2016

INTERDEPARTMENTAL DIVISION OF CRITICAL CARE
Department of Medicine, Surgery, Anaesthesia, and Paediatrics

ANNUAL REPORT
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MESSAGE FROM THE DIVISION DIRECTOR

Laurent Brochard, MD

The Interdepartmental Division of Critical Care Medicine continues to follow the vision that we collectively described during our strategic planning. As you will see, on the one hand we continue to maintain excellence in research (publications, grants and awards despite a very competitive context), education, quality of care and international outreach, but on the other hand we are also working hard to reorganize our Division to better address this vision.

We value our differences and diversity in background, origins and interests, having members coming from four different Departments of the University of Toronto; we enjoy having adult and pediatric critical care in the same division, and we also want to better reflect the diversity of Toronto and Canada.

2016 is like a transition year during which we decided, after a very successful retreat, to move to a different organization for education and being better prepared to a number of important challenges. We also prepare ourselves for having a new website, for starting our Alliance projects and developing quite a significant number of innovations in research in order to reinforce our collaborations within IDCCM and beyond our own discipline. We are really looking for cross-fertilization, multidisciplinarity and multi-professional team work.

As usual, you will find in these pages a brief reflection of the extraordinary vitality of our members. Each hospital site had to face major clinical activity and also develop specific projects but we always come at the same common table.

It remains for me a huge privilege and pleasure to work with such a talented group of individuals, trying to lead the group towards a continuous search for excellence.

Thanks to all our members for their incredible work!

Laurent Brochard, MD
Division Director, Interdepartmental Division of Critical Care Medicine
Department of Medicine, University of Toronto
MEMBERS OF THE EXECUTIVE COMMITTEE

Chair
Dr. Laurent Brochard, St. Michael's Hospital

Department Heads
Dr. Andrew Baker, St. Michael’s Hospital
Dr. Brian Cuthbertson, Sunnybrook Hospital
Dr. Niall Ferguson, University Health Network and Sinai Health System
Dr. Peter Laussen, The Hospital for Sick Children

MEMBERS OF THE STEERING COMMITTEE

Dr. Andre Carlos Amaral, Sunnybrook Hospital, Staff Intensivist
Dr. Claudia dos Santos, St. Michael’s Hospital, Staff Intensivist
Dr. Robert Fowler, Sunnybrook Hospital, Staff Intensivist
Dr. Margaret Herridge, IDCCM Research Director
Dr. Brian Kavanagh, The Hospital for Sick Children, Staff Intensivist
Dr. Afrothite Kotsakis, The Hospital for Sick Children, Paediatric Education Program Director
Dr. John Laffey, St. Michael’s Hospital, Chief Anesthetist
Dr. John Marshall, St. Michael's Hospital, Staff Intensivist
Dr. Sangeeta Mehta, Sinai Health System, Staff Intensivist
Dr. Christopher Parshuram, The Hospital for Sick Children, Paediatric Intensivist Representative
Dr. Dominique Piquette, Sunnybrook Hospital, IDCCM Associate Director
Dr. Gordon Rubenfeld, Sunnybrook Hospital, Staff Intensivist
Dr. Damon Scales, Sunnybrook Hospital, Staff Intensivist
Dr. Jeffrey Singh, University Health Network – Toronto Western Hospital, Staff Intensivist
Dr. Arthur Slutsky, St. Michael's Hospital, IDCCM Ex-chair
Dr. Andrew Steel, IDCCM Program Director Adult Critical Care Medicine Resident & Clinical Fellowships
Dr. Hannah Wunsch, IDCCM Associate Research Director
IDCCM Education Program 2015-16

The University of Toronto is a premier centre in Canada for sub-specialty training in Critical Care Medicine and with more than 65 registered trainees it is likely to remain the largest. The IDCCM Adult Residency Program now comprises 16.5% of trainees registered (2015-16 CAPER Census Data) with the Royal College. Over the past decade, we have been fortunate in attracting some of the best physicians in the world to our programs. Approximately 25% are from Canada, joining our Residency, and clinical fellows from more than 50 countries – with significant representation from the UK, Brazil, India, and Saudi Arabia.

In the 2015-16 academic year, we made deliberate changes to the Education Program to attempt to break down the longstanding divisions between our learners. These have historically existed based upon appointment status, country of origin, and hospital base. Critical to this philosophy was that all of our trainees felt they are all part of a single educational program, with identical opportunities and governance. I continue to be grateful to the entire Faculty who supported this and enabled all clinical fellows to rotate outside traditional practice plan silos, attend teaching events with equal opportunity, participate in formative evaluations, and enjoy mentorship and support of the education leadership.

