A new academic year brings new beginnings. Our new residents and fellows begin their academic journeys. Our returning residents and fellows reinforce the past year’s progress with new challenges ahead. We are all reminded, however, that every new beginning requires renewed commitment to change and perseverance to stay on course towards our goal. Our goal is simple: To be among the top Surgical Research Departments in the country by a culture of collaboration and focus. We have world class investigators both in our Department and in the greater University community who are willing to share their experience. Let’s not wait another minute. Let’s capitalize on what we have at McMaster—the very reason we are so privileged to be here.

Mohit Bhandari, MD, PhD, FRCSC
Associate Chair, Research

McMaster University, Department of Surgery
Michael DeGroote School of Medicine
Dr. Ranil Sonnadara holds academic appointments in the Departments of Surgery, Psychology, Neuroscience & Behaviour, and Health Research Methodology (amongst others) at McMaster, as well as administrative appointments as Special Advisor to the VP (Research and International Affairs) and Head of Research and High Performance Computing for the University. He also holds academic appointments as an Educator Researcher at the Wilson Centre for Health Professionals Education, as a Non-Clinician Scientist in the Department of Surgery at the University of Toronto, and as a Core Member of the McMaster Institute for Music and the Mind. A behavioural neuroscientist by training, Dr Sonnadara uses a variety of different methodologies to study changes in the body which arise as a result of learning and practice, from the initial stages of skill acquisition through to elite and expert level performance across a wide variety of domains. He is particularly interested in the role of feedback in learning and assessing complex skills. Dr. Sonnadara’s interests in this area grew out of his own experiences as a professional musician and an elite level coach. For more information, please visit www.skillslab.ca.

Tell us a bit about your research program.

RS: It focuses on feedback and its role in curriculum design, from the physiology and kinesiology point of view. We’re looking at musicians, elite athletes and now surgeons.

It’s obvious from your CV why you have the interest in musicians and athletes, with your widely varying career from sound design to elite level fencer and coach to neurobehaviour, but where did your interest in surgical learning come from?

RS: It wasn’t really as big a jump as it looks, to start working with surgical education. The underlying principles are very similar across all three groups, the global performance stressors are the same, as well as the underlying physiology and psychology. The same neuroconnections are used for shaping and controlling the movements needed, whether you are a concert pianist, an athlete training for the Olympics or a surgeon in the operating room. Dr Richard Reznick at U of Toronto invited me to come and work with him on surgical skills, he’s a surgery education pioneer, with a good grasp of behavioural neuroscience. With the changes that the Royal College is making around competency education, there’s a real need for experts with practical experience and my coaching experience at all levels was a good fit. Surgical education itself hasn’t changed much in 100 years, but we know that people don’t learn the same way as they used to, and the experiences that lead to being a first year resident are not the same as even 30 years ago.
Which of your papers best describes this?

RS: I think the orthopaedic boot camp paper does this very well. It was the endproduct of several projects and it really brings forth the idea of teaching the residents basic surgical skills and giving them a solid technical foundation early, which is directly from high performance sport. There’s so many things they have to worry about in the operating room, the clinical part, the technical part, sometimes in the early years even where they stand in the room and when you combine that with the restricted working hours and increased patient safety, that the more we can do to maximize their learning experience, the better off everyone will be.


What was the best piece of advice you were given early in your career?

RS: Pick things that are fun and don’t try to answer every question. Asking too many questions makes it very difficult to untangle your data. Also make sure you have a solid theoretical foundation – have a good hypothesis and know your underlying theory very well. It’s not always about fishing for answers .... although fishing can be fun too.

Getting back to your early career as a sound designer, how did that lead you to graduate school and to where you are today?

RS: One of the shows that I worked on the sound design for was Beauty and the Beast, and we were doing some cutting edge computer based audio control. I was always interested in why music was so powerful, why it can evoke the emotional responses that it does, so I became interested in the neuroscience of music and worked with Dr Laurel Trainor, who is a musician and scientist in the Department of Psychology, Neuroscience and Behaviour. That led to an interest in performance research, which meshed well with my elite fencing experience, which led to postdoc work in kinesiology looking at performance and feedback, which led to the surgical education field. Now my lab has graduate students from all fields, psychology, health sciences, music and arts – combining them all gives us some pretty neat perspectives, and some really interesting conversations.

“Dr. Sonnadara is a talented research scientist with a passion for exploring better methods of training. He has promoted new teaching technologies in a surgical simulation laboratory, has developed better assessment tools for measuring technical skill competence, and has provided outstanding mentorship to his students.”

