Harvard for formal training in management. When I read about his becoming a Deputy Minister of

Health in the Globe and Mail, I emailed Bob to congratulate him. He replied 30 minutes later and said: "Thanks Peter, are you interested in the job?' That was the beginning of my transition back to Canada. It's also a story that I tell in our leadership training courses as a clear example of the value of maintaining your network.

"I learned many lessons at Harvard, among them, the importance of networks, your personal board of advisors that includes realists, confidants, cheerleaders and optimists. When I went to Boston, I was senior leader, serving as a Vice President at MD Anderson managing regional operations and working on business development for regional and national expansion. However, I did believe that I had sufficient grounding in the essential elements of business including advanced accounting, corporate finance, competitive strategy, leadership theory, governance, health policy and law, and the business of technology. So, I commuted to Boston for 2 years. Massachusetts was leading a transition to value -based care and thus it was a great time to be amidst thought leaders in health policy and to observe the rapid evolution of transformational change towards population health precipitated by the Affordable Care Act of 2010.

Here in Toronto, I have focused my first year as President on an intensive, immersive, and iterative learning process that has enabled me to begin to appreciate the breadth and depth of the organization. This has culminated in a process of organizational renewal that we see as a process of healthy transition. We have established an extraordinary collaboration focused on patient safety with the Hospital for Sick Children, Sinai Health System, and Women's College Hospital. This will bring about transformation to high reliability organizations. On the academic side, I am privileged to be able to continue to teach as a lecturer at the Rotman School of Management and its Rotman UHN Leadership Program.

"My wife Katherine and I have always been engaged with our communities. We try to give back in various ways. We have always been involved with youth athletics. I have coached all 3 of our kids in a variety of sports teams as they were growing up. Katherine is a medical oncologist at MD Anderson and is one of a volunteer group of full time MD Anderson faculty who volunteer 2 days per week in the oncology clinics in the inner city hospital treating indigent patients.

When I was offered this position, our youngest child Meghan was in the 10th grade, and so Katherine has stayed with her in Houston as she finishes high school. I have been the commuting parent until Meghan graduates in May. Then, Katherine will move to Canada and we will be repatriated Canadian empty nesters in Toronto! In 2011, we bought a cottage on Lake Kawagama, outside Dorset and so it seems that the use case for the cottage has changed dramatically. We are now like so many Torontonians - heading up the 400 on Friday evenings, stopping at Weber's for burgers!

Our son Kevin is at Rice University studying environmental biology.19 year old Erin is aMathematics major at Washington University in St. Louis. 17 year old Meghan is a senior this year, a varsity volleyball player, and runs her own photography business. The kids are all proud Canadians – it's so great to see the Canadian flags in their dorm rooms!

Q: What are you reading?

A: "I read the Wall Street Journal, The New York Times, and the Globe every day. I always have a book on the go. Recent great books that I have recommended to my team include Amy Edmondson's book *Teaming* and Pat Lencioni's book *The Advantage*. One great book that helps us to think about the future in healthcare is Clay Christensen's book *The Innovator's Prescription*. Travis Bradberry's *Emotional Intelligence* is a rewarding read in that emotional intelligence and coachability are the 2 factors that I look for when hiring."

Q: What about clinical work?

A: "I am licensing now, so that one day I will hopefully be able to see patients and use the system, not to do big cases as I used to do, but to stay close to my roots and be an authentic member of the clinical community. The Board of Directors may not see this as the CEO's best use of time, but I am convinced of its value. I will always remain connected with care on the front lines. Indeed, on my first day of work at UHN, I brought breakfast to the ER staff at 6:30 AM and met with them for an hour to begin my learning. Each week, I am out on front lines meeting our employees and learning from our UHN teams. This is part of my commitment to be always listening to members of our community as a servant leader.

M.M.

Mike Tymianski *Bench to Bedside is not as Easy as it Sounds…But it's Possible - The Story of NoNO*

Mike Tyminaski

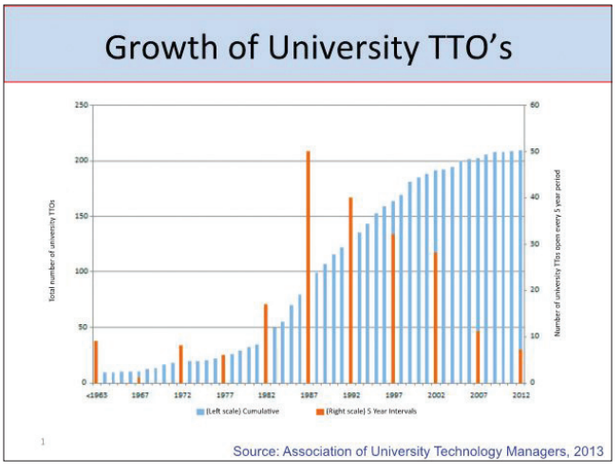
"There are approximately 17 million strokes per year throughout the world -50,000 per year in Canada. The standard therapy is to 'fix the pipes' - to treat the arteries that might be blocked or sending clots or debris to the brain. This is done with a clot busting medication (tPA) or with endovascular devices used to mechanically retrieve the clots. Both have limited application due to the potential complications of tPA, and the technology intensiveness needed for endovascular therapy. But research to develop new or better treatments is not easy.

"The way that one begins to develop a stroke cure is to get a grant. This was our start case, when we developed a promising new treatment: a competitive inhibitor of the neuronal protein PSD95, which protects rats from stroke by preventing the progression of ischemic damage. The next typical step is to disclose your findings to your institution and they will 'do the heavy lifting for you', i.e. they will protect your intellectual property and facilitate the process of gaining a patent, and then take 50 to 70% of the money earned by the invention. Tech transfer offices providing these services have been proliferating, but 87% of them don't make their expenses.

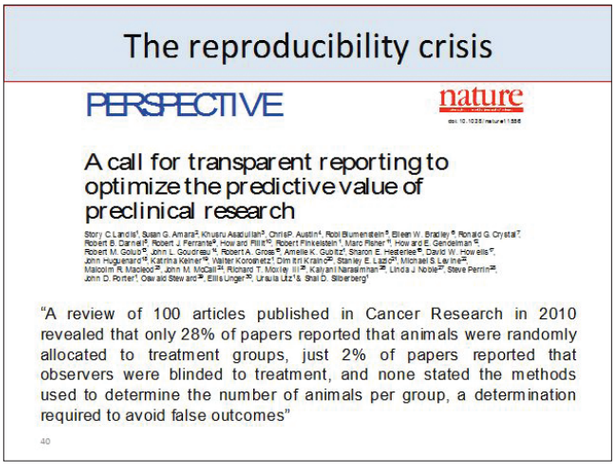
"Pharmaceutical companies in general are not keen on developing stroke damage reduction medications because of the miserable record of failure of past clinical trials. There are over one thousand rat stroke cures and no human stroke cures. We are, so to speak, in a 'nuclear winter of stroke treatment". Mike Tymianski went to Chris Page and Bob Bell at UHN with the proposal that he would start his own company - NoNo Inc., and do the heavy lifting himself. UHN could become a shareholder, but the company would own the intellectual property. They agreed.

"There is a misconception that there is no money available in Canada for investment. In fact there is very substantial money available. Investors tend to put it in the resource and financial sector, whereas biotechnology investment is minor in Canada. Nonetheless it can be extremely rewarding if a health technology is successful, but the success rate is relatively low.

"As part of our drug development strategy we conducted seminal studies in cynomolgus monkeys and published our work in Nature. Even with this, big pharma is only interested if the results are robust, repro-



Growth of University TTO's



Reproductibility Crisis

ducible, the drug has a clear and validated mechanism of action, and the drug is safe. Reluctance from Pharma to invest otherwise is due to very low rates of reproducibility of certain drug data, and poor science. For example, a small proportion of research studies are blinded and very few have reliable statistical methods. They want certainty about the mechanism of action of any new drug.

"Only one in 1000 drug discoveries leads to a phase 1 clinical trial. Once a phase 1 trial is underway only two thirds get to phase 2, and if a phase 2 trial is positive, one third get to phase 3. Then, only about two thirds of phase 3 trials are positive. Of those, the FDA approves about 85% of drugs, as they sometimes disagree with the conduct of the phase 3 trial. The approval rates are lowest for new drugs (as compared with re-purposed drugs), and lowest for neurology drugs of all drug categories."

PROVING EFFICACY

There is a small, but measurable area of damage that is very subtle but frequent in the surrounding brain when an aneurysm is treated by endovascular means. Mike and his colleagues decided to study these mini- strokes to test efficacy. They studied 185 patients in a multi-center randomized, placebo controlled trial and found that patients who received the PSD95 inhibitor drug NA-1, had 50% fewer strokes than those who received placebo. They're now doing pivotal trials to prove benefit. One involves giving NA-1 or placebo in the ambulance to patients with suspected stroke on the way to 5 stroke centers in Toronto, Peel and Vancouver. This trial significantly involves the emergency medical services (EMS) personnel who give the drug within 60 minutes. In the first 75 patients, they met this goal. "EMS personnel are very keen on this trial because now they are actively involved in treatment, not just lorry drivers bringing untreated stroke patients into the hospital for treatment. We are now training thousands of emergency medical service personnel. A second trial, set to start this year, will administer NA-1 or placebo to patients who undergo endovascular stroke therapy at several centers in Canada, the USA and Europe.

Many years ago insulin was developed in the laboratory and taken to clinical use (remarkably) within seven months. We are now taking a laboratory discovery to the clinic, but our transition interval was 25 years. "

M.M.

North York General Hospital SIC Lloyd Smith

Lloyd Smith grew up and attended medical school in Saskatchewan. He completed general surgery training in the Gallie Program, including a rotation at Joe's, a favourite experience. Postsurgical residency he did fellowship training in Hepatobiliary surgery in London, England, and Surgical Nutrition at the University of Pennsylvania. He also spent time as Richard Reznick's first surgical education fellow. He joined the staff at St. Joseph's Health Centre in 1990 where he developed an interest in the new field of Minimally Invasive Surgery. He credits Steve Strasberg who, after starting to do laparoscopic cholecystectomies, offered to teach one surgeon from each of the U of T Hospitals as a way of disseminating the technique.

In 2000 Lloyd was recruited by Ori Rotstein to the Toronto Western Hospital to help develop a UHN Minimally Invasive Surgery program along with David Urbach. He and David started a fellowship program in MIS surgery. He also had the opportunity to help push the envelope in laparoscopic procedures with Mike Jewett, Richard Reznick, Paul Greig and others.

In 2002 Lloyd moved back to St. Josephs to become Surgeon-in- Chief. During the next 10 years, he was a big part of the MIS fellowship program which spread across most of the University of Toronto teaching hospitals and became a model for collaboration between hospitals. He also helped to design the University of Toronto Collaborative Bariatric Surgery Program, which was originally headed by John Hagen and Richard Reznick.

In 2012, Lloyd finished as Surgeon-in-Chief at St. Joseph's. He then completed a Health Administration Program at the Schulich Business School. Avery Nathens and Lloyd were asked to review North York General Hospital in preparation for a search for a Surgeon-in-Chief. Lloyd was impressed with the hospital, applied and was selected for the position. He has been there 2 years as of this interview.

Lloyd likes the culture of the hospital and the focus on being an outstanding community teaching hospital. He and the group there have developed a focus

North York General Hospital

on "acute care surgery" modelled on the Orthopaedic Division's long established program. The hospital now has acute care programs in Orthopaedics, General Surgery, Plastics, Urology and Gynecology. Each division does it a bit differently depending on their needs. The overlying principle is to give emergency patients better access to the OR and to do it in daytime hours. "It is good for everyone - doctors, patients, and the hospital". He thinks it improves overall quality of care.

"Residency training in Surgery at North York General is primarily in General Surgery. The Hospital has become a favorite choice for general surgery residents because of the apprenticeship model (one resident with several staff) instead of a team model (chief, senior and junior in ranked order). The surgeons try very hard to put educational needs ahead of service. We tend to develop a close personal relationship with our residents.

"The Division of General Surgery has become very closely aligned with the University. Stan Feinberg is the associate program director, Peter Stotland is our division rep for education and Nancy Down is the Division Head. They and the entire division have put lots of thought into how we develop our educational program."

Lloyd would like to see the other Divisions of Surgery get more involved in resident teaching. "We have extremely busy Orthopaedic, Plastics and Urology divisions who do a mix of what most surgeons will see and do if they go into community practice." He thinks that North York is well positioned to contribute to a Competency –Based Curriculum at the University of Toronto.

COLLABORATIONS

"We have a great relationship with Sunnybrook which we would like to develop further. Currently we partner for vascular services and most recently colorectal surgery. Avery Nathans (Surgeon- in- Chief at Sunnybrook) and I have committed to meet on a regular basis to look at ways of collaborating further. Gone are the days when every hospital can offer all services. We all need to focus on what we are best at.

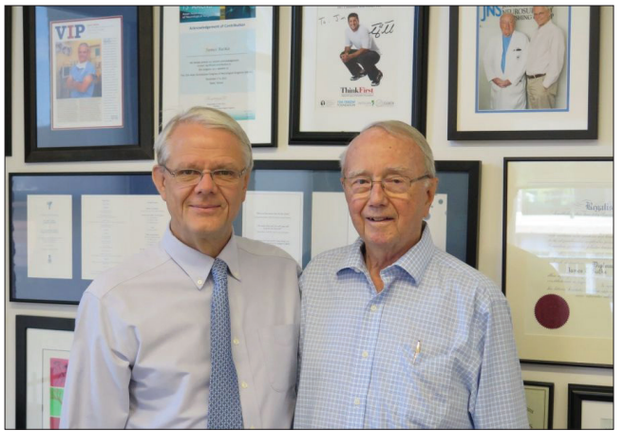
"We also partner with the Hospital for Sick Children. Pediatric general surgeons from Sick Kids come up to do a clinic two days a week, and operate two days a week, enough that we are able to train residents in paediatric anesthesia. Donna McRitchie, our Vice President for Medical Affairs, has helped orchestrate these partnerships."

Lloyd Smith and his wife Mary Ann

Lloyd's wife Mary Ann is a nurse who is active as a volunteer at a hospice and the Gardiner Museum. They have three children; Adam (28) is in finance, April (26) is completing a Master's Degree in Public Health, and Claire (23) is a teacher. Lloyd is active in cycling, tennis, golf, and skiing. He most recently read "*Boys in the Boat*" by Daniel James Brown, a study of team efforts. He has always enjoyed teaching and seeing the impact of teaching in the eyes of the residents and students. "It's great to pass the privilege of being a surgeon on". Lloyd's favorite quote is: *"It's amazing what you can accomplish if it doesn't matter who gets the credit"*.

M.M.

Bill Spence, a Surgeon's Surgeon Reminisces



James Rutka and William Spence

I met with Dr. William (Bill) Spence this summer in the Departmental office in the Stewart Building. He informed me that he has been associated with the Department of Surgery at the University Toronto now for an unbelievable 66 years! His career in Toronto began at the Toronto General Hospital (TGH) in 1957. As many of you are aware, Bill has been a stalwart supporter of the Department of Surgery and has attended all of the Gallie Day Celebrations, save two, over the past 41 years. Bill conducted his clinical practice in general surgery at TGH and retired from active practice at age 70, but kept seeing patients in his office practice until age 88. He is now 91 years of age, but looks decades younger in my opinion.

Bill grew up on a farm with his family in Perth Ontario. He went to a 1-room schoolhouse until high school where he took 11 courses in his final year. He was just shy of 17 years of age when he finished high school. As a child, he enjoyed hockey and softball. Interestingly, he became a school teacher for about a year after high school because of the need for and short supply of teachers in the province. Ultimately, he decided to go on to Queen's University for medical school. In the summers, he worked on the railroads, and performed surveys for the Department Highways in Tweed Ontario. Bill completed his rotating internship at Queen's University after medical school before coming to Toronto for surgical experience.

It was a pleasure to hear from Bill the state of surgery in the 1,450-bed hospital at the TGH after insulin was discovered. There was a public ward side on College Street, and the Surgical Floor was on the eastern part of the building, and ward 6 was the public ward. The F ward was for obstetrics. Private patients were looked after on the University wing ward, and as a trainee in surgery he lived basically on the 4th floor in the College wing. His very first rotation was in emergency medicine.