Trauma and Critical Care Training

Dr. Michael Kim was among our successful graduating class of the Residency Program in June 2016. His completion of the training program represented a continued commitment and hard work on his part, and also a very successful collaboration between the IDCCM and the Division of Trauma Surgery. Following this cross-appointment Dr. David Paskar began and completed his first year of CCM training in 2015-16, and Drs. Markus Ziesmann and Dylan Pannel joined the Program in July 2016. The combined Trauma Surgery and Critical Care Fellowship is highly competitive with other programs in Canada and the United States and will continue to draw outstanding surgeons. To the IDCCM it represents an important innovation in critical care education, adding breadth to our program, and with benefits not limited only to our surgical trainees.
Art Slutsky Day 2016

One of the highlights of the academic year continues to be Art Slutsky Day – the annual event that includes and celebrates the breadth of academic activity and achievement of the Faculty and trainees of the Division. This year was the 14th such event and was the first to be attended by a Dean of the Faculty of Medicine. In addition to Dr. Young’s presentation we hosted other distinguished speakers with key portfolios in the Faculty of Medicine: Dr. Lisa Robinson, Chief Diversity Officer, and Dr. Doug Campbell, Lead for Simulation Education Integration. The Abstract Section received 45 entries from trainees within or with supervisors in the Division this year. The Abstract Committee was chaired by Dr. Alex Floh, (Hospital for Sick Children), who together with Dr. Gerard Curley (St. Michael’s Hospital), Dr. Kevin Shore (Chief Resident) and Dr. Laurent Brochard (Head of Division) chose the winner of the coveted Art Slutsky Award for Best Abstract. As previously reported in the 2016 Summer newsletter the award winner was Dr. Luciana Vieira (Senior Author: Dr. Gerson Cipriano) for her research titled “Early Neuromuscular Electrical Stimulation Preserves Skeletal Muscle Size and Echogenicity in Mechanically Ventilated Polytrauma Patients”.

This year Dr. Brochard bestowed a much-deserved honour on Dr. Neill Adhikari. He was awarded the Humanitarian Award for continued and outstanding contribution to improving the welfare of others through patient care and scholarly activity.

The residents and clinical fellows awarded the John Granton Award, for outstanding contribution to Critical Care Education, to Dr. Alberto Goffi in recognition of his support for education at Toronto Western Hospital, and for progressing the city-wide delivery and development of the Ultrasound Education Program.

The Education Program Committee awarded the Simon Abrahamson Award, for outstanding academic performance in Critical Care Medicine, to Dr. Kevin Shore for his leadership at the Divisional and University level, as well as for his commitment as Chief Resident and performance throughout his clinical training. Dr. Shore placed second amongst the Canadian candidates sitting the SCCM MCCKAP examination this year.

The site-specific winners for excellence in teaching were: Corrine Balit (Hospital for Sick Children), Christie Lee (Sinai Health Systems), David Hall (St. Michael’s Hospital), Lorraine Tremblay (Sunnybrook Health Science Centre), John Granton (Toronto General Hospital), Alberto Goffi (Toronto Western Hospital), and Phil Shin (U of T-affiliated community hospitals, North York General Hospital).

We concluded the year graduating Drs. Edmund Chau, Michael Kim, Andrew Kuhl, Jonathan Marhong, Kevin Shore, Marcello Schmidt, and Michael Tylee from the IDCCM Residency Program. (Dr. Ingrid Morgan completing her training in early 2017.) I look forward to following their continued career development and success, and working with many of them as close colleagues at our UofT teaching sites.
The Future

There are some significant challenges ahead for us in the Division related to education. The transition to RCPSC competency-by-design has become a reality for the first tranche of programs across Canada. Critical Care will follow and there is no debate. Achieving successful transition will need the support and expertise of the entire Faculty, not just the site education leads. Fundamental to this is timely workplace based assessment. Although we will have several new evaluation tools in 2017 we must continue to support the existing ITER process and currently approximately 50% are completed within 30 days of rotations.

I am pleased that the following physicians have joined in the Adult Critical Care Medicine Residency Program: Dr. James East (University of Toronto), Dr. Brian Buchan (University of Toronto), Dr. James Lee (University of Alberta), Dr. Pierre-Alexis Lepine (Universite Laval), Dr. Dylan Pannell (University of Toronto), Dr. Maxime Pichette (Universite de Montreal), Dr. Julien Viau-Lapointe (Universite de Montreal).