Dr Richard Reznick, Queens University

“Pick things that are fun and don’t try to answer everything...It’s not always about fishing for answers...although fishing can be fun too.”

Dr Ranil Sonnadara
Our first Keynote Speaker, Dr PJ Devereaux (Medicine-Cardiology/PHRI/CE&B), gave us a list of “What It Takes to Succeed in Research” using his extensive experience, including the advice to think big and don’t take no for an answer.

Dr Luis Braga (Urology) took us step by step through the evolution of a research project in his talk “Designing and Executing Clinical Trials in Paediatric Urology: Leading with Fundamental Questions”, using the ALPHA Trial as his example. Dr Braga’s story showed the detail, planning and dedication it takes to answer the fundamental questions that matter to everyone.

Dr Christian Finley (Thoracic Surgery) reminded the audience that researchers need to follow their passion and that clinical research doesn’t just answer questions but leads to quality improvements in patient care in his talk “Clinical Trials in Thoracic Surgery: From the Grassroots to the Treetops”. The Thoracic Surgery Team has created both a Lung and an Esophageal Diagnostic Assessment Program and an Integrated Comprehensive Care Project to streamline the care of thoracic cancer patients as well as provide them better education about their disease and care.

Dr Michelle Ghert (Orthopaedics) showed us the importance of taking risks in research as she takes the experience gained in her passion for orthopaedic oncology basic science and translates it to the clinical world with her multinational PARITY study, examining the timing of prophylactic antibiotics in orthopaedic tumour surgery. Dr Ghert emphasized that for a study to succeed, the investigator needs a team with various strengths to smooth the research process considerably.

Building Bridges - Focus on Clinical Research - June 3rd 2014

The inaugural Building Bridges event was held June 3rd for an enthusiastic audience of Surgeons, Residents and Research Staff. We hope the attendees found inspiration and experience that will improve their own work.

SPOTLIGHT ON
Dr Richard Whitlock (Cardiac Surgery) also emphasized the use of a network in his talk “McMaster-Led Clinical Trials: Opportunity for Collaboration”. McMaster University has superb researchers and getting connected with people with similar interests – both in research and outside of work - can lead to great things. The SIRS trial started simply, with a fundamental question and developed a worldwide clinical trial that reliably answered it.

Ms Belinda Vandersluis of the Canadian Clinical Trials Coordinating Centre discussed the Centre’s mandate of strengthening the clinical trial process, developing standards and attracting research investment nationwide.

Finally, our second Keynote Speaker, Mr Craig Valentine, provided his experience in “Getting Remarkable Results in Work and Life”, an entertaining and thought-provoking talk which included a hands on demonstration of the importance of communication and seeing the big picture, which had the audience working together.

Plan to attend our next Building Bridges event in November 2014: Details to Follow.
Honours April - June 2014

Dr Tim Rice (General Surgery PGY-4) and team were awarded the prize for Best Overall Paper at the Trauma Association of Canada’s meeting in April for the presentation: Rice TJ, Sne N, Meade M, Whitlock RP, Almenawer SA, Reddy KV, Schulmart S, Jichic D, Roberts RS, Cook DJ. A Randomized, Double-Blinded, Placebo-Controlled Pilot Trial on the Efficacy of Early Enoxaparin: The Optimal Timing of Thromboprophylaxis in Traumatic Intracranial Haemorrhage study.

The America Urology Association presented Dr Luis Braga and the MPSRC Paediatric Urology team with their conference’s Best Paper award in May 2014, by unanimous decision, for: Braga LH, Kanters DM, Farrokyhar F, Pemberton J, Lorenzo AJ. Time to Febrile Urinary Tract Infection (fUTI) in Children with Antenatal Hydronephrosis (AHN): A Prospective Study.

The ceremony for the President’s Awards for Outstanding Service in 2013 was held on May 27th 2014. Julia Pemberton from McMaster Paediatric Surgery Research Collaborative was awarded the Individual Award, and the MacOrtho Research Coordinator Team, consisting of Department of Surgery employees Sheila Sprague and Paula McKay, along with CE&B employees Kim Madden, Nicole Slunovnic and Marilyn Swinton, were honored for their work with the Team Award. The President’s Awards honour staff for outstanding contributions to the University.