Throughout the course of our conversation, Bill related to me the many colleagues, family members and friends on whom he had operated and of whom he had taken care. One he remembered was Duncan Graham who died eventually from cancer of the pancreas.

But it was truly my pleasure to learn from Bill his impressions of the past Chairs of Surgery. When Bill arrived in Toronto in 1957, Dr. Gallie had just retired and Dr. Janes had taken over. However, Bill remembers the jovial nature of Dr. Gallie, and he actually worked with Dr. Gallie's son, Hugh, in general surgery. It was Hugh who helped Bill perform his first appendectomy. Bill spent one year at Sunnybrook where he did general surgery, urology and hernia repairs using the living suture technique from fascia lata that Dr. Gallie had popularized.

For Dr. Janes, Bill was his Chief resident and helped look after Dr. Janes' patients. Basically, as Bill relates, Dr. Janes got what he wanted, when he wanted it, and did not have a great sense of humor.

Dr. Janes was able to secure operative time essentially any time he wanted. In those days, general surgeons did everything from caring for fractures, to dealing with multi-trauma, to performing thoracotomies, to doing head and neck surgery. Dr. Mustard was the Head of the Head and Neck Program at that time. Bill remembers doing a parotidectomy with Dr Janes, and seeing the delicate dissection of all the branches of the facial nerve in a superior technical manner. However, Dr. Janes concentrated his efforts primarily on thoracic surgery procedures. One of his colleagues at that time was Dr. Norm Delarue. He was also the team doctor of the Toronto Maple Leafs. It was quite common for general surgeons to do thyroid, rectal, and transverse colon cancer surgeries. It was Dr. Delarue who discovered the correlation between sputum samples from smokers, and early onset lung cancer. In addition, breast cancer surgery in those days represented

quite mutilating surgery with radical mastectomies being performed more often than not. In 1965, Bill went on a James Travelling Fellowship and came back to help with the surgical load at Toronto General Hospital. Dr. Janes sponsored Dr. Wilfred Bigelow to help develop the Cardiac Centre at the Toronto General Hospital, one of the first of its kind in the world.

There was a Janes' Surgical Society, which rivaled the Gallie Club. Dr Janes had contacts with many surgeons in England, Glasgow and Edinburgh in addition to North American Centres like Detroit and New Orleans.

Dr. Kergin followed Dr Janes as Professor of Surgery. He came as an Oxford graduate and Rhodes Scholar. He was known as "fearless Fred" and he performed mostly thoracic surgery. He was very confident. Interestingly, he was a heavy smoker, and was extremely authoritarian. He reorganized the emergency room at that time. It was during Kergin's time that Sunnybrook changed from a military hospital to a University of Toronto hospital. Dr. Kergin was well known for his treatment of ruptured abdominal aortic aneurysms, and ultimately also became the Assistant Dean of Medicine at the University. His son Michael became the Canadian ambassador to the United States.

Following Dr. Kergin in sequence was Dr. Drucker who was recruited from the University of Rochester. He was an American surgeon, and had not come through the University of Toronto system. As such, he was a bit out of his element. The word on the street was that Dr. Druker was not a particularly adept technical surgeon. But he was quite connected with the academic side of surgery, and with systems approaches to surgery. His term lasted for 5 years.

Following Dr. Drucker, Dr. Wilson became the next Professor of Surgery. He had the tact of gentle persuasion, which was a wonderful approach to help serve his needs and purposes. He was considered an excellent technical surgeon, and helped to form the cardiovascular group at the Toronto Western Hospital. Under his leadership, the Department of Surgery thrived and moved forward. Dr. Wilson had the vision to initiate Gallie Day as we know it. In addition, he helped to develop all of the specialties in surgery, as we know them today. He had good collaborations with Ray Heimbecker from cardiac surgery, Paul Tremble in thoracic surgery, and John Callaghan who helped develop the pacemaker.

Another name that sprang forward from our conversation included Bruce Tovee who developed the technique for splenectomy in patients with leukemia. He was also the surgeon for the police and ran a clinic in the Stewart Building to look after the Police officers. Dr. Tovee's wife was an army nurse they had 2 sons, Paul and Steve with whom I went to highschool.

We also talked briefly about Gordon Murray's contributions, of which there were many to the Department of Surgery. In addition to his work on the development of renal transplant systems, and the use of heparin, Dr. Murray developed a technique of bone grafting using a portion of the clavicle as the donor source.

It was my great pleasure to meet with Dr. Bill Spence, and to spend an afternoon chatting with him. It reminded me how fortunate we are that our historic tradition carries on in the memories of those who worked at some of the most interesting times in the establishment of the Department of Surgery. Bill shows no signs of slowing down at age 91, and we do hope we will continue to see him at many future Gallie Day events

James T. Rutka, RS McLaughlin Professor and Chair
Department of Surgery, University of Toronto

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– THE EDITORS

Learning Comparative Physiology and Anatomy in Riviera Maya

A white sandy beach in Riviera Maya, Mexico. A 5 star hotel with world class food. Beautiful tropical skies. Marine mammals swimming leisurely in a lagoon within a 3 minute walk. Your typical university course setting?

PSL 379 - Class of 2015 with a gentle manatee! Course instructors Carin Wittnich (far left front row) and Jim Goltz (far right back row).

Welcome to Physiology's PSL 379! This course, offered through the Department of Physiology and in co-ordination with the Oceanographic Environmental Research Society (OERS), is directed and taught by Dr. Carin Wittnich (Surgery & Physiology) with assistance from Dr. Jim Goltz (OERS veterinarian). This unique Physiology field course gives future doctors, physiologists, anatomists, and ecologists the opportunity to understand the unique physiology of 3 marine mammals (manatee, seals and dolphins) and apply this knowledge when comparing it to human physiology/anatomy.

What is the connection to surgery you may ask? Numerous applications of aquatic adaptations exist in humans and may influence how surgery may be performed. A fetus lives in a fluid environment for 9 months but must suddenly support itself once it leaves the womb. Surgery performed on that fetus/newborn may need to consider these adaptations and changes that occur after birth to better optimize outcomes. Another example is a reflex called the Mammalian Diving Reflex that occurs when a body is suddenly immersed in cold water, causing the body to 'shut down' certain parts to preserve itself. Hypothermia has been used in cardiopulmonary bypass surgery for decades and is a key component in protecting the body. Studying these adaptations to aquatic life may lead to improving surgical outcomes.

Class collecting morphometric data from a manatee. Dr. Wittnich on right stabilizing the tail

During this course, students conduct their own physiology based research as they spend time in and out of the water observing these amazing marine mammals. The students come away with a new appreciation of performing research that will hopefully assist them in future career opportunities such as surgery and medicine.

This course was recognized with the Department of Physiology's award for Innovative Course Design (2012), and the Faculty of Medicine Excellence in Undergraduate Laboratory Teaching in Life Sciences Award (2013). Dr. Wittnich has also won several graduate and undergraduate awards for courses she directs or teaches.

Carin Wittnich, Professor
Department of Surgery, University of Toronto

Turning the Spotlight on the Editor

Martin McKneally and family gathered at Christmas

In this interview I am delighted to have the opportunity to shine the spotlight on the Editor of the *Surgical Spotlight*, Dr. Martin McKneally. Martin's family is the most important part of his life. His wife Deborah, who was a professional violist, currently acts as the CFO, COO and managing partner and editor at their home in North Toronto, otherwise known as the "Ravine Research and Education Center". They have 4 children, and are close with all of them and their spouses as well as his three grandchildren. He feels fortunate they are all leading healthy and productive lives. Ellen is a retired computer scientist and now runs a horsefarm in Georgia. Chris is a social worker and musician in Maine. Luke is an environmental architect in Boston. Greg is a filmmaker and artist in London, England. He is delighted that they are all coming home for the holidays and will be stacked like firewood on inflatable beds!

Q: How did your career evolve to the point where you were recently awarded the prestigious Joint Center for Bioethics Distinguished Service Award?

A: It was all a conspiracy to make me keep working. I have been retired from clinical surgery for 20 years. But I had been interested in bioethics since I was a resident and so teaching and learning bioethics has been tremendous fun. Teaching bioethics to residents at U of T was basically an assignment from Peter Singer so I selected excellent teachers in all the residencies. I coached them and also did a lot of work with the residents figuring out what the best way of teaching this stuff was. I learned a lot as you do from students and then that "morphed" into teaching graduate students. Having to explain things to graduate students brought a new dimension to my life. It became a fun hobby to learn how to make bioethics interesting and memorable.

Q: Is it unusual for a surgeon to do ethics?

A: Surgeons are practicing ethicists throughout their career. They make decisions about life or death, allocation decisions, and so it's a very easy transition to bioethics. You have to learn a new language of sorts, but the practical aspects are absolutely intrinsic to surgical practice. I love teaching surgical residents because when I ask them if they have "cases like this", they say: "Yeah, last night!"

Q: What is the future of ethics?

A: I think it will be part of the standard curriculum and culture, in the way that the language and culture of physiology and genomics have become part of the formal curriculum.

Q: If you had to give three pieces of advice for younger surgeons what would they be?

A: Well most are younger than I am at the age of 80.

1. Keep your receptors up. Keep listening and learning. Learning is not a task it is the real fun in surgery.
2. Think about role models that surround you. Even the bad ones are helpful as they draw a clearer edge on ideals and virtues you are trying to develop. Keep thinking "how would I handle this case" to learn how to be a better physician and surgeon. This is also true about teaching, pay attention to their methods.
3. Think reflectively, not just practically (e.g. do we need the cell saver?). What are our and the patient's goals here? What are we accomplishing? Thinking reflectively is more about the principles and aspirations of the patients and the healthcare team. This doesn't get extensively discussed in our formal training particularly in our early careers.

Q: What are your future goals?

A: To expand the surgical ethics program further, and I am very encourage by young people like you, Mark Camp, Ryan Snelgrove and more senior people like Mark Bernstein in the ethics tribe. I'd like to make it

a signature activity of the Department of Surgery, in the way that lung transplantation has become identified with the Department of Surgery. I'd like to make the fellowship in surgical ethics a standard part of our Postgraduate program. I'd also like to continue to do research that illuminates and helps surgeons deal with the ethical quandaries they face in surgical practice.

VANITY FAIR PROUST QUESTIONNAIRE:

Q: What is your idea of perfect happiness?
A: When all my kids come to celebrate Christmas tomorrow.

Q: What is your greatest fear?
A: I'm not very fearful. I've survived long enough so I have an untroubled view of the circumstances of life.

Q: Which living person do you most admire?
A: Deborah McKneally.

Q: What is the trait you most deplore in others?
A: Self- agrandisement and inappropriate emphasis on individual worth and contributions.

Q: What is your favorite journey?
A: Walking in the ravine behind our house, which I do daily.

Q: When and where were you happiest?
A: Now.

Q: What do you consider your greatest achievement?
A: My family.

Q: If you were to die and come back as a person or thing, what do you think it would be?
A: An undifferentiated Canadian child. It's been so much fun learning what I would be when I grew up.

Q: What is your most marked characteristic?
A: Enthusiasm and gratitude.

Q: Who are your heroes in real life?
A: Too many to enumerate.

Q: How would you like to die?
A: Quietly at home.

Q: What is your favorite hobby?
A: Poker with my group of surgeons and bioethicists.

Q: What is your favorite book?
A: Usually the one I'm reading at the time. Currently it's "Transplant" by John Elefteriades.

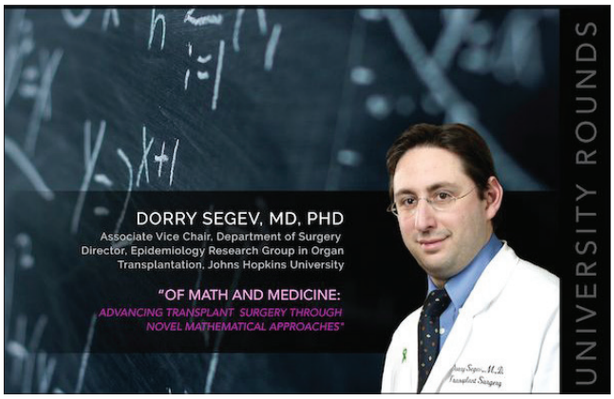
Karen Devon, Assistant Professor,
Department of Surgery and Joint Center for Bioethics,
University of Toronto

Robin McLeod Lecture: Using Big Data to Solve Problems in Transplantation


Robin McLeod

Robin McLeod is celebrated by the lecture in Surgical Epidemiology given in her name each year in the Department of Surgery. The Lecture honours her distinguished career as a surgeon, teacher and clinical scientist. Robin has over 350 publications and has the highest teaching effectiveness and academic citizenship scores in the Department. Chairman Jim Rutka described her at the introduction of the Lecture, quoting from Marry Poppins - "she is practically perfect in every way".

Dorry Segev, this year's McLeod Lecturer, is Associate Vice - Chair of Surgery at Johns Hopkins. He is a transplant surgeon and an internationally recognized expert in organ allocation. Dorry has been instrumental in driving transplant policy at the local, regional and national level. He received his undergraduate degree in Computer Sciences from Rice University in Houston and his medical degree from Johns Hopkins. He completed general surgery residency and an abdominal organ transplant fellowship at Hopkins, where he also pursued and obtained a PhD in biostatistics and clinical investigation. He has been on the faculty since 2006, publishing more than 250 papers in leading journals, including the Journal of American Medical Association, the New England Journal of Medicine, and Lancet. He has received many prestigious awards, including the Jacobson Promising Investigator Award of the American College of Surgeons. His mentors include Marta Zeiger, an endocrine surgeon at Hopkins,



Dorry Segev

paediatric surgeon Patricia K Donahoe at Massachusetts General Hospital, and Robert A. Montgomery, Chief of the Division of Transplantation at Johns Hopkins.

Dorry began by telling us that in the Big Data era transplantation has a particularly useful dataset because of the scarcity of organs and the long waiting lists. In addition, there is an abundance of payer and pharmaceutical claims data, giving hundreds of thousands to millions of data points. "Big Data of this type can be used very effectively through linkages. It is free of selection bias, such as occurs when an individual service or institution reports its experience. It is less granular than institutional reports."

Dorry has been successful in changing the law against transplanting organs from patients with infectious diseases (the IRD- infectious risk donors). There was a federal law passed in 1984 against transplantation from IRD patients. Dorry went to the U.S. Congress, taking advantage of his proximity to Washington. He became well versed in the ways of Washington, and especially the effectiveness of knocking on doors, meeting intelligent young staff personnel of Congressmen. By telling them "how many people are affected by the problem, how many lives can be saved, and what the cost will be to benefit the constituents of the politicians who are influential in getting the Bill approved and eventually signed by the President." He has had extraordinary success in this quest. He told us how he used the National Inpatient Sample, a large dataset, and found the number of donors that could be used for transplantation if the law were changed. He looked at an HIV dataset from 18 sites and linked it to the NIS (National Inpatient Sample). $500,000 per patient could be saved if transplant were substituted for dialysis. If the law against IRD transplantation were changed, there would be an enormous saving to the Medicare Program. On the basis of Dorry's data, President Obama signed the "Hope Act", reversing the 1984 law prohibiting IRD treatments.

Antibodies to the HLA antigens result in ineligibility for about 20,000 potential kidney transplant recipients. Dorry worked to resolve this problem by exchange transplants. At the time that he started, organ exchange (a swap among 2 pairs of incompatible individuals) was illegal by reason of the laws against exchange of "money, or anything of value" to purchase a transplant. A kidney from another person was viewed by the Courts as a valuable payment. Dorry approached this problem using the *tongue- in- cheek axiom* of computer geeks. "If we don't have data, we make data". This is shorthand for using simulation to develop a convincing numerical argument. There are between 1,500-3,000 incompatible pairs based on anti HLA antibodies.

Working with Sommer Gentry, the mathematician to whom he is married, Dorry and his colleagues got the Charlie W. Norwood Living Organ Donation Act passed and signed by President Bush. The Monte Carlo simulation revealed that the loss ofdkidneys based on high titres of antibody could be substantially reduced by desensitization. Matching a desensitized patient with a "counterfactual (i.e. a patient who has not been desensitized) showed that there was a substantial improvement in survival". These data convinced Medicare to pay for the desensitization process.