I would like to thank Ms. Stephanie Nardella who joined us as IDCCM Education Coordinator in January 2016. She is simply an outstanding colleague and support for both the Education Program and the trainees this year. Her enthusiasm and experience has been invaluable in maintaining the smooth running and high quality of the Program’s operations. I would also like to thank Dr. David Katz (Chief Resident) and Dr. Mika Hamilton (Chief Fellow). They were elected to their respective positions by their peers and have demonstrated excellent leadership and loyalty representing our trainees, and have been wonderful ambassadors for the IDCCM.

The consistent priority will remain training better doctors for our patients’ needs. We will continue to deliver a high-quality, scientifically based, curriculum, be enthusiastic educators at the University of Toronto, and leaders in change at the Royal College. We must be constantly innovating and taking all opportunities to improve our trainees’ educational experience, address weaknesses, and ensure the delivery of a truly world-class educational program, for all of our trainees.

I am pleased that Dr. David Hall has taken the helm of the Residency Program and look forward to his successful leadership of the Education Committee.
Andrew Baker, MD, FRCPC

St. Michael's Hospital Department of Critical Care has continued to strive for success in all fields of activity, actively pursued by its staff. With endeavors in the areas of education, research, and clinical activity, the successes of the Department's members have been recognized through the awards and appointments they have received in the past year.

We were sad to say goodbye to one of our Faculty and expert in Quality and Patient Safety at St. Michael's Hospital, Dr. Chris Hayes.

The physicians in the Critical Care Department have continued their consistent contributions to research by publishing 159 articles in peer-reviewed journals in the past year. Peer-reviewed grants were received by – Drs. Najma Ahmed, Andrew Baker, Laurent Brochard, Karen Burns, Claudia dos Santos, Warren Lee, John Marshall, Sandro Rizoli and Haibo Zhang. Our faculty also participated in the presentation of their research findings. There was a total of 36 local, 24 national and 114 international presentations by the faculty in the Department of Critical Care at St. Michael's Hospital in 2016.

Congratulations to the following SMH CCD Faculty for the Honours/Awards and Promotions they have received!

1. **Najma Ahmed** for her **Royal College AMS/Donald Richards Wilson Award** from the Royal College of Physicians and Surgeons of Canada in recognition for her excellence in leadership in Post Graduate Education. She also received the Jameel Ali Teaching Award Excellence in Continuing Education recognizing her exceptional contributions to the residents’ training locally and nationally.

2. **Andrew Baker** for the 3 prestigious awards he received this year!

   A) In May 2016, Andrew Baker was awarded the **Trillium Gift of Life Network Lifetime Achievement Award** for his contributions to the advancement of organ donation in Ontario and research in donation science.

   B) In October 2016, **Andrew Baker** was named the inaugural winner of the **Keenan Legacy Award** at the Keenan Research Centre for Biomedical Science at St. Michael's. This award is awarded to a scientist who exemplifies the mission of the Keenan Research Centre for Biomedical Science—generating new knowledge and translating scientific discoveries to improve patient health.
C) In November, Andrew Baker was named the winner of the **2016 Jeffrey C. Lozon Physician Leadership Award**, given annually to a St. Michael's physician who has demonstrated outstanding leadership skills and exemplifies the Mission and Values of the hospital.

3. Laurent Brochard for the **Post Doc Awards** for his international fellows: Irene Telias, Luana Melo, Tai Olivier Pham.

4. Sara Gray was promoted to Associate Professor as of July 1, 2016.

5. David Hall for his award as **Outstanding Teacher** for the Critical Care Medicine, Critical Care Medicine, University of Toronto.

6. Chris Hayes who was one of the recipients of the **William Goldie Prize and Travel Award in Quality and Innovation**.

7. Patricia Houston for her **Student Experience Award** from St. Michael's Hospital.

8. Warren Lee for his Canada Research Chair (Tier II) – Mechanisms of Endothelial Permeability as well as for his PhD student, Michael Sugiyama - **Award of Excellence** (Gold Category) from CIHR, his student, V Tokarz for **Graduate Studentship** from Banting and Best Diabetes Centre.