Three Orthopaedic residents were honoured with 2014 FHS Research Plenary Awards at the end of May:
Dr Nathan Evaniew (SSP 2015) - FHS Graduate Student Publication and Excellence in Poster Presentation Awards
Dr Moin Khan (PGY-4) - FHS Graduate Student Publication and FHS Graduate Student Diversity Awards
Dr Harman Chaudhry (SSP 2015) - FHS Graduate Programs

MacOrtho hosted the ABC (American-British-Canadian) Travelling Fellows from June 15th to 18th. Seven Orthopaedic Surgeons from England, Scotland, South Africa, Australia and New Zealand are currently visiting 12 North American sites, exchanging research and clinical experience as well as social activity. This is the first time in 50 years that McMaster University has hosted this event. Dr Michelle Ghert (2013) and Dr Robert Lofthouse (1957) are McMaster ABC Travelling Fellowship Alumni.
Honours Continued

Kathryn Chan, an Electrical-Biomedical Engineering undergraduate student working with Dr Mehran Anvari, won First Prize at the Oncology Research Day on June 19th, for her podium presentation: Chan, KG; Anvari, M; Fielding, T; Bevan, PD; Chapman, T. An Automated Robotic Platform for MRI-guided Breast Biopsy. The following residents also presented at this event:

Dr Elena Parvez (Dr Peter Lovrics): A cosmesis outcome sub-study in a prospective, randomized trial comparing radioguided seed localization to wire localization for nonpalpable, invasive and in situ breast cancers

Dr Filgen Fung (Dr Peter Lovrics): Predictors of 5-year local, regional and distant recurrence of breast cancer in a population-based cohort in South Central Ontario

Dr Christopher Coroneos (Dr Ronen Avram): SIEA versus DIEP breast reconstruction: A single surgeon cohort study

Congratulations to Drs. Darren de Sa and Thomas Wood (Orthopaedics PGY2) who received first and second prizes for the Surgical Foundations Research Methodology Research Award 2014. Dr Miriam Tsao (General Surgery PGY-2) received the third prize. These awards is for excellence in both the PGY-1 Seminar Series and the PGY-2 Research Presentations in the Surgical Research Methodology Program.

Publications: March-June 2014

Cardiac Surgery


“This is a sub study of the CORONARY trial (off-pump vs. on-pump). It demonstrated that AKI (Acute Kidney Injury) after surgery has no impact on the renal function at 1 year. This is against what is accepted in the literature and will redefine future research in kidney function and renal failure.”

Dr Andre Lamy

General Surgery


Neurosurgery


Orthopaedics


“The Femoroacetabular Impingement Study group is working on defining best evidence for diagnosis and treatment of FAI in the young adult hip. The current papers reflect the efforts of students, residents, fellows and attendings.”

Dr Femi Ayeni


de Moraes VY, Godin K, Dos Reis FB, Belloti JC, Bhandari M. Status of road safety and injury burden: Brazil. J Orthop Trauma. 2014 Jun;28 Suppl 1:S45-6


“I am pleased to announce the partnership between CORR, The Cochrane Collaboration, and McMaster University’s Evidence-Based Orthopaedics Group for a new column, called Cochrane in CORR. In the column, we will identify an abstract originally published in The Cochrane Library that we think is especially important, and colleagues from McMaster University will provide an expert perspective.”

Dr Seth Leopold,
Editor-in-Chief, Evidence-Based Orthopaedics at CORR


Thoracic Surgery

Urology


“We identified a gap in knowledge in Dupuytren’s surgery. By using utility, generic and condition specific scales were able to measure patient reported outcomes. We found that the benefit of palmar fasciectomy is 0.5 QALYs. This is equivalent to a patient living an additional 6 months in perfect health.”

Dr Achilleas Thoma
Barrett K, Braga LH, Farrokhyar F, Davies TO. Primary realignment vs suprapubic cystostomy for the management of pelvic fracture-associated urethral injuries: A systematic review and meta-analysis. Urology. 2014 Apr;83(4):924-929


Other

“We conducted a pilot RCT (ALPHA), establishing the feasibility of our study protocol and securing a reliable recruitment rate in this population. We then published a survey demonstrating clinical equipoise amongst pediatric urologists and nephrologists across Canada. The combined effort has led to securing further funding for the definitive ALPHA RCT, for which we are currently actively recruiting.”