He then worked on the data supporting the clinical maxim that black patients fared better on dialysis than whites, so they were erroneously being less favoured for transplantation. Nephrologists' belief in this categorical misconception was based on their experience with predominantly older patients that they care for in dialysis clinics, but the maxim was untrue for younger patients.

Using big data, Dorry was able to calculate the risk of subsequent chronic kidney diseases in kidney donors. This figure of 37 per 10,000 donors was derived using social security data and National Health and Nutrition Examination Survey (NHANES) data. "We made a calculator from this data which will soon be published in the New England Journal of Medicine. "When you learn that there is a donor available, they are never perfect. It's like house hunting - there is always a problem

that has to be taken into consideration or modified". For example, the IRD donors (infectious risk donors) may have a history of intravenous drug use or sex work. 20% of potential donors are IRD. In the past, they have been disqualified from transplantation, but with 100,000 patients on the waiting list for a kidney and 50% mortality of waiting patients, why not use IRD donors? For this problem Dorry used the Markov decision process model. This mathematical empirical study revealed a 10% difference in outcome between IRD and no-IRD donations. This difference, though significant, is still well-worth the risk to many patients facing a 50% risk of death on the waiting list.

In summary, Dorry's big data studies helped him to re-write laws, to gain funding for the desensitization process, to clarify clinical misconceptions, to develop a donor risk calculator, and to introduce the use of infectious risk donors to help resolve the transplant organ shortage.

David Urbach asked about contrasts between Canada and America in terms of the Big Data studies. Dorry answered that the problems that he has been addressing are seen throughout the world, but we can model selection on regional data, including questions like "Is it reasonable to put kidneys from older patients into young patients? Simulators can help, but modelling is extremely helpful for policy decisions like this. John Marshall asked whether this very efficient use of available data could be helpful to less developed countries like Bangladesh. Dorry answered that calculators of the type he has developed are now trusted, they no longer meet the "garbage in, garbage out bias" that characterized an earlier age. The spread of the electronic medical record is not limited to more developed countries. Jim Rutka asked how Dorry managed to get a Bill to reverse a standing law "rocketed through the Congress, when we hear so much about gridlock in the US capital". "Knocking on doors and persistence was the secret of success, but was not exactly rocket speed, as the paper was published in 2010, and news media picked the information up in 2011 and the Bill was signed in 2013."

In closing, David Urbach reminded us that Robin McLeod had blazed the trail to changing practice through epidemiological studies, brilliantly exemplified by Dorry's work.

M.M.

Usmaan Hameed wins Zane Cohen Award

Usmaan Hameed is the recent winner of the Zane Cohen award, which celebrates the clinical fellow in the Department of Surgery who has made the most significant achievement in any of the domains of medicine. Usmaan is currently in the inaugural class of the new Translational Research Program at IMS. His focus of study toward earning an MHSc degree will be intraoperative image-guided navigation for rectal cancer resection. The new Translational Research Program is intended to bridge the 'valley of death' between early research discoveries and their integration discovery and integration into clinical practice.

Usmaan has been interested in minimally invasive surgery throughout his general surgery residency. "Laparoscopic and open operations lack depth perception in critical areas. For instance, during an abdominoperineal resection (APR) for rectal cancer, it is often difficult to assess the planes between the prostate and the rectum, or the autonomic nerves during the dissection. Operative navigation could be used to compensate for this deficiency." Usmaan will look at animal models during his Master's program with Dr. Victor Yang, a neurosurgeon-engineer with an interest in image-guidance. He will be working in combination with the Sunnybrook Research Institute on the accuracy of intraoperative navigation for guiding rectal cancer resection.

Q: Why were you selected for the Zane Cohen award?

A: "I was heading for a fellowship in minimally invasive surgery but felt I received a lot of exposure to MIS during residency. I wanted to expand the use of minimally invasive and transanal techniques in advanced GI malignancy and became interested the surgical oncology fellowship directed by Frances Wright. The fellowship is a two-year Royal College accredited program. In first year the 3-month core rotations of the program, focused on colorectal, hepatobiliary, breast, melanoma and sarcoma treatment, is intended to provide a multidisciplinary understanding of cancer biology. The second year electives are chosen to focus in an area of interest for the fellows. Our faculty are particularly good at minimally invasive techniques in the G.I. area. Shady Ashamalla, Fayez Quereshy, and Peter Stotland were excellent mentors for me.

Usmaan with Prof. Joel Leroy at IRCAD, France.

In addition to my core rotations, I spent eight weeks with Prof. Joel Leroy at IRCAD in Strasbourg, France, a world leader in novel laparoscopic, transanal and endoscopic approaches. My clinical goal at IRCAD was to gain expertise in Transanal Minimally Invasive Total Mesorectal Excision (TAMIS-TME). This technique is particularly valuable in low rectal cancers to improve the exposure of dissection in a deep, narrow pelvis. TAMIS-TME is giving birth to a new era in sphincter preserving trans-anal surgery.

From an academic perspective, IRCAD also has experience with intraoperative surgical navigation in hepatobiliary surgery. While I was there we looked at a novel use of narrow-band imaging, which uses light of specific wavelengths other than the traditional white-light used in laparoscopy, to evaluate for bile leak intra-operatively. Similar techniques may be used in rectal cancer to better assess tumour regression following radiation.

"Patients with rectal cancer are often treated with neoadjuvant chemoradiation prior to surgery, and evidence has emerged that this treatment gives a complete clinical response in 20-30% of cases. A complete clinical response isn't a pathological complete response. If we excise the radiation scar, up to 25% of these patients will still have viable tumor cells. Identifying better predictors of a sustained complete response in patients will allow us to more effectively determine which patients can safely avoid surgery. There are now trials randomizing patients to surgery versus watchful waiting after neoadjuvant treatment.

"The courses in the translational research program are flexible and unique –modules ranging from qualitative methods and clinical epidemiology to marketing, entrepreneurship and applied intellectual property. The program also encourages collaboration across disciplines such as engineering to help build device prototypes. This is a unique program that will hopefully foster a nurturing environment for surgical innovation in Toronto."

Q: What about research ethics oversight?

A: "Ethics is of utmost importance in the area of innovation. Traditionally, after Health Canada approval, clinicians often use new devices in the clinical setting on patients outside a prospective study. Have these devices been appropriately tested and in what setting? Do patients know when we trial a new device for the first time in the OR? These are very relevant topics that we are looking to investigate with Karen Devon who is a surgeon and ethicist on faculty."

Q: Are there animal models that are helpful?

A: "The model depends on the area investigated. Pig models are relatively close in anatomy to the human pelvis but are extremely expensive. Cadaveric models are helpful models for operative navigation. We can use mouse-tumour models to look at novel uses of contrast imaging. The translational program has a variety of participants and mentors – engineers, basic scientists, and clinicians – which allows us to tackle the same problem using different perspectives. The program directors include Joseph Ferenbok - an information scientist, and Stuart Berger - an immunologist" (http://trp.utoronto.ca/).

Q: Of the 200 or more fellows, how did you earn the Zane Cohen award?

A: "Zane Cohen enabled this generous award. It's an honor to receive it, as there are many who deserve to be recognized. It is a very productive cohort of fellows and I was humbled to receive the award. In our fellowship there are 4 to 5 surgical oncology fellows per year, a total of 10 in the program. As co-chief fellow I helped organize the surgical oncology lecture curriculum and journal clubs, fellowship interviews and selection, and other administrative duties such as visiting professor lectures. This was in addition to teaching, research and clinical performance that contributed to the award."

Q: Teaching seems to be a prominent part of your academic life based on the awards you received in residency.

A: "I really enjoy teaching residents and medical students. My parents were both educators so perhaps that is where my interest comes from. My mother was an elementary school teacher and principal who emigrated and

helped bring her family to Canada as refugees during the Idi Amin crisis in Uganda. My father was a professor and scientist from Pakistan who later taught anatomy, microbiology and parasitology at the University of Alberta in Edmonton. Both were immigrants to Canada. As a result I've been interested in education and in international health and international travel.

Usmaan Hameed with his wife Daniela and their daughter Mia Grace

I have a very supportive wife, Daniela, whom I met during medical school at the University of British Columbia. She is a staff obstetrician-gynecologist at Humber River Hospital. We married in residency and have a two-year-old daughter, Mia Grace. In the past we have worked on global health projects in Zimbabwe, South Africa, Brazil and Tanzania. We hope to continue travelling with Mia to expose her to different cultures and to preserve the heritage of our families as we raise our daughter. I play ice hockey as a goalie a few times per month as well as on the General Surgery team in the Department of Surgery games Dr. Rutka facilitates. I'm not that big, so I try to use my cat-like reflexes instead of bulk to defend the goal."

Q: What are you reading currently?

A: "All fellowship material for my Royal College exam right now, but I especially enjoyed reading Atul Gawande's books *Complications*, and *Better* during residency, and most recently *Being Mortal*."

M.M.

Launching the First Surgery Quality Improvement Curriculum

Najib Safieddine

The first Department of Surgery quality improvement curriculum was launched on Oct. 20, 2015 as an initiative of the Quality and Best Practices Committee. The curriculum is a small group seminar based curriculum that is delivered in a total of three seminars for the 2015-2016 academic year for all PGY-1 residents culminating in a fourth session dedicated to the presentation of the groups' QI projects. All eight divisions of the department are participating. The objectives of the curriculum are multiple but can be summarized in the following: Introduce the concept of quality improvement, introduce QI tools and empower trainees to utilize them in a practical and applicable manner, foster group work and collaboration, encourage trainee engagement in clinical processes and last but not least foster the notion of QI as an integral part of surgical practice and surgeons as leaders in QI whether in the community or the academic setting.

This is an important initiative and carries a lot of promise. The Quality and Best Practices Committee and Post Graduate Surgical Education hope to gradually expand this program to senior residents, fellows and to other surgical divisions outside the Department of Surgery. It is also the first and largest surgical QI curriculum cohort at the University of Toronto and likely in the country.

I would like to acknowledge and thank all those who have made this initiative possible particularly the eight surgeon mentors from the various divisions who have volunteered their time, Dr. Brian Wong (Centre for Quality Improvement and Patient Safety), program directors, Dr. Levine (Director, Post Graduate Surgical Education), Dr. Robin McLeod, Dr. Rutka and administrative assistants Robert Gardin and Christian Base.

Najib Safieddine, Assistant Professor
Thoracic Surgeon, Toronto East General Hospital

Big Data at the 41st Gallie Day celebration

Each year we strive to improve Gallie Day. The 41st Gallie Day celebration was no different. Drs. James Rutka and Michael Fehlings reflected on the major social, medical, scientific and political changes which have occurred over the past 41 years. The theme of this year's Gallie Day was *"Is Bigger Better? Opportunities, Challenges and Limitations of Big Data in Health Research"*. The ways in which surgeons apply big data have many things in common with other fields of medicine and yet at the same time are associated with unique challenges which differ from those confronted by other disciplines. Could we be doing more, collecting data through alternate sources? What are the key limitations? What will be the next "disruptive" analytical approach? The opportunity to exploit big data to provide novel insights into disease pathobiology, optimize patient care strategies or influence health policy are all opportunities for surgeons as translationally oriented researchers and as health care leaders. These challenges exemplify the core of what it means to be an academic surgeon and researcher.

The "big data" symposium, which was chaired by **Michael G. Fehlings** featured 4 outstanding speakers. **Geoffrey Anderson** (Professor, Chair in Health Management Strategies, Department of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto) presented his viewpoints in his talk, entitled *"Linking Broad and Deep Data to Create the Infrastructure for Discovery Research"*. Professor Anderson discussed the importance of creating interdisciplinary collaborative networks of researchers to explore novel areas of science. **Nancy Baxter** (Colorectal & General Surgeon, St. Michael's Hospital; Associate Professor, Department of Surgery, University of Toronto) expressed her perspectives and clinical interests as they connect with health research in her talk, entitled *"Volume, Variety, Velocity, Veracity - How do we harness the power of big data for health research?"*. Dr. Baxter gave important perspectives on the power of "big data" to refute conclusions on best medical practice based on small biased datasets. **Steven Gallinger** (Head, Hepatobiliary/Pancreatic Surgical Oncology Program; Head, PanCuRx, Translational Initiative in Pancreas Cancer, OICR; Professor of Surgery, University of Toronto) presented "*Big Data in Cancer Genetics Research - It Isn't Easy, but it's Worth It"*. Dr. Gallinger discussed the impact of large international datasets to provide novel insights into cancer pathobiology. **Avery B. Nathens** (Surgeon-in-Chief, Sunnybrook Health Sciences Centre; DeSouza Chair in Trauma Research; Professor of Surgery, University of Toronto) presented *"From Crashes to Care to Prevention: Tales of Big Data in Injury Control"*. Dr. Nathens described the use of large administrative datasets to improve systems of trauma care delivery. The formal presentations were followed by a lively discussion which explored the various themes introduced by the speakers. The timeliness of the symposium on "Big data" is further reflected by the recent cover article in the April issue of the Bulletin of The American College of Surgeons (*"Big promise and big challenges for big health care data"* by Matthew Coffron and Frank Opelka)

Michael Fehlings, Clifford Ko, Rosalind Bradford, James Rutka

This year's **Gordon Murray Lecture** presented by **Dr. Clifford Ko** (Professor of Surgery, UCLA School of Medicine; Director, Division of Research and Optimal Patient Care, American College of Surgeons), was entitled *"Perspectives on Data for Achieving Quality of Care"*.

We introduced a new way of presenting and viewing posters this year. Electronic Posters or E-Posters are similar to traditional paper posters, but they are displayed on-site on a large LCD screen. E-Posters increase poster visibility after the event, providing another highly effective platform for promoting continuous education and extending the meeting lifecycle with options to share, comment and even raise questions to the author. E-Posters are a modern, attractive and innovative way to display traditional paper posters. E-Posters save space

and cost of printing paper and at the same time allow for the application of modern electronic presentation formats. We had a record number of abstracts submitted by trainees working with our faculty. There were 10 platform presentations and 74 e-poster presentations. The Gallie Bateman Awards (for Surgeon Scientist Training Program participants) and the McMurrich Awards (for any trainee working with a member of the faculty of surgery) were judged for both platform presentations and poster presentations. The range of assorted topics and researchers highlighted the wide-ranging and tremendously high quality research being conducted in our Department.

We had 10 outstanding oral presentations, all of which were of exceptional quality.

Michael Fehlings and Karineh Kazazian

Surgeon Scientist Training Program (SSTP) residents are awarded the Gallie Bateman prizes for best oral presentation. First prize went to **Karineh Kazazian** (Roland Xu, Hannah Wu, Christopher Go, Olga Brashavitskaya, James W. Dennis, Carol J. Swallow), for her presentation on *"The protrusional protein polo-like kinase 4 (plk4) enhances cancer invasion"* (Supervisor: Carol J. Swallow); second prize was awarded to **Andrea M. Covelli** (Nancy N. Baxter, Margaret I. Fitch, Frances C. Wright), for her talk entitled *"Examining health-beliefs: Why mastectomies are on the rise"* (Supervisors: Nancy N. Baxter, Frances C. Wright); third prize was given to **James P. Byrne** (Wei Xiong, David Gomez, Homer Tien, Avery B. Nathens), for his very interesting presentation entitled *"When is dead "dead"? Identifying the unsalvageable patient for the purpose of performance improvement"* (Supervisor: Avery B. Nathens).

Michael Fehlings and Dale Podolsky

Gallie Bateman prizes were also awarded to e-Poster presenters. First e-poster prize was awarded to **Dale Podolsky** (David Fisher, Karen Wong, James Drake, Christopher Forrest) for his e-poster entitled *"Development of a robotic approach to cleft palate repair"* (Supervisors: James Drake & Christopher Forrest); second prize tie goes **to Natashia M. Seemann** (Tamara I. Gimon, Dorotea Mutabdzic, Vicki R. LeBlanc, Carol-Anne E. Moulton) for her presentation entitled *"The complex phenomenon of stress in the operating room"* (Supervisor: Carol-Anne Moulton), and **Ashton A. Connor** (Michelle Chan-Seng-Yue, Robert E. Denroche, Ayelet Borgida, Sheng-Ben Liang, Lincoln Stein, Michael H. Roehrl, John McPherson, Faiyaz Notta, Steven Gallinger) for his work on *"Insights into tumour evolution from whole genome sequencing of metachronous pancreatic ductal adenocarcinoma"* (Supervisor: Steven Gallinger).