9. Natalie Wong won **The Robert H Hyland Teacher of the Year Award**, the highest honour a physician in the Department of Medicine can receive.
Department of Critical Care Medicine, Sunnybrook Hospital

Brian Cuthbertson, MD, ChB, FRCA

The leadership team for Critical Care Medicine at Sunnybrook Health Sciences Centre remained unchanged in 2016 with Dr. Brian Cuthbertson as the Chief of Critical Care Medicine and Dr. Gordon Rubenfeld as the Chief of the Trauma, Emergency and Critical Care Program. Dr. Shelly Dev continued to lead the education programme as our Residency Director and Co-Director with Dr. Cameron Guest of the International Fellowship Program. Dr. Dominique Piquette continued her role as the Associate Director, Education Research & Scholar Development for IDCCM. Dr. Barbara Haas joined our department in July 2016, cross-appointed to General Surgery. Dr. Bourke Tillmann joined our department in October 2016 as a Clinical Associate.

Research
In research the department enjoyed a number of notable academic accomplishments.

In 2016, Dr. Brian Cuthbertson main research focus was on the SuDDICU study. He worked closely with the Australia and New Zealand collaborative group to launch the study in those areas. He also worked on acquiring further remaining funding for SuDDICU including applications to the CIHR for Foundation Grant and project grant funding. The multi-national METS study (cardio-pulmonary exercise testing in patients before major surgery) is now at its final stages after recruiting 1700 patients and will report final results in 2017. Dr Cuthbertson also launched the CHORAL study of chlorhexidine withdrawal and oral health care intervention which he has applied to CIHR for funding with an interprofessional team of investigators.

Dr. Gordon Rubenfeld is busy planning for an expected sabbatical in London UK for 2017/18 as he wraps up his administrative leadership role at Sunnybrook.

Dr. Damon Scales published the results of the PremaTOR stepped-wedge cluster RCT in the American Journal of Respiratory Medicine (AJRCCM; PMID 27115286). This large undertaking involved 18 hospitals and showed that a multicentre quality improvement intervention can improve rates of appropriate neurological prognostication after cardiac arrest, and reduce premature withdrawal of life-sustaining treatments. The results of the POC-TACS RCT were also published in the journal Circulation. POC-TACS was another large stepped-wedge cluster RCT conducted in 12 hospitals that showed that the implementation of intraoperative point-of-care hemostatic testing reduces red blood cell transfusions, platelet transfusions, and major bleeding following cardiac surgery (PMID 27654344).
Dr. Scales also concluded enrolment in the ICEPACS RCT, a large pragmatic RCT comparing prehospital cooling after cardiac arrest to usual resuscitation and transport. The preliminary results of this trial were presented at the Critical Care Canada Forum. He also successfully obtained bridge funding from CIHR to start the PROTEST RCT, a future large pragmatic RCT comparing the safety and effectiveness of early versus delayed thromboembolic prophylaxis using anticoagulants in patients with traumatic brain injury. He continued to prepare for the launch of two large trials that were recently funded by CIHR: (1) The Paramedic Initiated Treatment of Sepsis Targeting Out-of-hospital Patients (PITSTOP) trial, which is a 2x2 factorial RCT evaluating the prompt administration by paramedics of antibiotics and intravenous fluids to patients with sepsis; and (2) the The NEUROlogically-impaired Exubation Timing Trial (NEURO-ETT), which is an RCT that will determine the optimal airway management strategy for patients who are weaned to minimal ventilator settings but remain intubated due to underlying neurological injury.

Dr. Neill Adhikari contributed to 19 publications in 2016 and helped to develop the InFACT-sponsored BASIC research methods course, which was delivered in Karachi in November.

Dr. Barbara Haas’ research program focused on trauma and emergency surgery in the elderly. Her work aims to optimize long-term outcomes in this patient population, as well as to improve inter-specialty communication regarding these patients. As the Principal Applicant she received a CIHR Project Grant, $92,500 for “The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients.”

Aside from clinical work in the ICUs at Sunnybrook, Dr. Rob Fowler has been happily busy as Director of the Clinical Epidemiology and Health Care Research Program at IHPME (http://ihpme.utoronto.ca/academics/rd/cehcr-mscphd/); working on the Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE) Research Program that seeks to define the optimal treatment duration for patients with bloodstream infection (http://balance.cctg.ca/); examining care delivered to patients at the end of life in Ontario; and working as a consultant with the World Health Organization, helping to improve care delivery to the critically ill in resource-challenged settings.