Dr Luis Braga

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Dr Luis Braga
Faculty Funding

Neurosurgery
Dr Sheila Singh: Therapeutic Targeting of Sox2+ Treatment Refractory Stem Cells in Sonic Hedgehog-Dependent Pediatric Medulloblastoma, Brain Tumour Foundation of Canada

Orthopaedics
Dr Olufemi Ayeni: Femoroacetabular Impingement Randomized Controlled Trial (FIRST), CIHR Operating Grant

Dr Michelle Ghert: Prophylactic Antibiotic Regimens in Tumor Surgery (PARITY): A Multi-Center Randomized Controlled Trial, CIHR Operating Grant

Dr Gerard Slobogen and Dr Mohit Bhandari: Proximal Humerus Fractures Scoping Review Planning Meetings, CIHR Planning and Dissemination

Vascular Surgery
Dr John Harlock: Understanding the Immune Micro-Environment of the Abdominal Aortic Aneurysm, Beamish Family Chair in Vascular Surgery

Resident Funding

Dr Chris Coroneos (SSP/Plastics) was awarded a HHS New Investigator Fund grant for “Early Range Of Motion In 5th Metacarpal Fracture: A Randomized Controlled Trial" with Dr Achilleas Thoma as his supervisor. Chris also recently received a CIHR Planning Grant for “Obstetrical Brachioleaplexus Injury: A National Guideline Strategy” with Dr James Bain.

Dr Nathan Evaniew (SSP/Orthopaedics) successfully obtained funding for the second year of his Master’s in Health Research Methodology. He has been awarded both a Michael DeGroote Fellowship Award in Clinical Research and an Ontario Graduate Scholarship from the Ontario Ministry of Training, Colleges and Universities. Nathan has also received peer-reviewed operating grants for his work, including a PSI grant for “Central Adjudication of Deep Postoperative Infection Following Limb Salvage Surgery” earlier in the 2013-2014 academic year, and a recent HHS New Investigator Fund award for “Minimal Important Differences (MIDs) of Functional Outcome Instruments in Patients Undergoing Limb-Salvage Surgery for Primary Bone Tumors”.

Nathan has been exemplary in identifying sources of funding for residents and graduate students, and in submitting strong and well-polished applications. It is therefore not surprising that he has been successful in obtaining over $124 000 in funding to support his research and his second year of SSP. Congratulations Nathan!

Dr Michelle Ghert
An Invitation to Attend: 2014 Innovation Nation Conference and Robotics Competition

Dr Mehran Anvari and the Centre for Surgical Invention and Innovation (CSii) extend an invitation to attend the 2014 Innovation Nation Conference and Robotics Competition, to be held July 28th - 29th at LIUNA Station Hamilton. The event brings together innovative leaders for diverse fields to deliver a series of talks on their journey of discovery and vision of the future.

Day 1: Monday, July 28, 2014
Keynote speeches from nationally and internationally acclaimed innovators at Innovation Nation seek to inspire us, to do our part to create a better world, to seek new ideas and innovative solutions to our goals with talks of their own journey of discovery and vision of the future. Participants will have the opportunity to network with researchers, industry experts and innovators who are presently redefining our world.

Day 2: Tuesday, July 29, 2014
The 2014 Robotics & Innovation Competition will showcase innovations from Canadian university/college and high school students and provide students with the opportunity to network with industry experts as well as their peers. Finalists in each of the categories will be selected to showcase their innovations at the event and compete for cash prizes and industry recognition.

For more information, please go to their website: www.innovation-nation.ca

8th Annual Principles and Practice of Clinical Research

Dr Mohit Bhandari and Dr Emil Schemitsch invite Faculty, Fellows, Residents and Research Staff to attend the 8th Annual Principles and Practice of Clinical Research (PPCR) course to be held on September 18-19, 2014. The primary subjects of this year’s course are the principles of clinical research, research study design, practical aspects of clinical trials, health economics, health statistics, educational research, and innovation in research. PPCR will provide research and industry personnel, surgeons, residents, fellows and other health professionals with a comprehensive foundation of health research methodology by encompassing basic science methods, evidence based medicine principles, levels of evidence, research ethics, funding opportunities, as well as data management and budgeting.

In addition to the course curriculum, PPCR offers excellent opportunities to meet experts in the field and establish relationships with other colleagues. The program also includes multiple integrated panel discussions and focuses on clinical research. Following every lecture period, all faculty involved will participate in high-level dialogue that will require participation and critical thinking.