Michael Fehlings and Hiroyuki Kawajiri

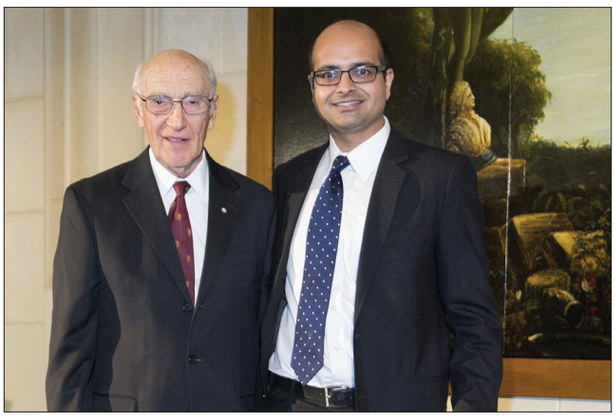
The McMurrich Awards are presented to research trainees who are not in the Surgeon Scientist Training Program. The oral presentations were phenomenal. The first place award was won by **Hiroyuki Kawajiri** (Laura Tumiati, Arash Ghashghai, Julieta Lazarte, Liza Grosman-Rimon, Filio Billia, Ren-Ke Li, Mitesh Badiwala, Jagdish Butany, Vivek Rao) for his oral presentation, entitled **"***Nrf2 protects against ischemia reperfusion injury via inhibition of Nf-Kb activation and suppresses subsequent development of cardiac allograft vasculopathy in murine heart transplantation"* (Supervisor: Vivek Rao). **Simon P. Kelley** (Chunying Yu, Heather Whetstone, Benjamin Alman) received second prize for his oral presentation entitled *"Fgfr3 regulates fracture repair by controlling the balance of intramembranous and endochondral bone formation"* (Supervisor: Benjamin A. Alman). Third prize was received by **Michael Chang** (Suzie Dufour, Taufik A. Valiante), for his work entitled *"Optogenetic activation of interneurons triggers ICTAL events in in vitro and in vivo seizure models"* (Supervisor: Taufik A. Valiante).


Kasra Tajdaran

McMurrich Awards were also bestowed upon a group of individuals who presented amazingly stupendous e-posters. There were two first prize ties as well as two second prize ties. First prize ties go to **Kasra Tajdaran** (Matthew D. Wood, Molly S. Shoichet, Tessa Gordon, Gregory H. Borschel), entitled *"GDNF sustained release from a surgically implantable hydrogel makes decellularized nerve allografts as effective as isografts in supporting nerve regeneration"* (Supervisor: Gregory H. Borschel), and **Jonathan W. Yau** (Krishna K. Singh, Fina Lovren, Yi Pan, Adrian Quan, Azza Ramadan, Pratiek N. Matkar, Mehroz Ehsan, Paul Sandhu, Laura E. Mantella, Nandini Gupta, Hwee Teoh, Matteo Parotto, Arata Tabuchi, Wolfgang M. Kuebler, Mohammed Al-Omran, Toren Finkel, Subodh Verma), entitled *"The essential autophagy gene ATG7 modulates organ fibrosis via regulation of endothelial-to-mesenchymal transition"* (Supervisor: Subodh Verma). Second prize ties were awarded to **James Y.L. Hong** (Jian Wang, Yang Liu, Mahmood Chamankhah, Anna Badner, Reaz Vawda, Michael G. Fehlings) for his presentation entitled *"Timing of cell therapy for spinal cord injury should be level dependent: Evidence for temporal differences in inflammation"* (Supervisor: Michael G. Fehlings), and **Ekaterina Turlova** (Christine Youjin Bae, Marielle Deurloo, Wenliand Chen, Andrew Barszczyk, F. David Horgen, Andrea Fleig, Zhong-Ping Feng, Hong-Shuo Sun) for *"TRPM7 regulates axonal outgrowth and maturation of primary hippocampal neurons"* (Supervisor: Hong-Shuo Sun).

Faculty research awards went to **Girish Kulkarni** (Surgeon Scientist, Urology) - **Bernard Langer Surgeon Scientist Training Program Award -** awarded to an outstanding graduate of the Surgeon Scientist Training Program in the Department, who shows the greatest promise for a career in academic surgery; **Marcelo Cypel** (Surgeon Scientist, Thoracic Surgery) - **George-Armstrong Peters Prize -** awarded to a young investigator who has shown outstanding productivity during his initial period as an independent investigator as evidenced by research publications in peer reviewed journals, grants held, and students trained; **Stephen Fremes** (Surgeon Investigator, Cardiovascular Surgery) - **Charles Tator Surgeon Scientist Mentoring Award -** recognizing individual supervising participants in the SSTP who emulate Professor Tator's qualities, namely excellence in research, commitment to SSTP mentoring and dedication to promotion of Surgeon-Scientists; **Emil Schemitsch** (Surgeon Investigator, Orthopaedics) - **Lister Prize -** awarded to an investigator who has shown outstanding and continuing productivity of international stature as evidenced by research publications, grants held, students trained and other evidence of stature of the work produced.

The fifth **Shafie Fazel Award,** established in memory of Dr. Shafie Fazel presented to an individual who has demonstrated outstanding accomplishments during residency both as a surgeon and as an investigator, was presented to **Jefferson Wilson** (PGY VI, Neurosurgery), a recent SSTP graduate who obtained his PhD with Professor Michael Fehlings**.** The **Zane Cohen Clinical Fellowship,** presented to a clinical fellow who has practiced and achieved at the highest level while being a clinical fellow in the Department of Surgery, was awarded to **Usmaan Hameed** (PGY VII, Surgical Oncology). The Tovee Award is presented to an academic staff member of the



Bernard Langer and Girish Kulkarni

Ori Rotstein and Emil Schemitsch

Department of Surgery who has made the greatest contribution to the educational activities of the Department, as exemplified by Dr. E. Bruch Tovee during his outstanding career. This year's recipient of the **Tovee Postgraduate Prize is Homer Tien** (Surgeon Investigator, General Surgery), and **Andrew Pierre** (Surgeon Teacher, Thoracic Surgery) received the **Tovee Undergraduate Prize. The Surgical Skills Centre Distinguished Educator Award** demonstrates the Centre's commitment to surgical skills education. This award recognizes those individuals who have made exemplary, innovative contributions to teaching and learning in the Surgical Skills Centre over the past year. This was presented to **Jeremy Hall** (Surgeon Teacher, Orthopaedics). **D.R. Wilson Award** for teaching is made annually to the surgical resident who is rated by undergraduate students as being an outstanding teacher. The recipient of this award was a resident whose teaching has been highly evaluated by medical students. The resident demonstrated both a positive attitude toward teaching and was considered a good surgical role model for undergraduate medical students, which went to **Hanmu Yan** (PGY IV, Urology).

The 48 judges for the e-poster competition as well as the 16 timers, who volunteered their time for the e-poster judging deserve special thanks, as well as the Research Committee members and Drs. Marc Grynpas, Helen MacRae, Joao Rezende-Neto, James Waddell, who assisted in reviewing and judging the oral presentations. As we revel on how great the Day and Evening awards ceremony went, we need to acknowledge the tremendous effort it took from everyone involved. The Day could not have gone as well as it did without everyone's participation and collaborative efforts. Thanks again this year to **Andrea McCart** for assigning the judges to the posters, **Gideon Cohen** and **Gail Darling** for proficiently moderating the sessions, and **Sylvia Perry** for

Shaf Keshavjee and Marcelo Cypel

Christopher Caldarone, Jefferson Wilson, Marion Fazel, Keemya and Elika Fazel

Carol Swallow and Usmaan Hameed

making sure the day's and evening's preparations were followed to perfection.

As we enjoyed our meal, we had a beautiful intermission with amazing piano playing by none other than our own Chair, Dr. James Rutka. Allison and Ariel Kwan, who are sisters, joined Dr. Rutka. Ariel played the violin. Ariel and Jim did the first two pieces together. Allison and Ariel did the third piece together. The second piece that was played was composed by Dr. Rutka. Ariel is a second year pharmacy student at UofT studying at the Leslie Dan School of Pharmacy. Allison is an allergy/immunology fellow at Sick Kids this year.

A very special thanks to **Val Cabral** for her incredible dedication and hard work in organizing the Surgeon Scientist Training Program, and the Gallie Day events.

Val Cabral (with contributions from Michael G. Fehlings)

George Christakis and Homer Tien

Oleg Safir and Jeremy Hall

James Rutka and Ariel and Allison Kwan

Nancy Condo, Val Cabral, Sylvia Perry

15 Questions for Peter Ferguson about Competency by Design

Peter Ferguson

Q1: What is your assessment of the Competency Based Orthopaedics Curriculum (CBC)?

A: The initial form of the Competency Based Program was a pilot study that was highly successful. It then became mainstream and we found some components harder to implement broadly. It is now working phenomenally well. We can now document the feeling that we have had excellent results. There is no change in the level of competence of the applicants for the program, though the number has been diminished by 20% because of the job market for graduates.

Q2: What is the residents' assessment?

A: The residents think that it is excellent. We are now in the 6th year. We began with a subset of residents. Seniors who missed it wished they had enrolled in the CBC. The residents during the pilot phase were jealous of those who were chosen to enter the CBC. Fortunately, now all get it. The reason it was so popular with the residents is because they develop technical expertise at an earlier stage. The juniors expect to start hitting their milestones at 4-5 months, e.g. the first milestone, such as fix a hip fracture from beginning to end. There was inefficient use of time in the older system and this has been eliminated, especially the off-service rotations. The program has new rotations, for example, instead of Ward Medicine, the residents shadow the hospitalist at Mount Sinai who manages medical and other hospital problems for hip fracture patients.

Q3: Will other divisions be able to do that, like Urology etc?

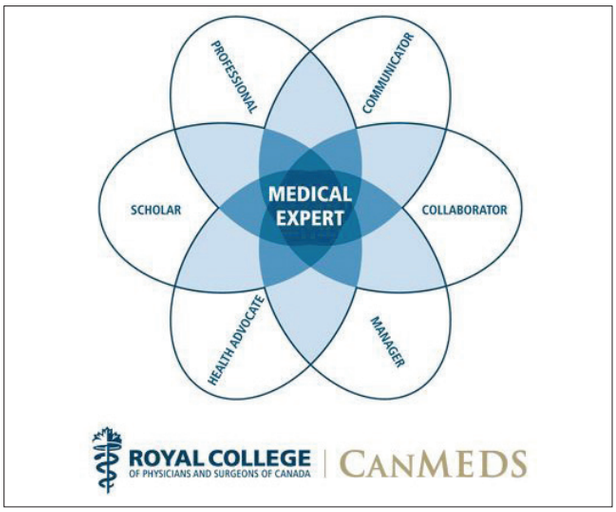
A: Unknown. There are some models they could adapt. For example, there is, in addition to the hip fracture, a musculoskeletal module led by Veronica Wadey. She serves as organizer for them to attend clinics in infectious disease, physiatry, genetics, and osteoporosis - with preceptors. This is much more focused and effective than the earlier ward medicine antecedent. Veronica is doing an excellent job arranging this complex module.

Q4: What is the faculty assessment?

A: The faculty have realized that we won't have "my resident" at all times. The reasons for this include the CBC plus the restriction of duty hours, and the now accepted mismatch in the number of residents compared to the number of surgeons. Our residency once had 60 residents. Currently, we have 48. They don't work more than they did, and so we use fellows and nurse practitioners. We do not have physician assistants yet, though this may eventually become part of the solution.

Q5: Some surgeons have asked: "how can they learn to be doctors when they just zoom in and out and do procedures?"

A: There is much more emphasis now on the intrinsic CanMEDs roles, for example, on my service, oncological orthopaedics, the role of communicator and professional are carefully attended to. These are CanMeds roles illustrated on the Curriculum map.



CanMeds diagram

In their communicator role, we emphasize breaking bad news such as the information that the patient has cancer, or has metastases, etc. The professional role is emphasized at the interdisciplinary oncology conference and during interdisciplinary oncology care. There is a multidisciplinary collaboration to divulge risk, to get informed consent, etc. The metrics for all of these is described in the *Journal of Bone and Joint Surgery*[1].

Q6: What is the best part of the program?

A: By far, it is repeated rigorous assessment. Our residents were accustomed to being examined constantly in school. Then they entered a five year program -without formal assessment in the past. Now they know that they will have a midterm exam six weeks into the rotation and a 12 week final exam on all of the CanMeds roles and on their technical skills. We don't pass them if they are not informed. In addition, the rigorous assessment helps us identify dyscompetent or less successful residents early on. In the past, these were not well identified early and remediation did not begin as early as it does at present.

Q7: What are the problems with the CBP?

A: The number one problem is the logistics of scheduling. All the residents are in it, and so we have abandoned the open timeframe, where time was a variable and knowledge a constant in our original formulation. Time is also a constant now. If a resident stays behind on oncology, the spine surgeons in the next rotation are short. It is important that the residents know how to run a service and this includes the timely arrival of the resident and timely completion of the rotation.

Q8: How do you remediate a resident?

A: It's possible to tailor the program, especially in the area of reading and concentrated learning, though we no longer use the "tea steeping" technique of a longer time until the rotation is fully understood. A second problem is the extra burden on the faculty of doing assessment. IPads and iPhones are helpful, but this is still a problem. It has been helpful to give the residents responsibility for the assessment. If the resident says *"I have to do on observed history and physical. Is it ok to do that with you on Tuesday?"* it is far more likely that this will be accomplished. In addition, the resident or the administrative staff sends a phone app assessment to the faculty which can be quickly filled out. In the new version, we have refocused on the importance of running a service rather than fixing 30 hips. We have a more longitudinal and less episodic procedural focus.

Q9: Should other divisions adopt the "Competency by Design system"?

A: It gives a much more powerful tool to determine fitness to practice. The legal and ethical implications are important. In the past, it was level 5 evidence on fitness to practice. In the future, all of us will be rigorously tested throughout life. It's good training to expect it.

Q10: Will it work for the other services?

A: Not in an identical form, but it should help. The basic principles are that they can learn the craft early, that inefficient training can be converted to earlier and more focused skill training, and that evaluation had to be improved. In the new system, evaluation is central. The early technical skill training will be tailored to the particular service. We do not have residents doing spine surgery in their early rotations, but they do do arthroscopy and certain standard operations, saving more complex subspecialties for later. The other divisions will need to work out the spectrum of activities for early and late modules. We have a 2 week prep camp for all residents, and that's true throughout the Department. In Orthopaedics, we also add a 2-3 week Ortho Prep Camp that is focused on our specialty. Vascular and Neurosurgery have a later Boot Camp during PGY1. I was recently at Harvard and found that they have adopted the boot camp directly from our model.

Q11: Why and how did all this get started?

A: Richard Reznick started the program off, asking Ben Alman, who passed the responsibility on to Bill Kraemer to do it. We are the source of this program. The Royal College now anticipates that ENT/ Head and Neck Surgery and Medical Oncology will be the next programs to move into Competency by Design. It will be harder in some specialties than others, for example adolescent psychiatry might be difficult to put into modules, but the suicide risk question is a technique that people can learn and be tested on, and they will all learn how to apply the lessons from the early experience with Competency by Design.

Q12: What is your advice to residents?

A: Be accountable for your own education at an early stage, don't float along, or act like wallpaper, take charge of your education, and validate your learning.

Q13: What is your advice to the faculty?

A: It's not that different from how we have always done it. The big difference for frontline teachers will be learning to assess and record the educational process. The tools are there, and they will simply need to be adapted a little for burr holes or VATS. Professionalism only needs the details of the cases to be altered. There is a CanMeds OSCE once during the PGY3 year with remediation applied on the basis of the OSCE and the evaluation scores. Tim Dwyer, a new member of our division has a particular interest in this educational focus. For example, if a resident has done poorly on breaking bad news or on triage questions, there are readings and exercises. Eventually, other divisions will probably need some Tim Dwyers in their program and may recruit toward that goal. The Division administrators will need to learn and they will probably need help. We have two skilled administrators who can be helpful to them.