Dr. Hannah Wunsch’ research focused on using large databases to assess questions of resource use and long-term outcomes after critical illness. She is currently focused on a CIHR grant to examine re-hospitalizations in critically ill patients in Ontario, and comparing these rates with patients in the United States. She is also working on research about medication use after hospitalization for critically ill patients. Dr. Hannah Wunsch received a CIHR project grant in 2016: Role: PI. $183,000 [2 yrs] "Opioid use after critical illness" (2016-2018). Dr. Wunsch published 17 original publications, including two in JAMA. She continued in her role as an Associate Editor of the American Journal of Respiratory and Critical Care Medicine and took on the role in the IDCCM of Associate Director of Research.

During 2016, Dr. Taz Sinuff’ most significant achievement was as a co-investigator/site investigator and methods expert in the CIHR Late-in-Life Team Grant. This was a highly competitive granting process, in which only 2 grants were awarded out of 8 LOI’s invited to submit full grants. Dr. Sinuff was successful as a co-investigator in acquiring 3 additional grants. Dr. Sinuff co-authored 10 published papers in peer review journals (including 2 national guidelines) and was senior author in 1 book chapter.
Dr. Martin Chapman continues to remain focused on neurocritical care and management of brain injury, with several ongoing research projects: RESCUE-ASDH - Initiated from the UK, this international RCT is trying to answer the question as to whether employing craniectomy routinely following evacuation of an acute sub-dural hematoma leads to improved outcomes. Sunnybrook will become an active site in 2017 with Martin as a co-investigator. PROPEL - Martin is the site PI on this industry health technology study on feeding tolerance.

In 2016, Dr. Louise Rose was successful in securing three competitive grants as a principal investigator. These include: (1) Cough Assist: use education needs, health service utilization, and outcomes funded by the Post-Polio health International and the International Ventilator Users Network; (2) Development & pilot evaluation of an online peer support program for family caregivers of ventilator-assisted individuals with neuromuscular disease living in the community funded by Muscular Dystrophy Canada; and (3) Quality metrics for patients experiencing persistent critical illness: a program of research funded by the Michael Garron Hospital Community Based Research Fund. Dr. Rose also received MITACS funding for Dr. Marina Bastawrous-Wasilewski for a postdoctoral fellowship to support the development of the online peer support program. She also has two PhD students within the Lawrence S. Bloomberg Faculty of Nursing. In addition, Dr. Rose is a co-investigator on three successful CIHR project grants. Dr. Rose authored 17 publications in 2016, five as first author and seven as senior author with a further five accepted for publication. Dr. Rose was invited to speak at several international and national conferences including the UK Intensive Care Society State of the Art Meeting and the Canada Critical Care Forum. In January to April of 2016, Dr. Rose completed a sabbatical at the Lane Fox Respiratory Unit at St. Thomas’s Hospital in London. This has resulted in her receiving an ongoing honorary visiting professor status with further work planned in collaboration with this team.

Dr. Bourke Tillmann is a Clinical Associate in Critical Care Medicine at Sunnybrook Health Sciences Centre. He is currently about to enter an MSc in clinical epidemiology, with a focus on healthcare resource utilization. His general interests include trauma, cardiac arrest, and brain injury.

The Visiting Professorship Program organized by Dr. Gordon Rubenfeld/Dr. Hannah Wunsch and Meredith Malloy continues to be tremendously successful in attracting international experts in Critical Care to the IDCCM. In 2016 we hosted ten Visiting Professors from across North America. The Clinical Research in Progress sessions (CRIP) continue to provide a supportive environment where investigators can bring research projects for critical evaluation and discussion.

The Critical Care Research Department, led by our Research Director Dr. Neill Adhikari and Research Manager Nicole Marinoff RN continue to support the IDCCM with their participation in industry and academic trials. They contributed to the success of 14 academic and investigator initiated studies resulting in several presentations and publications for the DCCM. For 2016-17, they are collaborating on one industry sponsored study and 10+ academic funded studies. They continue to support the Department of Critical Care Medicine through research feasibility review, regulatory submissions, budgets, study implementation, education and compliance.

Congratulations to Meredith Malloy and Ruxandra Pinto, they celebrated ten years with the Department of Critical Care in 2016.
Education and Quality Improvement

We pride ourselves on our high quality clinical teaching and in the 2015-2016 academic year, the Department has continued to receive high scores for teaching assessments from both resident and fellowship training attachments.