For more information, please contact the PPCR Coordinator at 905-220-8288 or by email at coordinator@cmecourses.ca.
Bethune Round Table

The 14th Bethune Round Table conference in Hamilton on June 5th-8th attracted 150 participants from 17 countries representing 49 organizations including universities, professional societies and NGOs. The conference theme “Improving Global Outcomes Through Safer Surgery” was addressed by 5 keynote speakers, 27 podium presentations and 21 poster presentations. The high quality of the presentations, the rich discussion and opportunities for networking, and the friendships nurtured will support the ongoing collaborations of Canadian surgeons, anesthetists and obstetricians with colleagues working to improve surgical care in low-resource settings. Post-conference courses were fully subscribed, including the CNIS Trauma Team Training Instructor Course, Regional Blocks for Trauma course, and a Getting Started in Health Research course. The BRT will be held in Calgary in 2015, and Halifax in 2016. Dr Brian Cameron, Chair of BRT2014, would like to thank everyone who attended and everyone who worked so hard to make BRT2014 a smashing success! Videos and powerpoint presentations from the conference are available on the website: http://fhs.mcmaster.ca/surgery/isd/brt2014.html

Paediatric Bladder Training Video Premiere

The “Bladder Training for Kids” animated video was introduced during a very successful wine and cheese event held on May 1st 2014. The video was created by Dr. Luis Braga and the Pediatric Urology Team at McMaster Children’s Hospital for a pilot study comparing the effectiveness of this bladder training video versus standard individual urotherapy for children with bladder dysfunction. This study is funded by the CUA Scholarship Foundation Pfizer Incontinence Fellowship.

Welcome Summer 2014 Students

The Department of Surgery is pleased to introduce the summer research students:

Neurosurgery:
Minomi Subapanditha       Tony Jin
Thusyanth Vijayakumar    Tina Wang

General Surgery:         Sarah Lovrics

Orthopaedics:
Dana Buckingham          Sarah Crouch
Mikyla Grau              Patricia Hoyeck

Thoracics:
Pauline Chang    Shantel Demay
Jordyn Vernon     Warren Viegas

Urology:
Anthony Adili       Wayne Fang
Kyle Giedraitis    Kaela Gusenbauer
Shanav Jaiswal     Kevin Kim

Dr. Jorge DeMaria, Mandy Rickard, Natasha Brownrigg, and Dr. Luis Braga
Missing from picture: Julia Pemberton
Upcoming Funding Application Deadlines

**CIHR Bariatric Team Grants**
Operating grants examining the impact of bariatric care on the health of adults, children and youth, requires partners and internal collaborators
Amount: $300 000 over 5 years; Application Deadline: July 15th

**Bright Focus Foundation - Macular Degeneration Research**
Operating Grants to support early phase research; Amount: $160 000 over 2 years
LOI: July 31st; Invited Full Application Deadline: November 18th
http://www.brightfocus.org/research/apply/main.html#NGR_apply

**Canadian Cancer Society Research Institute - Innovation Grants**
Operating Grants supporting innovative, creative and high risk ideas in cancer research in biomedical, translational and clinical research areas; Amount: $200 000 over 2 years
Abstract Registration: August 1st; Full Application Deadline: October 1st

**Regional Medical Associates Scholarships**
Resident Research Grants - Application forms available soon
Amount $7500 for 1 year

**Physicians’ Services Inc Health Research and Resident Research Grants**
Grants for clinical research, medical education research and health systems research, with some restrictions on the topics
Amounts: Health Research - $85 000/year for 2 years; Resident Research - $20 000
Deadline: September 4th
http://psifoundation.org/ForApplicants/ApplicationForms.php

**CIHR Foundation Scheme 1st Live Pilot**
Provides long-term support for innovative and high impact research programs
Amount: $50 000 to $1.5M per year
New/early investigators: 5 years, mid career/senior investigators: 7 years
Registration: June 23rd (passed); Stage 1 Application Deadline: September 15th
For information, please contact Lisa Hodge HRS Senior Grants Advisor, hodgel@mcmaster.ca

**CIHR Population Health Intervention Research**
Grants investigating policies, programs or resource distribution at the population level and their impact on health care
Amount: $200 000 over 2 years
Application Deadline: September 15th
https://www.researchnet-recherchenet.ca/rnr16/vwOpprntyDtls.

DID WE MISS YOUR RESEARCH RELATED NEWS?
Send us the details for our next newsletter by Friday August 29th for inclusion.
All news and events can be emailed to Catherine Gill Pottruff gillc@mcmaster.ca