Q14: What about patient satisfaction?

A: They seem to be as satisfied as they always have been in my observation. This is a good question to answer with qualitative research. We currently ask the Head Nurse to do a multi-source 360° on residents, using a standard form summarizing the views of the other nurses. However, there is room for more evaluation of this question.

Q15: How are the residents doing on their Royal College exams?

A: All of the residents passed their Foundation exam from the first time, and 7 of 9 were advanced to take their fellowship exam after 4 years. I personally like the idea of a 4 year core followed by a one year Transition to Practice year, for example, in a mini-practice under faculty supervision. That may be a development for the future.

M.M.

REFERENCES

1 Ferguson PC, Kraemer W, Nousiainen M, Safir O, Sonnadara R, Alman B, Reznick R. *Three-Year Experience with an Innovative, Modular Competency-Based Curriculum for Orthopaedic Training*, J Bone Joint Surg Am. 2013; 95: e166(1-6)

The Transition to Competency by Design for All Surgical Specialties

Ron Levine

Competency-Based Medical Education (CBME) involves implementing outcomes-driven assessment to ensure physicians possess the knowledge and abilities they need for every stage of their career. The Royal College is ushering in a new era of CBME in Canada with the introduction of Competency by Design (CBD). Canada's medical education is rooted in a time-based model. The plan for CBD is to shift to a plan in which more emphasis is placed on regular assessment of performance.

We are still in the time - based apprentice model, which turned out good surgeons, so we know that the system works. For excellent, very good and good residents our training program is quite satisfactory. It is not so good for the fair or lower achieving residents. I was a Program Director in Plastic Surgery for 16 years. I sat at the end of residency with each candidate one on one. The assumption was that if you got enough and saw enough, you were competent. This was based on no, or very few assessments - too much was assumed. For the resident who is not doing well, earlier formal assessment can identify the difficulty and a remediation plan can be implemented. This can be done at a much earlier stage and we do not have to wait until a resident is in their senior year of training. The other advantage of CBD is that it is possible that the resident will be able to complete training in a shorter period of time. I like CBC because it reduces subjectivity and the notion that maybe one more rotation will fix the problem.

Orthopaedics at the University of Toronto is the gold standard for competency by design teaching and assessment. A lot of time and money went into its development and at the present time, all residents in Orthopaedics are in a competency based curriculum. The Royal College has mandated CBD for all specialties. All specialties and subspecialty programs in Canada will adopt CBD in gradual phases. All disciplines divided into 7 cohorts will begin their transition to CBD each year until 2022. The first cohort is medical oncology and otolaryngology. The second cohort includes two surgical programs, specialties, Urology and Surgical Foundations.

CBD for each surgical specialty will be designed at the national level by the discipline's specialty committee (program directors, clinician educators, continuing professional development experts and invited guests) who will collaborate with the Royal College to develop CBD for that specialty. They will assign milestones and Entrustable Professional Activities (EPAs) to each stage of training. They will determine competency based assessment practices and prepare faculty for CBD. CBD will look different for each specialty and will depend on what the specialty committee designs. The Postgraduate Medical Education Office at the University of Toronto, under the lead of Dr. Susan Glover-Takahashi, will help in the implementation of CBD of each specialty in the Department of Surgery.

M. M. with contributions from Ron Levine

TORONTO SURGICAL ETHICS COURSE

Wednesday April 6th, 2016
Chestnut Conference Centre at 89 Chestnut St.
(http://www.cpd.utoronto.ca/generalsurgery/workshops/toronto-surgical-ethics-course/)

AND

2ND ANNUAL BALFOUR LECTURE IN SURGICAL ETHICS: "HIGH STAKES SURGICAL DECISIONS AND UNWANTED CARE"

Wednesday, April 6, 2016 - 5:00 p.m. – 6:00 p.m.
Peter Gilgan Centre for Research Tower
686 Bay Street, CRL Event Room 1

more details on page 47

A Surgery Department Viewpoint on Physician Assisted Death

Martin McKneally

"*The appeal should be allowed. … [The laws criminalizing physician assisted death] unjustifiably infringe [upon patients' rights by prohibiting] physician-assisted death for a competent adult person who (1) clearly consents to the termination of life and (2) has a grievous and irremediable medical condition (including an illness, disease or disability) that causes enduring suffering that is intolerable to the individual in the circumstances of his or her condition.*"

Citation: Carter v. Canada (Attorney General), 2015 SCC 5, [2015] 1 SCR 331; Date: 2015-02-06. Case Number: 3559

The issue of physician assisted death moved beyond the *why* stage to *how* and *who* when Justice McLachlin and the Supreme Court decreed that physician assisted death will no longer be prosecuted as a criminal act. Dean Trevor Young has asked each of the departments in the Faculty of Medicine to provide a viewpoint paper from their perspective on this challenging issue. Jim Rutka asked me to put a paper together for the Surgery Department. I don't want to speak for my colleagues without their consultation, so I will open the conversation with this column as a first draft. Please e-mail me (martin.mckneally@utoronto.ca) your reflections on how you will respond when a surgical patient asks you to terminate their suffering. The question for us is *how* and implicitly *who* will provide expedited death to suffering surgical patients. I begin with a conceptual framework and close with anonymized quotes from surgical colleagues.

Surgeons follow the same general pathway of moral reasoning as other physicians, moving from the *Intuitive* through the *Rational* to the *Reflective* stage.

THE INTUITIVE LEVEL

Our Intuitive revulsion at the thought of killing human beings is intensified by their vulnerability when they are patients. Their suffering from disease or injury further intensifies our resolution to do all in our power to cure, to follow our instinctive responses as warriors against disease and death. This is further intensified if they are entrusted to us - on our surgical service or as our personal patients. The fiduciary obligation is deeply engrained by our training and culture. Deliberately terminating the life of a surgical patient is culturally and intuitively unacceptable at the first level of response.

THE RATIONAL LEVEL

The Rational level is the one we turn to in order to deepen our understanding and clarify our thinking by reference to policies, laws and precedents that may provide guidance by specifying boundaries, rules and exceptions that are well accepted. This is the level of deliberation engaging our professional societies. Physiatrist Jeff Blackmer has done excellent work in this area. He is a physician who cares for quadraplegic and other severely disabled patients. An MHSc graduate of the Joint Centre for Bioethics, Jeff serves as Vice President, Medical Professionalism, for the Canadian Medical Association. He is consulting members of the CMA in public forums and professional rounds throughout the country (http://www.med.uottawa.ca/physiatry/eng/blackmer.html). Jeff will try to help the profession develop guidance documents to help us navigate this challenging but manageable issue.

Similarly, our legislators are tasked by the Supreme Court with developing the detailed legal language that will clarify the obligations of institutions and caregivers, the legal restrictions, requirements, qualifications for conscientious objection and the requirements for documentation and other details. They are asking for more time.

THE REFLECTIVE LEVEL

The Reflective level of moral reasoning is the most important for all of us to think through. Using this column and conversations with colleagues, I am trying to elicit the advice of our Department members based on their values, beliefs, concerns and ideals to provide a response to the Dean's request for a statement of the viewpoint of the Department of Surgery. I will be grateful for the opportunity to communicate the wisdom of our members, including our staff, our nurses, our residents and fellows. We all share an ethic of surgery that is based on defining elements of competence and commitment. Competence is not an issue in this viewpoint paper.

Commitment is the central issue. Because of the immediacy and significant consequences of surgical operations, the surgeon and the surgical team are committed to the patient in a way that is uniquely binding. The patient is our personal responsibility in a way that is different from other specialties. The outcomes, including the complications, are owned by the surgical team. Will nurse practitioners, residents and other staff members be asked to euthanize patients? The reflective level of reasoning on this subject needs careful consideration. Agency, i.e. direct responsibility, will not be defined by policies, but it will be specified on the death certificate. Death caused by hypoxia leading to cardiac arrest, leading to the final cause of death will of necessity say "cessation of cardiac and respiratory function secondary to succinyl choline injected by the surgeon or physician".

COMMENTS FROM SURGICAL COLLEAGUES

I expected my surgical colleagues to reject the role of executioner in physician assisted death. I have asked various surgeons during meetings in recent weeks for their reflections. I have been told that "few people, fewer than 0.5% actually go through with physician assisted death after it has been agreed upon, but having the option helps reduce patients' fears and keeps up their hopes that they can resolve and manage their symptoms". Surgeons said "I would agree for some few patients, but only for those few, and I would certainly involve others in the decision-making." Others said: "Hospital patients are ours. We let one go last night - a 72 year old patient who had been working prior to surgery, but was never extubated, she never recovered from her operation. The family wanted her wishes honoured." "There is a spectrum, not categorical irreversibility. It is important to make sure that the patient and the family knows. When I withdraw, I withdraw with the help of others. If the deterioration is due to my mistake, it is another question." Some said: "The family doctor knows the patient best and should participate in the consensus, but the

most responsible physician including the surgeon should take this responsibility". Even in specialties where death is uncommon, such as plastic surgery, there are cases of necrotizing fasciitis and burns that will bring this new law into focus. One surgeon said: "This is not new. We do it every day with morphine when we are allegedly intending only to relieve pain. The double effect gives us some cover, but in cases of necrotizing cellulitis, even with no pain, I have used morphine." "The frontline is our responsibility. Conscientious objection should be allowed and specified. There are three principles: informed consent, family consent and the doctor who is willing. If all are met, I could even harvest from a 'brain live donor'. We tend to rationalize and hide behind the double effect."

Another surgeon said: "Departmental guidance is needed. We will be the agents of expedited death, but like abortion, there should be willing providers and conscientious objectors. Family doctors, palliative care doctors and others may be better suited to this role." Palliative care physicians tend to disambiguate this difficult issue. They do not want to be thought of as executioners in hospice. The service is needed, and a service, not individual doctors, should provide euthanasia as a treatment for irremediable suffering.

"Yes, Oregon's lovely, but we're just here for the suicide."

Prostate Cancer Research Advanced by Partnerships and Collaboration

For many men, there are few things more frightening than a prostate cancer diagnosis. Prostate cancer is the third leading cause of death from cancer in men in Canada. On average, 65 men are diagnosed every day, from which 11 succumb to the disease.

With these statistics in mind, I am very pleased to share that the Department of Surgery has partnered with Astellas Pharma to create the Astellas Prostate Cancer Innovation Fund, an unrestricted UofT research fund with the purpose of supporting, advancing and catalyzing prostate cancer research. Under the direction and supervision of an interdisciplinary UofT review committee, overseen by the Chair of the Division of Urology, the fund will provide $150,000 in annual funding, for a period of 3 years.

Given the interdisciplinary and collaborative nature of research, the competition is open to faculty members in the Faculty of Medicine and across UofT's affiliated hospitals and research institutes, with academic appointment to any of the following Departments: Surgery, Medicine, Laboratory Medicine & Pathobiology, Radiation Oncology, and Medical Imaging.

Led by the Division of Urology, our Department of Surgery is at the forefront of prostate cancer research, striving to improve both patient outcomes and patient care. Our researchers have earned an international reputation for excellence in advancing the latest research into innovative therapies for men with prostate cancer.

Astellas has been a long-time supporter of the Department of Surgery and the Division of Urology, and we'd like to extend our sincere thanks for their continued leadership and support.

Darina Landa, Director of Development
University of Toronto, Faculty of Medicine

Bigelow Lecture by John A. Elefteriades: "*Thoracic Aortic Aneurysms: Reading the Enemy's Playbook*"

John Elefteriades

John Elefteriades is the William Glenn Professor of Surgery at Yale University. He is an aorticist who graduated from Yale Magna Cum Laude as a triple major in Physics, French, and Psychology. He serves as the Director of the Aortic Institute of Yale – New Haven, and editor-in-chief of the journal The Aorta.

"Aortic dissection is the most common disease of the aorta. It kills by rupture, aortic valve insufficiency, myocardial infarction, and ischemia of critical organs. It was described as 'the great masquerader' by William Osler, who said 'there is no disease that is more conducive to clinical humility than disease of the aorta'. People who have been felled by aortic disease include Lucille Ball, George C. Scott and Pulitzer Prize winning 'Rent' playwright Jonathan Larson.

"Aneurysms grow at 0.1 cm per year. When they reach 5.5 cm, they are generally judged appropriate for surgical treatment. The risk of rupture is 4% per year at 6 cm and nearly 10% per year when the diameter is greater than 6 cm. There are 5000 patients in the Yale Aortic Institute database. There is a 2% incidence of aortic disease in the population of patients with bicuspid aortic valves and 5% of them have aneurysms. The prevalence is much higher in Marfan's disease."

One day, John's nurse Marianne pointed out that aortic rupture was frequently seen among weight lifters in their practice. John was a weightlifter in his youth. Weightlifters are said to experience a dramatic increase in blood pressure as they approach lifting 75% of their body weight. John carried out an experiment (that would never pass IRB/REB review), using his healthy son, himself, and another subject to measure the blood pressure as they pressed progressively heavier weights in the weightlifting room: Aortas intact, they proved the correlation.

He feels that a snapshot echo should be available for athletes, especially those who engage in weightlifting. The cost of the echo is $200, whereas a pair of Nike's sneakers cost $310. Nevertheless, it's generally argued by health economists that performing echoes on young athletes is prohibitively expensive.

"A genetic predisposition - elevated metalloproteinases, and an emotional or physical challenge raising the blood pressure can lead to rupture. You can see the aorta thin out in systole. The wall stress goes up during weightlifting to greater than 800 kPa (kilopascals). The predisposition is an autosomal dominant and some of the genes, particularly ACT2MULK a CT predict early rupture. The silver lining in patients with aneurysmal disease is that they always have normal femoral arteries and a low calcium score. Their carotid intimal thickness is lower and their myocardial infarction rate is low. There is an RNA signature in a blood test that is 85% accurate in predicting aneurysmal disease. Intramural hematomas (IMH) often become dissections – IMH in the ascending aorta should be operated upon. They often have a tiny intimal tear. In contrast, IMH does not require surgical treatment in the descending aorta.

A spirited question and answer period followed the lecture. Question: "Does a person over 50 years of age, who starts going to the gym, need an echo?" Answer: "Yes, if they are doing strength training. Aerobic exercise is not a risk."

Chris Feindel asked: "Isn't configuration important, not just the diameter?" Answer: "The shape is important, especially bulging of the sinuses. Asymmetry and loss of the waist of the aorta above the sinuses or eccentric dilation are also important. Question: "At what age should we screen?" Answer: "The best referee in the NFL ruptured his aorta. We operated on him, and he was back refereeing in the Super Bowl. The bottom line is do echoes on athletes, even though it's not cost-effective in life years. Think of those young athletes who die prematurely from rupture or hypertrophic cardiomyopathy."

MM

NEW STAFF

Heather Baltzer

The Hand Program and the Division of Plastic Surgery at Toronto Western Hospital are pleased to welcome **Heather Baltzer** to the University of Toronto Plastic Surgery family. Heather's clinical interests are in hand, wrist and peripheral nerve surgery.

Heather grew up in Nova Scotia before moving to Ontario for her training. She completed her Master of Science in Medical Biophysics, medical school and her Plastic Surgery residency at the University of Toronto. Heather then spent a year at Mayo Clinic in Rochester, Minnesota for her Hand, Wrist and Microsurgery fellowship.

To date, she has received a number awards and honours. Heather's research from her year at Mayo Clinic was recently presented as one of the top 3 papers at the American Society for Surgery of the Hand. She received the Group for Advancement of Microsurgery, Canada, Fellowship Award. During her residency, she received a Novartis Oncology Young Canadian Investigator Award and the Canadian Society of Plastic Surgeons resident research award for three consecutive years.

Heather's research interests focus on health services research with an emphasis on health economics and quality improvement in hand surgery. Her research evaluates the economic burden of hand and wrist trauma and conditions and how change in models of delivery of care can impact this for patients. Dr. Baltzer currently holds an appointment as a Research Collaborator at Mayo Clinic, Rochester, MN, completing outcomes research in hand surgery. She is also a member of the Toronto Health Economics and Technology Assessment Collaborative.

Outside of academics, Heather enjoys spending time with family and friends, cooking and sampling new restaurants, and traveling. She is a very active person and her passion is long distance running.