Our leadership in Education Innovation continues with great momentum. Dr. Shelly Dev continues to work on independent and collaborative multimedia projects, acting as producer and consultant with colleagues across the Faculty of Medicine. Her latest New England Journal Publication will be on Performance of a Skin Biopsy; several other projects for the NEJM are in various stages of production in collaboration with colleagues across the IDCCM on topics such as Video Laryngoscopy and Esophageal Balloon Insertion. In partnership with Dr. Andre Amaral, over the last year Shelly has developed and continues to develop video-based materials to be used by families of ICU patients as a way of improving the content and quality of communication between these families and ICU staff members. She also developed the media for the multi-site LUNG-SAFE project and Damon Scales’ study on the use of early antibiotics by Paramedics in the field. Also on the radar is the plan to focus the camera on the diverse staff and departments of our own IDCCM as Shelly works with Dr. Laurent Brochard to push the creative limits of the IDCCM website.

In Quality Improvement the Department continues to collect data on key quality indicators reflecting our performance. A Process of Care Database was developed and validated based on data collected through the iCORE registry, led by Dr. Eddy Fan. We currently report on early mobility, lung protective ventilation, DVT prophylaxis, delirium screening, sedation management and spontaneous breathing trials. This is now being reported for all units collecting data on iCORE and quality reports are posted on a monthly basis. Further work continues to expand the database to community hospitals, and Drs. Amaral and Fan have been actively engaged with stakeholders to increase adoption. We continue to present projects and share ideas in a biannual multi-professional quality meeting across all of critical care central with encouraging feedback. In association with the Canadian Critical Care Society Dr. Amaral has also been leading the Choosing Wisely Campaign for Critical Care in Canada; the final draft was presented at CCCF 2016 and will be publicly available in 2017 after feedback from the CWC leadership. Following the IDCCM strategic plan, Drs. Amaral, Goddard and Dhar are supervising fellows and residents in a Quality Improvement workshop. Trainees attend a workshop provided by Dr. Brian Wong from Department of Medicine and, as a group, work on a quality improvement project throughout the year. One of the projects from last year, devoted to consent for common ICU procedures, has received awards in several international meetings.

In July 2016, the University of Toronto Adult Critical Care Medicine Residency Program started the implementation of a new program of formative, workplace-based assessments for our critical care residents facilitated by Dr. Dominique Piquette. Each resident has received an assessment schedule detailing an individualized, structured series of workplace-based assessments that must be completed by the end of each core ICU rotation. The residents have also been paired with Faculty advisors who are meeting with them on a quarterly basis to review their completed assessments and to develop individualized learning plans. Over the next few months, feedback will be sought from trainees, educators, and faculty in order to further improve the assessment program.
Facilitated by Dr. Dominique Piquette, two new initiatives were also implemented in 2016 to foster the development and dissemination of high-quality scholarly projects. In May 2016, the second-year critical care residents presented their scholarly projects to their peers and to a panel of critical care Faculty. The diversity and quality of the projects presented was truly outstanding. In December 2016, the first-year critical care residents also had the opportunity to discuss their preliminary ideas and plans for their scholarly projects in progress with an engaged group of peers and faculty. The breadth and degree of development of the projects was impressive, as was the quality of the presentations. We are looking forward to repeat these activities this year.
The Pediatric and Cardiac Intensive Care Divisions continue to be extremely busy with over 2,200 admissions for the past academic year. Outcomes remain excellent and comparable to any benchmark for mortality and quality. The quality and safety initiatives within the department continue to be amplified and successful. Despite the increase in total admissions, patient and ventilation days have not increased in parallel which reflects a dedicated approach to cost-efficient care.

We successfully hired 2 new outstanding faculty. Dr Mjaye Mazwi is Board certified in Pediatrics, Pediatric Cardiology and Pediatric Critical Care and we were very fortunate to be able to recruit him from Lurie Children’s Hospital in Chicago. Mjaye is an experienced critical care physician and his clinical duties will be in the CCCU. He has considerable experience with data science in critical care and will leading Computational Physiology and Translational Engineering in the Department. Dr. Haifa Mtaweh has joined as a Clinical Associate for the next 6 months and then will assume a full staff position in the PICU from July 1, 2017. Haifa completed her Pediatric Critical Care training at Pittsburgh Children’s Hospital and joined us as a Research Fellow 2 years ago. She is a spectacular addition to the PICU and will be continuing her research related to nutrition, metabolism and neurologic injury.

The education mission has continued under the leadership of Dr. Tilman Humpl in an interim position while Dr. Afrothite Kotsakis is on maternity leave. We continue to train Fellows from across the world (25 for academic year 2016) and plan to continue our close relationship with trainees through our Alumni Association.

Our research team led by Dr. Jamie Hutchison has had a productive year. We have expanded our team to better support the research being done within the department. Our research team members now include a research manager, 4 data programmers and 2 analysts, Research Fellows, PhD students, Post-graduate students, project manager and several research assistants and summer students. In this past year we have had 68 publications and $100,000 CIHR Project Grant Award. There are currently 82 active studies in varying stages. Some of our team members attended the Canadian Critical Care Trials Group (CCCTG) 3 scientific meetings this year and provided updates on current active studies at our site that are being conducted locally and nationally. Our research coordinator group presented at CCCTG in Halifax on Informed Consent for Research in Pediatrics. Members of our research team also attended the Canadian Critical Care Translational Biology Group (CCCTBG) which coincides with the CCCTG meetings. There were also many presentations from our department at the 8th World
Congress in Pediatric Intensive and Critical Care in June which was repeated on a smaller scale here on campus for staff who were unable to attend.

As I currently prepare a 5 year report on the Department activities, I am grateful and appreciative for the wonderful clinical, educational and research contributions from faculty, trainees and all clinicians across the department who day-in and day-out provide the highest quality of care for the sickest of children.
Department of Critical Care Medicine  
University Health Network and Sinai Health System

Niall Ferguson, MD, MSc, FRCPC

Critical Care Medicine, University Health Network & Sinai Health System

The Critical Care programme at University Health Network and Mount Sinai Hospital is a complex structure involving the provision of intensive care across 4 physically separate geographic sites and 2 separate hospital organizations. We have over 20 intensivists working in our three Level-3 medical-surgical ICUs (our MSICU group), and also count on the involvement of our colleagues in the Peter Munk Cardiac Centre who provide care for patients in the CardioVascular ICU (CVICU) and Coronary ICU (CICU) at Toronto General Hospital.

Personnel

Over the course of 2016 several important personnel changes occurred within our group.

New Faculty:  
Dr. Laveena Munshi, Clinician-Investigator, MSH  
Dr. Lorenzo Del Sorbo, Clinician-Investigator, TGH  
Dr. Victoria McCredie, Clinician-Scientist, TWH

We are excited to welcome our new team members and look forward to their future successes. In 2016, Dr. Neil Lazar stepped down as Site Lead for the Toronto General MSICU, having completed 13 years in that role; Dr. Niall Ferguson is filling in as interim site lead at the current time. The executive committee for our group in 2016 was comprised of Drs. Neil Lazar, Jeff Singh, and Stephen Lapinsky serving as Site Directors for Toronto General, Toronto Western, and Mount Sinai, respectively, along with Dr. John Granton as Head, Division of Respirology, Dr. Geeta Mehta as member-at-large, and Dr. Niall Ferguson, Head of Critical Care Medicine.

Research

Our research enterprise is overseen by Dr. Eddy Fan as tri-site Research Director. He is supported locally by research leads from each site - Drs. Wilcox, Detsky, and Del Sorbo. We are also delighted to congratulate and work closely with Drs. Margaret Herridge and Hannah Wunsch as Research Director and Deputy-Director for the University of Toronto IDCCM.
2016 was another excellent year for our research group. Our group of 13 faculty clinician-investigators and scientists published over 100 unique papers in 2016, with more than 20% being in high impact journals including the New England Journal, JAMA, and ARJCCM. Our grant capture was also strong (see individual reports). Key research programmatic themes arising from within our group include: ARDS & Mechanical Ventilation; Long-Term Outcomes after ICU; Extra-Corporeal Life Support; Diaphragm Dysfunction; Neuro-critical Care; and Critical Care Oncology.

Education

In 2016, Dr. Ghislaine Douflé assumed responsibility as education lead for TGH, and works closely with Drs. Christie Lee and Alberto Goffi at MSH and TWH – collectively have done a phenomenal job of reinvigorating the educational experience for trainees of all levels at these sites. Dr. Andrew Steel stepped down from his role as Program Director for the IDCCM and from his role as Director of our International Fellowship Program having filled that role for 7 years. We thank Andrew for his dedicated service and commitment to education. Dr. Christie Lee has now taken on the role of International Fellowship Director at UHN/SHS.
U of T IDCCM Education Committee Organization Chart
5 Year Impact Factor Publication Analysis

Number of Publications

Mean Impact Factor

5 Year Impact Factor Publication Analysis

- Number of Publications
  - 2012: 228
  - 2013: 289
  - 2014: 283
  - 2015: 296
  - 2016: 283

- Mean Impact Factor
  - 2012: 6.3
  - 2013: 6.69
  - 2014: 6.15
  - 2015: 6.8
  - 2016: 7.04
Overall Interdepartmental Summary