Stefan Hofer, Chief Division of Plastic Surgery, University Health Network

Karen Cross

The Department of Surgery at St. Michael's Hospital is pleased to welcome **Karen Cross** as a Surgeon-Scientist in the Division of Plastic Surgery.

Karen is from St. John's, Newfoundland, and completed her BSc (Biochemistry) and Medical Degree at Memorial University of Newfoundland and Labrador. During her postgraduate training in the University of Toronto's Plastic Surgery training program, she was the first resident among this Division's Surgeon Scientist trainees to complete a PhD in the Institute of Medical Science.

Her research interests focus on the development of novel optical technologies to assess tissue physiology and viability. Her initial work was applied in the area of burn wound depth and included the development of a Multispectral Imaging camera to assess these wounds. She has since transitioned the technology to study complex wounds, particularly focusing on lower extremity tissue viability as it relates to diabetic foot ulcers and ischemic limbs. To facilitate her research, she is cross-appointed to Ryerson University and is a member of the Institute for Biomedical Engineering, Science and Technology (iBEST), a joint venture between Ryerson University and St. Michael's Hospital. Her laboratory is located on the 7th floor of the Keenan Research Centre at St. Michael's Hospital, the hub of iBEST, and is adjacent to the Institutions' innovation incubator, the Biomedical Zone.

Her clinical practice involves the reconstruction of complex wounds secondary to trauma and cancer. Her practice is expansive, caring for patients with everything from craniofacial trauma to breast and skin cancer. Dovetailing with her research activities, she has a special interest in scar, skin sloughing conditions (Epidermolysis Bullosa), delayed wound healing, pressure ulceration, and lower extremity wounds.

To date, she has been the recipient of several prestigious awards and grants. These include the Wound Healing Society Young Investigator Award, the Hugh Thompson Humanitarian Award, and Leo Mahoney Teaching Award. She has recently been appointed to the

Diabetic Foot Canada Scientific Committee and actively involved in the Canadian Association of Wound Care.

In her free time, Karen is an active SUP'er (Stand Up Paddle board) and Surfer. She is class one SUP river certified, teaches SUP to kids and adults, is a SUP Yoga demonstrator for SUPGirlz, and loves the long board for surfing. She has paddled in 2 continents and many countries. If you want to find her outside of work….just look for a body of water.

Ori Rotstein, Surgeon-in-Chief
St. Michael's Hospital

Kristen Davidge with her husband Neil and daughter Emma

We are delighted to announce the appointment of **Kristen Davidge** to the Division of Plastic and Reconstructive Surgery at the Hospital for Sick Children. Kristen has been appointed Assistant Professor in the Surgeon-Scientist-track in the SickKids Research Institute and will develop her practice in the area of obstetrical brachial plexus palsy, peripheral nerve, upper extremity and microsurgery.

Kristen is a graduate of the University of Toronto training program and completed a very successful residency culminating in winning the Shafie S. Fazel Outstanding Resident Surgeon and Investigator Award. Kristen graduated from the Surgeon Scientist Program successfully obtaining her Master of Science degree in Clinical Epidemiology at the University of Toronto Department of Health Policy, Management, and Evaluation. Following her residency, she undertook fellowship training at the University of Washington, St. Louis, under the supervision of former Toronto alumna, Dr. Susan MacKinnon. She then completed a fellowship in Pediatric Plastic and Reconstructive Surgery at the Hospital for Sick Children. Kristen has an interest in developing outcome measures for pediatric upper extremity surgery and the application of nerve transfer techniques in quadriplegia.

Kristen is married to Neil and has a beautiful 2 year old daughter, Emma. Welcome Kristen!

Christopher R. Forrest, Chair, Division of Plastic and Reconstructive Surgery, University of Toronto

Bobby Yanagawa with his wife Vanessa, and daughter Penelope

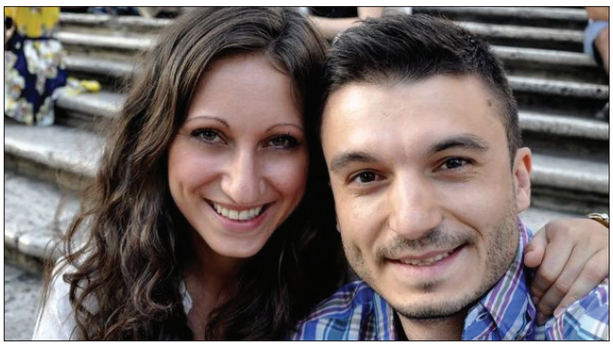
The Department of Surgery at St. Michael's Hospital is pleased to welcome **Bobby Yanagawa** as a Surgeon-Investigator in the Division of Cardiac Surgery.

Bobby is a recent graduate of the University of Toronto Residency program in Cardiac Surgery. He has a PhD in Cardiovascular Pathology and has completed post-doctoral fellowships at the University Wales College of Medicine (Cardiff, UK) and National Cardiovascular Center (Osaka, Japan). To complete his clinical training, Bobby undertook an advanced fellowship in valvular surgery at Mt. Sinai Hospital, NYC.

Bobby has been recognized for his academic achievements. He is a co-author on more than 60 peer-reviewed publications, 14 reviews, 12 book chapters, with more projects under way. He will contribute to the translational and clinical research underway at St Michael's Hospital. Clinically, he will focus on minimally-invasive surgery including off-pump surgical revascularization, hybrid surgical revascularization (combined minimally-invasive CABG and percutaneous coronary revascularization), hemisternotomy aortic valve surgery and mitral valve surgery through a minithoracotomy.

Bobby has returned to Toronto with his wife Vanessa, daughter Penelope and another baby on the way.

David Latter, Hospital Head, Cardiac Surgery, St. Michael's Hospital



Sebastian Tomescu with his wife Jelena

The Department of Surgery at Sunnybrook Health Sciences Centre is pleased to welcome **Sebastian Tomescu** as a Surgeon- Investigator in the Division of Orthopaedic Surgery.

Sebastian is a recent Orthopaedic Surgery graduate from the University of Toronto, and was part of the first cohort of residents to complete the Competency Based Curriculum program in Orthopaedics. His clinical interests lie in reconstructive lower extremity reconstruction and deformity correction.

Sebastian grew up in Kitchener-Waterloo. He received this undergraduate degree in Kinesiology from the University of Waterloo and went on to complete his medical degree at Queen's University in Kingston. He then became one of the three inaugural members of the Competency Based Curriculum residency program in Orthopaedic Surgery at the University of Toronto.

Since then he has completed a fellowship in Arthroplasty with Dr. John Cameron at the Holland Orthopaedic and Arthritic Centre and continues to pursue his graduate studies at the University of Toronto, focusing his Master's research on clinical biomechanics and investigating strategies to prevent knee injuries. His ongoing work has won several peer-reviewed and industry-backed grants and his research plans focus on improving total knee replacement outcomes, understanding patellofemoral instability, and developing wearable technologies to support rehabilitation.

Sebastian was recently married and enjoys spending time with his wife, Jelena, and their dog, George. In his spare time, Sebastian is an avid tech-blog reader and enjoys fly-fishing and skiing.

Hans Kreder, Hospital Head,
Division of Orthopaedic Surgery,
Sunnybrook Health Sciences Centre

Sarah Ward completed her Orthopaedic residency at the University of Toronto, where she received the Lawson Family Award in her final year of training. She then went on to complete two fellowships at St. Michael's Hospital, incorporating training in hip and knee arthroplasty, sports, trauma and upper extremity reconstruction. Sarah joined the Division of Orthopaedic Surgery at St. Michael's Hospital in July 2015, where she works closely with Dr. Jim Waddell, gradually taking over his arthroplasty practice.

Sarah Ward with her husband Mark and dog Sophie

Sarah's research focus will be in the area of Quality Improvement and Patient Safety. She looks forward to being involved in medical student and resident training and to working with multidisciplinary teams to promote quality improvement and patient safety initiatives both within and beyond the Division of Orthopaedics.
Outside of work, Sarah enjoys running, spending time with her husband Mark and dog Sophie, and cooking, particularly with chocolate.

Timothy R. Daniels, Head,
Division of Orthopaedic Surgery,
St. Michael's Hospital

Augusto Zani

After completing his Paediatric Surgical training in Italy, **Augusto Zani** moved to United Kingdom for a 3-year full-time dedicated research post, leading to a PhD at University College London to refine his academic training. Following this period, he was offered advanced clinical training in the UK working in world famous teaching institutions like Great Ormond Street Hospital and King's College Hospital, London, where he focused on neonatal and pediatric surgery. During those years, he maintained a high academic interest, which also led to his initial appointment as honorary Assistant Professor in Paediatric Surgery at Sapienza University of Rome. He was promoted in 2014 to Associate Professor in Paediatric Surgery by the Italian Ministry of Education, Universities and Research.

Last year, Dr. Zani moved to Toronto to work at The Hospital for Sick Children and continue his previous collaboration with myself on stem cell therapy for necrotizing enterocolitis.

Agostino Pierro, Hospital Heal,
Division of General Surgery
Hospital for Sick Children

ANNOUNCEMENTS

REAPPOINTMENT OF PROFESSOR JAMES RUTKA AS CHAIR OF THE DEPARTMENT OF SURGERY

James Rutka

I am pleased to announce that the Agenda Committee of the Academic Board has approved the reappointment of Professor James Rutka as Chair of the Department of Surgery for a second five-year term, beginning April 1, 2016.

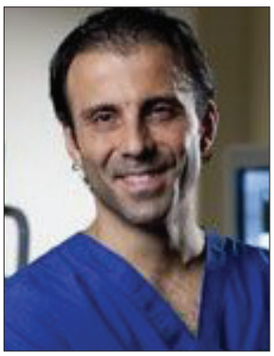
The recent external review of the Department recognized its many accomplishments under Professor Rutka's leadership and I'm delighted that he will continue as Chair.

Dr. Rutka was first appointed in the Department of Surgery in 1990 and has been Chair since 2011. He is on the surgical staff at the Hospital for Sick Children in the Division of Pediatric Neurosurgery and is Director of the Arthur and Sonia Labatt Brain Tumour Research Centre at the University of Toronto. He also holds the R.S. McLaughlin Chair in Surgery. Dr. Rutka's primary research and clinical interests relate to the science and surgery of human brain tumours. He has over 400 peer reviewed publications and has received numerous awards, honours and appointments including: the Grass Award from the Society of Neurological Surgeons; Fellow of both the Royal Society of Canada and the Canadian Academy of Health Sciences; the Order of Ontario; and the Order of Canada. Dr. Rutka has served as the President of the American Association of Neurological Surgeons, the World Academy of Neurological Surgery, and the American Academy of Neurological Surgery. In 2013, Dr. Rutka was installed as the 7th Editor-in-Chief of the *Journal of Neurosurgery*. In 2015, he received the Margolese National Brain Disorders Prize from the University of British Columbia.

Please join me in congratulating Dr. Rutka on his accomplishments and wishing him every success second term as Chair of the Department of Surgery.

L. Trevor Young MD, PhD, FRCPC
Dean, Faculty of Medicine
Vice-Provost, Relations with Health Care Institutions

TONY FINELLI APPOINTED AS HEAD OF THE DIVISION OF UROLOGY AT UHN



Tony Finell

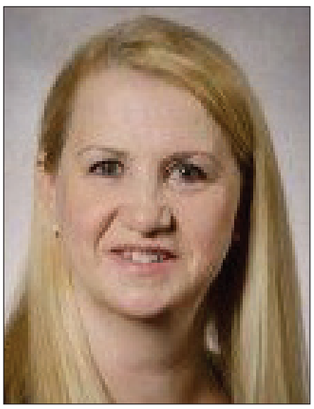
Tony Finelli has been appointed as Head of the Division of Urology at University Health Network following Neil Fleshner who has been Division Head of Urology since 2002, and will continue on as Chair of Urology in the Department of Surgery at the University of Toronto. Tony joined the Division of Urology at University Health Network in 2005. He completed medical school and residency at the University of Toronto and went on to complete a fellowship in minimally invasive surgery at the Cleveland Clinic Foundation. He subsequently completed a Master's Degree in Health Policy, Management and Evaluation. Tony is urologic oncologist and surgeon investigator at UHN and Associate Professor at the University of Toronto. He is the GU Site Lead at the Princess Margaret Cancer Centre and the inaugural GU Oncology Lead for the province of Ontario (Cancer Care Ontario). Dr. Finelli has published more than 100 manuscripts. He holds peer-reviewed funding for research in prostate and kidney cancer. His clinical practice focuses on the management of urologic malignancies with minimally invasive and robotic techniques.

FRED GENTILI APPOINTED AS THE CREAN HOTSON CHAIR IN SKULL BASE SURGERY

We are pleased to announce that Fred Gentili (Toronto Western Hospital) has been appointed as the Crean Hotson Chair in Skull Base Surgery, for a five-year term. Dr. Gentili also holds the Alan and Susan Hudson Chair in Neuro-Oncology at University Health Network. The Crean Hotson Chair represents the 17th endowed chair in the Division of Neurosurgery. Congratulations to Dr. Gentili on this well-deserved achievement.

Andres Lozano, Chair of the Division of Neurosurgey, Univeristy of Toronto

NEW APPOINTMENTS IN DEPARTMENT OF SURGERY UNDERGRADUATE MEDICAL EDUCATION



Melinda Musgrave

With the departure of Nikki Woods in the Department of Surgery, a search process was conducted to identify a new Director and Deputy Director of Education Evaluations. I am pleased to inform you of the following new appointments.

Melinda Musgrave (Plastic and Reconstructive Surgery), Director, Education Evaluation. Melinda conducts her clinical practice at St. Michael's Hospital in plastic and reconstructive surgery, and has long been devoted to undergraduate education in the Department of Surgery. She is Assistant Professor of Surgery, and longstanding member of the Undergraduate Education Committee.

Jeremy Hall (Orthopaedics), Deputy Director, Education Evaluation. Jeremy is an Assistant Professor of Orthopaedics at St. Michael's Hospital, and specializes in shoulder reconstructions following sports injuries. He has been the recipient of numerous teaching awards over the years.

Jeremy Hall

Please help me congratulate both Melinda and Jeremy in their new roles!

James Rutka, RS McLaughlin Professor and Chair, Department of Surgery, University of Toronto

TORONTO EAST GENERAL HOSPITAL RENAMED THE MICHAEL GARRON HOSPITAL

Toronto East General Hospital has been renamed the Michael Garron Hospital through a $50 million dollar donation from Berna and Myron Garron, the second largest gift to any hospital in Canadian history.

FACULTY MEMBER DEPARTURE

Emil Schemitsch

Emil Schemitsch, Division of Orthopaedics, St. Michael's Hospital, has accepted the position of Chair of the Department of Surgery at Western University effective January 1, 2016. Ranksed among the most widely cited authors in the world of orthopaedics, he has contributed significantly to the academic profile of the Division of Orthopaedics. His achievements in research have earned him the highest honours in the Department of Surgery at University of Toronto, including most recently the Lister Prize, as well as national and international recognition. He has also won numerous teaching awards within the Division and Department.

APPOINTMENT TO THE HAROLD AND BERNICE GROVE CHAIR IN ORTHOPAEDICS

Martin Gargan

Martin Gargan, Head, Division of Orthopaedics, The Hospital for Sick Children has been appointed as the Inaugural Harold and Bernice Groves Chair in Orthopaedics at The Hospital for Sick Children from June 1, 2015 – August 31, 2019. Martin came to Toronto from the Bristol Royal Infirmary Bristol Hospital for Sick Children where he was a Consultant Orthopaedic Surgeon.

GORE ANNOUNCES MULTIYEAR SUPPORT OF U OF T RESEARCH DAY

W.L. Gore and Associates has agreed to a three year commitment as sole sponsor to support the U of T Vascular Surgery Research Day through an education grant. Special thanks to David Grieco, Senior Development Officer in the Office of Advancement at the U of T Faculty of Medicine for stewarding this donation.

Marty Sylvain, Global Sales Leader for Gore says, "W.L. Gore & Associates has provided creative therapeutic solutions to complex medical problems for more than forty years. During that time, more than 35 million innovative Gore Medical Devices have been implanted, saving and improving the quality of lives worldwide. W.L. Gore & Associates is committed to advancing vascular surgical and endovascular therapy and is pleased to be able to provide educational grant support to the University of Toronto, Division of Vascular Surgery. It is our hope that through this educational grant we will be able to support the University of Toronto in our shared values: commitment to ongoing learning, dedication to sharing knowledge with peers and patients, creating consensus within the medical community and the analysis of clinical outcomes".

"We're extremely grateful to Gore's commitment to our Research Day", says Thomas Forbes, University Division Chair of Vascular Surgery. "This significant commitment will allow us to continue to have a first class venue to celebrate the academic and research successes of our Division's trainees and to welcome the K. Wayne Johnston Visiting Lecturer, which will continue to be the highlight of the day".

THE 2015 VASCULAR SURGERY SKILLS CAMP

The 2015 Vascular Surgery skills camp, organized by Luis Figueroa (PGY5), ran from the 20th to the 31st of June at the University of Toronto Surgical Skills Centre in Mount Sinai Hospital. After completing the Department of Surgery's common surgical skills camp at the beginning of the month, Lauren Gordon and Cale Zavitz, the Vascular Surgery residency program's new PGY1 trainees, spent two weeks in a combination of vascular surgery-specific lectures and hands-on training sessions designed to teach critical skills prior to the start of clinical residency training.

Lectures included arterial and venous physiology, vascular Surgery Bootcamp vascular labs, carotid disease, and aortic aneurysmal disease. Staff and residents then led them through the technique of a carotid endarterectomy, open AAA repair, femoral embolectomy, femoral anastomosis, and saphenofemoral junction dissection. Endovascular skills were also front and centre, including case-based teaching with faculty and hands-on practice with aortic and peripheral devices, wires, and catheters from three different manufacturers, including completing simulated EVARs on a computerized model. In keeping with the division's focus on educational research, trainees were evaluated throughout the camp, including a final evaluation to ensure competency to complete a carotid endarterectomy and open AAA repair under supervision.

To our knowledge, this program is unique among Canadian Vascular Surgery training programs, and was highly valued by our new trainees. Thanks go to all the staff and residents who committed their time to setting our new residents up for success in their training.

U of T is now looking for opportunities to open this program up to other Canadian training programs

WELCOME TO MICHELLE PAIVA, THE NEW ADMINISTRATIVE ASSISTANT OF THE DIVISION OF VASCULAR SURGERY AT THE UNIVERSITY OF TORONTO

Michelle Paiva

Please join us in welcoming Michelle Paiva as the newly appointed Administrative Assistant for the Division of Vascular Surgery. Michelle will support the academic and educational initiatives of the Division under the direction of Thomas Forbes (Division Chair), Elisa Greco (UME Director), George Oreopoulos (Residency Program Director) & Mark Wheatcroft (Fellowship Program Director).

Welcome to U of T Vascular Surgery, Michelle!

NEW FUNDING FOR VASCULAR SURGERY RESEARCH - BLAIR FOUNDATION VASCULAR SURGERY INNOVATION FUND

I'm pleased to announce that a new gift has recently been secured by the Faculty of Medicine in support of vascular surgery research. The Blair Foundation has generously donated $150,000 to create a U of T Vascular Surgery Innovation Fund and award two $25,000 grants each year, for three years. The competition is open to faculty members in the Division of Vascular Surgery at U of T.

Our sincere thanks to William Blair and the Blair Foundation for their generosity and support of vascular surgery research at the University of Toronto, and to David Grieco, Senior Development Officer in the Faculty of Medicine's Office of Advancement, for stewarding this donation.

Thomas L. Forbes, Professor & Chair,
Division of Vascular Surgery, University of Toronto

PROMOTIONS

Lecturer to Assistant:

Jamil Ahmad	(GenSurg, UHN)
Brian Ostrow	(GenSurg, International Surgery)
Jason Pennington	(GenSurg, TEGH)
Najib Safieddine	(ThorSurg, TEGH)
Jory Simpson	(GenSurg, SMH)

IN MEMORIAM

Ernest Harold Spratt Jr

Ernie Spratt (ThorSurg) 1939-2015 passed away on November 8, 2015. Dr. Spratt was at St. Joseph's Health Centre for 33 years during which time he was Chief of Surgery and Chief of Staff. He was an Associate Professor at the University of Toronto. He authored many research papers over the years, primarily on lung cancer and produced several training videos on thoracic surgery at St. Joseph's, before retiring in 2005. Ernie had many interests beyond surgery. He was a pilot, downhill skier and racer, waterskier, golfer, scuba diver, musician, videographer, digital transfer afi In lieu of flowers, donations to the Pencer Brain Tumour Centre at Princess Margaret Hospital or St. Joseph's Health Centre Foundation would be appreciated.

NEWSWORTHY ITEMS

Shady Ashamalla (GenSurg) was on Mike Richards in the Morning (1050 AM) speaking about minimal access surgical treatment of colorectal cancer with Wendel Clark and Doug Gilmour. This was an opportunity for Mike Richards and Doug to announce a foundation to raise funds to bring surgeons to Sunnybrook to learn advance minimally invasive surgery (http://fw.to/OHyJgtb). Shady will direct a course on **Transanal Total Mesorectal Excision (TaTME) on June 2nd – 3rd, 2016.** To learn more, visit www.cpd.utoronto.ca/tatme.

Jennica Platt (PlasSurg) was featured in the Chronicle of Cosmetic Medicine and Surgery (June 2015 edition) in an article demonstrating the importance and efficacy of group pre-consultation sessions for breast reconstruction. Jennica employed a Shared Decision Making tool that is respectful of individual patient preferences, needs and values. Jennica was awarded the best resident paper at the April 2015 Toronto Breast Surgery Symposium for her research.

AWARDS/HONOURS/ ACHIEVEMENTS

Barbara (Dee) Ballyk (Anat) has received a 2015 W.T. Aikins Award for Excellence in Course/Program Development and Coordination.

Barbara also received the Arbor Award which recognizes volunteers for outstanding personal service to the university. Barbara was acknowledged for being a volunteer mentor at the Faculty of Kinesiology and Physical Education. For the past five years she has taken on student interns from the KPE faculty, and placed them in important roles in the Division of Anatomy. Last year, she extended her commitment to 11 students and gave them a significant advantage in the professional world after graduation.

Christopher Caldarone (CardSurg) has been appointed as the Dr. Robert B. Salter Chair in Surgery at The Hospital for Sick Children as Chief of Perioperative Services.

George Christakis (CardSurg) received the John Provan award for undergraduate medical education across Canada**.** This award recognizes outstanding contributions to undergraduate surgical education in Canada.

Ren-Ke Li (CardSurg) has received a 3 year grant from the Ontario Research Fund – Research Excellence Program, for his submission *"Pre-clinical Development of a Novel Umbilical Cord Perivascular Cell-based Therapy to Prevent Heart Failure".*

Ren-Ke Li received the CIHR Foundation Scheme: 2014 1st Live Pilot for the *"Rejuvenation of aged cells and recipients to enhance cardiac regeneration and prevent progressive heart failure".*

Ren-Ke Li has also been elected as Fellow of the International Academy of Cardiovascular Sciences.

Subodh Verma (CardSurg) has been selected as a member of the 2015 cohort of the College of New Scholars, Artists and Scientists of the Royal Society of Canada. Subodh is an internationally renowned cardiac surgeon-scientist and the Canada research Chair in Atherosclerosis.

Subodh is also Principal Investigator of a 5-year (2015-2020) grant from the Canadian Institutes of Health Research for *In Vivo and Translational Role of Endothelial Autophagy in the Regulation of Vascular Diseases.*

Subodh, together with Muhammad Mamdani of the Applied Heart Research Centre at St. Michael's Hospital, recently launched the CARDIOLINK platform of randomized clinical trials across five pillars - aneurysm surgery (ACE trial of antegrade cerebral protection strategies), valvular surgery (CAMRA-1 trial of different approaches to repair mitral valves); atrial fibrillation (SEARCH-AF trial, evaluating novel ways to detect postoperative atrial fibrillation); peripheral artery disease (EXTINGUISH - evaluating colchicine in secondary prevention in PAD) and innovative community based interventions (ENABLE-NP Nurse practitioner based approach to reduce hospitalizations following cardiovascular surgery). The SEARCH AF trial is funded from Industry.

Jonathan W Yau (CardSurg, Postdoctoral Fellow), mentored by Subodh Verma, has been named a finalist for the 2015 American Heart Association Vivien Thomas Young Investigator Award for *A Novel Role of Endothelial Autophagy in the Regulation of Thrombosis in Vivo.*

Sean Cleary along with **Anand Ghanekar** (GenSurg) received a 2 year grant from the Canadian Liver Foundation for their work *"Comprehensive Evaluation of Somatic Alterations in Hepatocellular Carcinoma (HCC)".*

Joao de Rezende Neto (GenSurg) received a CIHR - Proof of Principle Phase I grant for his project *"A Non-Traumatic Binder for Temporary Abdominal Wall Closure".*

Anand Ghanekar (GenSurg) and co-investigators Binita Kamath (Pediatrics) and Gordon Keller (Medical Biophysics) published their study entitled *"Directed differentiation of cholangiocytes from human pluripotent stem cells" in the August 2015 issue of Nature Biotechnology.*

Anand Govindarajan, Nancy Baxter (GenSurg) and colleagues have published "*Outcomes of Daytime Procedures Performed by Attending Surgeons after Night Work*" in the New England Journal of Medicine (NEJM 2015 Aug 27; 373 (9): 845-53). They received both national

and international media coverage for this study on the impact of sleep deprivation on surgeon performance.

Teodor Grantcharov (GenSurg) has been appointed to the Board of Governors of the American College of Surgeons.

Paul Karanicolas (GenSurg) Maeve is the recipient of a five year CIHR New Investigator Award for his project *"HPB CONCEPT: An Integrated Program to Improve Outcomes Following Liver and Pancreas Surgery"*.

Maeve O'Neill Trudeau (GenSurg, PGY3) was awarded the James H. Ware Award for Achievement in the Practice of Public Health from the Harvard T. H. Chan School of Public Health, which is given to a student upon graduation who has demonstrated commitment and achievement and has advanced the cause of public health practice while enrolled as a student at the Harvard T.H. Chan School of Public Health. This award is mainly for her original research in the Democratic Republic of Congo regarding post-operative cell phone follow-up as a novel means of increasing surgical accountability in low-resource settings, and electronic data collection in low-resource and humanitarian settings. Maeve has just received her *Master's of Public Health (MPH) from Harvard T. H. Chan School of Public Health Harvard*

Maeve also received the IPEG IRCAD Award for the best presentation and abstract submitted by a junior faculty during IPEG (International Pediatric Endosurgery Group). The IRCAD Award winner receives travel and registration for a course at the European Institute of Telesurgery (IRCAD), located in Strasbourg, France. More can be found at http://www.ipeg.org/abstract/ **. This award was given for her podium presentations at IPEG on expertise in laparoscopic trainers, research done with Georges** Azzie's group.

Peter K. Stotland (GenSurg) was awarded the *The Robert Mustard Mentorship Award* at the Annual Assembly of General Surgeons and Residents.This award recognizes a physician mentor who is devoted to excellence in clinical training, and who provides exemplary teaching, leadership, mentorship and expertise to senior general surgery residents from the University of Toronto.

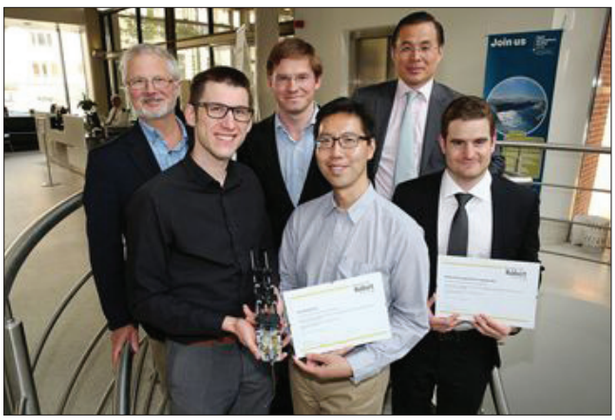
Sunit Das (NeurSurg) received a 2015 CIHR Transitional Open Operating Grant Program for his project *"Targeting Bevacizumb Resistance Via LIVE-mediated Vascular Mimicry in Glioblastoma"*.

Karen Davis (NeurSurg) received a 2-year grant as PI from the Mayday Fund for the project entitled *"Development of a Pain Treatment Prediction Tool"*.

Karen also received the MS Society of Canada award for *"The Pain Connectome in Multiple Sclerosis"*.

Peter Dirks (NeurSurg) and colleagues published a high impact paper in *Cancer Cell*. Peter's ongoing work on cancer stem cells and epigenetic regulation is highlighted in this paper (2015 Dec 14, Cancer Cell 28,1-15).
Peter also received a 2015 CIHR Transitional Open Operating Grant Program for his project *"Functional and Genomic Clonal Analysis of Human Glioblastoma"*

Peter Dirks received a Canadian Cancer Society: Innovation & Innovation to Impact Grant for his project *"Pharmacologic and Optogenetic Dopamine-Directed Therapy of Glioblastoma Stem Cells"*.



James Drake and team

back row: James Drake, Robert Merrifield (Imperial College –Challenge organizer), Guang –Zhong Yang (Imperial College –Hamlyn Centre Director)
front row: Karl Price, MSc student, Thomas Looi, Project Director, Neurosurgery, Dale Podolsky, reseach resident, plastic surgery.

James Drake (NeuroSurg) and a team from the Centre of Image Guided Innovation and Therapeutic Intervention, including PGY4 resident **Vivek Bodani**, won the Overall Winner and Best Design prizes at the Hamlyn Surgical Robot Challenge for their project *"A Concentric Tube Tool for the daVinci Research Kit"*. The team built a concentric tube robotic tool that is mounted on a DaVinci test bed. The tool has many potential applications, including intraventricular neurosurgical uses and was noted for its small size. The Hamlyn Robotics Symposium is one of the world's largest meetings dedicated to surgical robotics. A video of the tool in use can be found at: https://www.dropbox.com/s/twi1lacyem8bt6s/Hamlyn%20final.mp4?dl=0C

Michael Fehlings elected to Royal Society of Canada

Michael Fehlings (NeurSurg) was named a Fellow within the Life Science Division of the Royal Society of Canada. One of 90 individuals elected for their outstanding scholarly, scientific and artistic achievements, Michael is celebrated for his contributions as a world-renowned neuroscientist and neurosurgeon. Election to the Academies of the Royal Society of Canada is the highest honour a scholar can achieve in the Arts, Humanities and Sciences.

Michael also received the 2015 Scoliosis Research Society Thomas Whitecloud Award at the International Meeting on Advanced Spine Techniques (IMAST) in Kuala Lumpur. The award recognizes the best basic science and clinical papers presented at the IMAST meeting. It is the culmination of a large international multicentre study which Dr. Fehlings led in complex spinal deformity surgery. An article about the award and Dr. Fehling's winning abstract can be accessed at: https://aospine.aofoundation.org/Structure/pages/newsdetail.aspx?newslist=https%3a%2f%2faospine.aofoundation.org%2fnews%2fLists%2fNews+Common&newsid=1383

Michael was ranked #5 in the world for the period of 2010-2012 for number of papers published in all areas of neuroscience by Elsevier and Thompson-Reuter in their assessment of researchers in the Faculty of Medicine.

Michael edited a special focus issue of Neurosurgery on The Aging Spine. The issue in its entirety is available at: http://journals.lww.com/neurosurgery/toc/2015/10001.

Michael Fehlings received a five-year Ontario Institute of Regenerative Medicine (OIRM) grant for *"iPSC-Based and Bioengineered Approaches to Enable Spinal Cord Regeneration: A Team Grant for Clinical Translation"*.

He received a 2015 Cervical Spine Research Society 21st Century Research and Education Grant for his work *"Therapeutic Approaches to Protect against Ischemia/reperfusion Injury Following Surgical Decompression for Cervical Spondylotic Myelopathy(CSM): A Potential Solution to Attenuate Perioperative Neurological Complications following Decompressive Surgery"*.

Michael is the recipient of one of four new Disease Team and New Ideas project that will be funded over the next sixteen months by the Ontario Institute for Regenerative Medicine.

Fred Gentili (NeurSurg) has been appointed to the Crean Hotson Chair in Skull Base Surgery at UHN.

Mojgan Hodaie (NeurSurg) was invited to serve on the Editorial Board of the Operative Neurosurgery Journal, and as Academic Editor and Curator of Compendium of the Stereotactic and Functional Neurosurgery Section.

Mojgan was named to the Grant Committee Panel of the MS Society of Canada's Biomedical Research Review Committee, and was also appointed as a CIHR fellowships reviewer.

Abhaya Kulkarni (NeurSurg) received an NIH R01 grant for his study *"Neurocognitive Outcomes and Changes in Brain and CSF Volume after Treatment of Post-infectious Hydrocephalus in Ugandan Infants by Shunting or ETV/CPC: a Randomized Prospective Trial"*. This is in collaboration with Harvard, Penn State, and Uganda.

Andres Lozano (NeurSurg) was one of 6 Canadians and the only neurosurgeon in the world to be named to a select list of highly cited researchers for 2015 in the category of Neuroscience and Behavior (http://highly-cited.com/). The list, compiled by Thomson Reuters, acknowledges researchers from around the world who have published the top 1% of most cited papers in their subject field.

Andres was also chosen as one of Thomson Reuters 2015 World's Most Influential Scientific Minds. The list is chosen based on highly cited researchers in the 11 year period between 2003 and 2013.

Andres has been elected an honorary member of the Western Neurosurgical Society and of the Spanish Society for Stereotactic and Functional Neurosurgery.

Andres Lozano and **Joyce Poon** (Electrical and Computer Engineering) have been awarded as Co-I's an EMHSeed grant for their project entitled *"Lighting the Brain"* through the University of Toronto Faculty of Applied Science (FASE) and the Faculty of Medicine (FoM). The one-year grant is renewable for up to two additional years.

Pablo M. Munarriz (clinical fellow, NeurSurg) was the recipient of the Sanitas Prize (second place), awarded to the best medical resident trainee in Spain.

James Rutka (NeurSurg) was appointed an Officer of the Order of Canada, 2015. He was one of 11 new Officers appointed to the Order, one of Canada's highest civilian honours. Jim received the honour for his exceptional international contributions to neurosurgery and his ground-breaking work in advancing the treatment of pediatric brain tumours.

Jim has been named the fifth winner of the annual Margolese National Brain Disorders Prize. This award recognizes Canadians who have made outstanding contributions to the treatment, amelioration or cure of brain disorders. His research and clinical efforts focus on human brain tumours.

He has been elected as an active member to the James IV Association of Surgeons.

James Rutka was re-appointed as the R.S. McLauglin Chair of Surgery for a second five-year term.

Mohammed F. Shamji (NeurSurg) was named Scientific Program Committee Chair for the Canadian Neuromodulation Society Annual Meeting (2016). He was appointed to the committee for Research and Scientific Oversight and as the Advocacy and Society Liaison for the International Neuromodulation Society.

Mohammed F. Shamji was awarded a 2015 Director's Kickstart Award by the Institute of Biomaterials and Biomedical Engineering at the University of Toronto. This award will provide funding for his research on the epigenetics of failed back surgery syndrome.

Shervin Taslimi (NeurSurg, PGY2) won the Second Prize of the William J. Horsey Prize competition for his work entitled "*Natural History: Systematic Review and Meta-Analysis, Identifying Source of Heterogeneity*".

Charles Tator at Krembil Research Institute Launch

Charles Tator (Neur Surg) was honoured during an event celebrating the launch of the Krembil Research Institute, Toronto Western Hospital's newly renamed research arm. In his remarks, philanthropist Robert Krembil described Toronto Western Hospital as "the house that Charles built", and paid recognition to Dr. Tator's pivotal role and tremendous ongoing impact in establishing the foundation for research at Toronto Western that has enabled it to develop into a renowned research hospital over the years. Dr. Tator was recognized by applause from the over 200 attendees, which included Her Royal Highness The Princess Edward, Countess of Wessex and UHN President and CEO Dr. Peter Pisters.

Michael Taylor (NeurSurg) received a McLaughlin Centre, University of Toronto - 2015 Accelerator Grant.

Michael Tymianski (NeurSurg) has been appointed as the Harold & Esther Halpern Chair in Neurosurgical Stroke Research at University Health Network for a five year term.

Taufik Valiante (NeurSurg) received a 2 year MITACS grant from the Elevate PDF Program for his work entitled *"Intraoperative Optical Characterization of Brain Tumor Tissues"*.

Taufik was promoted to Scientist at the Krembil Research Institute, and received a 2015 IBBME Director's Kickstart Award for his project entitled *"A Platform for Contingent Brain Stimulation in Humans"*. This award will provide funding for his work on developing a platform for contingent brain stimulation in humans.

Taufik received an NSERC Discovery Grant for his work *"Probabilistic Maps of Spiking and Connectivity in Human and Mouse Cortex"*

Chris Witiw (PGY4, NeurSurg) won the first prize of the William J. Horsey Prize for clinical research competition for his presentation entitled "*Cost-Utility of Surgery for Degenerative Cervical Myelopathy: Data from the AOSpine North American and International Studies*".

Gelareh Zadeh (NeuroSurg) has been appointed Treasurer-Secretary for SNO (Society for Neuro-Oncology).

Gelareh was also invited to serve on the Editorial Advisory Board of the journal *CANCER***.**

Gelareh Zadeh and **Julian Spears** and the co-directors of the University of Toronto Meningioma Consortium (COMIT) presented at the inaugural consortium on meningiomas meeting. They have assembled a twelve member team with city-wide representation from neurosurgery, radiation oncology, oncology, neuroradiology, neuropathology and neuropsychology. The first COMIT sponsored scientific meeting will be held jointly with the Society of NeuroOncology on Jun. 17-19, 2016 in Toronto.

Gelareh Zadeh is the co-Director of the Elizabeth Raab Neurofibromatosis Program. Together with Vera Bril, they formally announced the opening of the clinic on Nov. 25, 2015 at University Health Network. The multidisciplinary team is dedicated to comprehensive care for patients with NF1 and NF2. The clinic has over fifteen affiliated physicians and allied health members. The mission is dedicated to improving clinical care and translational research for the NF population.

Gelareh Zadeh was awarded a MITACS grant for the work entitled *"Investigation of Biomarkers of Response to Treatment with Marizomib in Gbm Patients*".

Tarik Attia (OrthoSurg) won the Sullivan Award (non-resident category) at the 2015 Division of Orthopaedics Annual Research Day.

Tim Daniels (OrthoSurg) and his team were awarded the *Roger A. Mann Award* at the American Orthopedic Foot and Ankle Society (AOFAS) meeting held in Long Beach, California. Their manuscript entitled *"Prospective, Randomized, Multi-Centered Clinical Trial Assessing Efficacy of a Synthetic Cartilage Implant to First Metatarsophalangeal Arthrodesis in Advanced Hallux Rigidus"* won the highest honour bestowed by the AOFAS in recognition of the best clinical paper accepted for presentation at its Annual Meeting. This is the fourth time that Tim has won this prestigious award.

Peter Ferguson (OrthoSurg) won the Royal College of Physicians and Surgeons of Canada AMS Donald R. Wilson Award for helping integrate CanMEDS roles into a Royal College or other health-related training program.

Simon Kelley (OrthoSurg) won the 2015 Founder's Medal from the Canadian Orthopaedic Research Society for his research entitled *"Fgfr3 Modulates the Balance of Intramembranous and Endochondral Bone Formation in Fracture Repair"*.

Simon also won the Young Investigators Award from the American Society of Bone and Mineral Research also for this research.

Jasjit Lochab (OrthoSurg, PGY3) won the Sullivan Award (resident category) at the 2015 Division of Orthopaedics Annual Research Day.

George Oreopoulos (OrthoSurg) won the Ross Fleming Education Award from UHN.

Emil Schemitsch (OrthoSurg) was appointed Chair of Department of Surgery University of Western Ontario.

Emil Schemitsch received a 2015 CIHR Transitional Open Operating Grant for his project *"Operative versus Non-operative Treatment of Acute Unstable Chest Wall Injuries: A Multi-Centred Randomized Controlled Trial"*.

Jay Wunder (OrthoSurg) received a McLaughlin Centre, University of Toronto - 2015 Accelerator Grant.

Marc Jeschke (PlasSurg) received a 4 year NIH Grant (over 1 million in funding) for his project entitled *"Hepatic ER Stress Contributes to Morbidity and Mortality after Burn Injury."*

Oleh Antonyshyn (PlasSurg) received the Marvin Tile Award given by the Department of Surgery at Sunnybrook Health Sciences Centre for his outreach activities in the Ukraine. Oleh, along with a team of 24 others volunteered for a 10-day mission in November 2014, and again in May 2015 to work alongside Ukrainian doctors and nurses to perform complex reconstructive surgeries on victims of the Euromaidan movement and from the battle in Eastern Ukraine. He has worked on developing the infrastructure, provided teaching opportunities and restored the lives of many patients affected by the conflict. His work has also been recognized by Canada's Minister of Foreign Affairs, Rob Nicholson and he has been awarded a 1.2 million dollar federal grant from the "Global Peace and Security Fund" to support "Capacity Building within Ukraine's Ministry of Defense Medical System". This project supports efforts to equip, supply and train local health professionals in the Main Military Hospital in Kyiv to treat craniofacial and upper extremity trauma and post-trauma deformities. The project involves 2 additional missions in the next year, equipping OR's with craniofacial and micro instruments and hardware, better access to imaging, development of telemedicine and telesurgery support, and Trauma Life Support training and observerships. This is a remarkable example of global outreach for which Oleh and his team are to be commended.

Oleh Antonyshyn

Stefan Hofer (PlasSurg) was named an honorary member of BAPRAS (British Association of Plastic, Reconstructive and Aesthetic Surgeons) for exceptional contributions to the society for managing their journal for the last 7 years, making it highly successful scientifically and financially.

Toni Zhong (PlasSurg) received the CIHR Foundation Scheme: 2014 1st Live Pilot for the *"Development of a National Quality Improvement Program in Postmastectomy Breast Reconstruction to Optimize Patient-Centred Experience"*.

Toni also received a CIHR New Investigator Award for her project *"Improving Access to Optimized Postmastectomy Breast Reconstruction through Health Services Research and Clinical Trials for Breast Cancer Survivors"*.

Andras Kapus (Res) received a Biomedical Research Grant for *"Profibrotic epithelial phenotype: the role of MRTF and TAZ/YAP"*.

Katalin Szaszi (Res) received a 2015 CIHR Transitional Open Operating Grant for her project *"Regulation and Functions of Rho Guanine Nucleotide Exchange Factors in Tubular Epithelial Cells"*.

Gail Darling (ThorSurg) was appointed as the thoracic clinical lead and the clinical lead for high risk lung cancer screening by Cancer Care Ontario for their clinical programs.

Martin McKneally (ThorSurg) received the Distinguished Service to Joint Center for Bioethics (JCB) Award during the 20th anniversary celebration of the Joint Center for Bioethics.

Shaf Kesavjee (ThorSurg) was appointed for the second time to the Council for the American Association for Thoracic Surgery.

Shaf Keshavjee received a McLaughlin Centre, University of Toronto - 2015 Accelerator Grant.

Kazuhiro Yasufuku (ThorSurg) is the 2014-2015 recipient of the Ivan Silver Innovation Award for the Endobronchial Ultrasound (EBUS) program. This award recognizes an innovative CEPD initiative developed and delivered by a U T faculty member or team that has demonstrated an effect on health professional performance or health outcome.

Thomas Forbes (VascSurg) gave the Presidential Address at the Annual Meeting of the Canadian Society for Vascular Surgery in Victoria, British Columbia. The talk

entitled *"Four Seconds"* looked at the final seconds leading up to Sidney Crosby's 2010 Olympic Golden Goal and reflecting on issues specific to vascular surgery.

Graham Roche-Nagle (VascSurg) won the Provan Award for Education at the Annual Meeting of the Canadian Society for Vascular Surgery in Victoria, British Columbia.

Mary Tao (VascSurg), Graham Roche-Nagle's trainee, won the Sigvaris Award for Best Venous Paper at the Annual Meeting of the Canadian Society for Vascular Surgery in Victoria, British Columbia.

Trisha Roy (VascSurg, PGY3) won the Passareillo Award for first prize in the rapid paced poster competition at the recent International Society of MR Angiography Meeting in Cincinnati, OH.

Leonard Tse (VascSurg) won the Cook Research Award at the Annual Meeting of the Canadian Society for Vascular Surgery in Victoria, British Columbia.

Robert Hamilton (Urol) received a McLaughlin Centre, University of Toronto - 2015 Accelerator Grant for his project *"Molecular Characterization and Behavior of Tumours Arising in Patients Taking 5-Alpha Reductase Inhibitors"*.

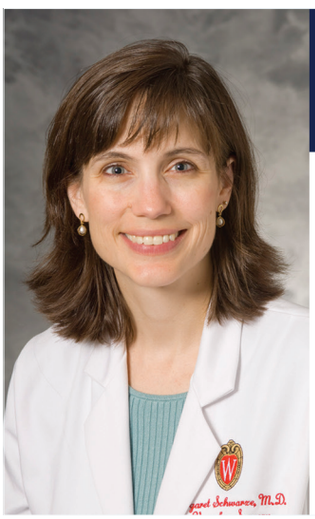
Laurence Klotz (Urol) has been named a Fellow of the Canadian Academy of Health Sciences, one of Canada's most esteemed academic academies.

TORONTO SURGICAL ETHICS COURSE

Wednesday April 6th, 2016
Chestnut Conference Centre at 89 Chestnut St.

PROGRAM

0900-0910	Introduction Ryan Snelgrove & Mark Camp
0910-0930	*"The elephant in the room"- Dealing with an underperforming surgeon* Mike Kim
0930-0945	Breakout Groups
0945-1025	Reports from the breakout groups, summation and discussion Mark Camp
1025-1045	Coffee Break
1045-1105	*"Breaking the silence of the switch" - Trainee participation in surgery* Chryssa McAlister
1105-1120	Breakout Groups:
1120-1200	Reports from the breakout groups, summation and discussion Mark Camp
1200-1300	Lunch
1300-1320	*"A Mental Model for Surgical Decision Making: Can We Fix It?"* Gretchen Schwarze
1320-1335	Breakout Groups
1335-1415	Reports from the breakout groups, summation and discussion Ryan Snelgrove
1415-1435	Coffee Break
1435-1455	*"No room in the inn"- Operating room prioritization* Mark Bernstein
1455-1510	Breakout Groups
1510-1550	Reports from the breakout groups, summation and discussion Ryan Snelgrove
1550-1600	Participant course evaluations



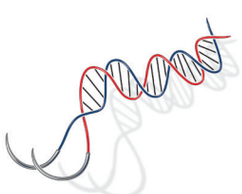
2ND ANNUAL BALFOUR LECTURE IN SURGICAL ETHICS

HIGH STAKES SURGICAL DECISIONS AND UNWANTED CARE

MARGARET L. (GRETCHEN) SCHWARZE

Associate Professor of Surgery, Department of Surgery, University of Wisconsin School of Medicine and Public Health

Dr. Schwarze will discuss challenges in surgical decision making for older frail patients with acute surgical problems. Her work focuses on informed consent and innovative strategies to improve surgical decision making. She has used input from surgeons and seniors to develop and test a novel strategy aimed at aligning patient preferences with surgical teaching.



WEDNESDAY
APRIL 6, 2016
5:00 PM

PETER GILGAN CENTRE FOR RESEARCH AND LEARNING
686 BAY STREET

The Deadline for the next Surgery Newsletter is May 27, 2016. All members and friends of the Department are invited to submit items, articles, pictures, ideas or announcements. You may reach us by:

voice mail: **416-978-5661**
e-mail: **alina.gaspar@utoronto.ca**.

Please provide your name and telephone number so that we may contact you if we have any questions.

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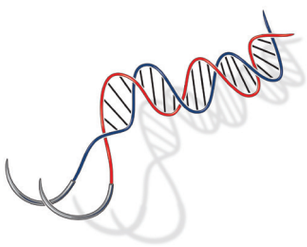

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