Our interdepartmental division consists of 76 faculty members and 9 clinical associates.
University Rank Full-Time Faculty

Professors 22
Associate Professors 17
Assistant Professors 36
Lecturer 1
Clinical Associates 9
## Research Job Description Faculty

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Clinical Scientists</td>
<td>39%</td>
<td>33</td>
</tr>
<tr>
<td>Clinician Investigators</td>
<td>2%</td>
<td>11</td>
</tr>
<tr>
<td>Clinician QI</td>
<td>2%</td>
<td>2</td>
</tr>
<tr>
<td>Clinician Educators</td>
<td>18%</td>
<td>10</td>
</tr>
<tr>
<td>Clinician Teachers</td>
<td>12%</td>
<td>15</td>
</tr>
<tr>
<td>Scientists</td>
<td>3%</td>
<td>3</td>
</tr>
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<td>Scientists Track</td>
<td>11%</td>
<td>9</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>2%</td>
<td>2</td>
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APPENDICES
## Appendix I: Faculty List, 2016

### Hospital for Sick Children

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## Clinical Associates

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<tr>
<td>Dhar, Preeti</td>
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</table>
Appendix II: Summary Activity Reports
Peer-Reviewed Publications

Journal Articles


Book Chapters


Peer-Reviewed Grants

Funded

Invited Lectures and Presentations

International

2016 Jun 2-3  **Invited Speaker.** Alternative Anticoagulants: What, when and how to monitor; Circuit of the Future. Euro ELSO. Glasgow City, United Kingdom.

2016 Mar 10  **Invited Speaker.** Weird and Confounding Pediatric Cases that Confuse the Best of Us. Survival Flight Conference. Ann Arbor, Michigan, USA.


**Moderator.** Cultural Differences in ECLS. 32nd Annual Children’s National Symposium: ECMO and the Advances Therapies for Respiratory Failure (Children’s National Health System). Co-Moderator(s): Janco J.

Keystone, Colorado, USA.

2016 Jan 21  **Invited Lecturer.** Extracorporeal Life Support: Where we were, Where we are, Where will we be? Grand Rounds: Heinrich Werner Lecture. Kentucky, USA.

National

2016 Jun 7  **Invited Speaker.** Parallel Session: Mechanical Support - Respiratory ECMO. World Congress on Paediatric Intensive and Critical Care. Co-Speaker(s): Guerguerian AM. Toronto, Ontario, Canada.

2016 Jun 6  **Invited Speaker.** Sunrise Session: How to set up a Safety Program in your ICU. World Congress on Paediatric Intensive and Critical Care. Toronto, Ontario, Canada.
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<th>Date</th>
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<tr>
<td></td>
<td>Invited Lecturer</td>
<td>Anticoagulation. World Congress on Paediatric Intensive and Critical Care.</td>
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<td>World Congress on Paediatric Intensive and Critical Care. Toronto, Ontario, Canada.</td>
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<td>2016 Sep 21</td>
<td>Invited Lecturer</td>
<td>ECMO Specialist Training Course. VA VV ECMO. The Hospital for Sick Children. Toronto, Ontario, Canada.</td>
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Invited Lectures and Presentations

International

2016 Nov  Invited Speaker. Understanding and Measuring Pulmonary Dead Space; Nuts and Bolts of Quality improvement; Pulmonary Physiology for Mechanical Ventilation. National Pediatric Critical Care Conference, Mumbai, India.


2016 June  Invited Speaker. Is Hypoxia or Hyperoxia really dangerous?; Enhancing the quality of the care we deliver; Respiratory Mechanics in ARDS. The 14th Brazilian Congress of Pediatric Intensive Care, Brazil.

2016 Jan   Invited Speaker. Evolution of oxygen. Patient Safety Summit. Los Angeles, California, USA.

National

2016 Jun 5  Chairman, Organizing Committee. 8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Invited Lectures and Presentations

International


National


Local


2016 Nov 7  Invited Speaker. Stop, start feeding. 8th World Congress of Pediatric Critical Care Interprofessional Education Day. Peter Gilgan Centre for Research & Learning. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Oct 26  Invited Lecturer. How to write a research question. Research Course with cardiac fellows. Heart Centre – Cardiology Division. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Sep 21  **Invited Lecturer.** Cardiac Patient on ECMO. ECMO Specialists’ Training Course. The Hospital for Sick Children. Toronto, Ontario, Canada.


2016 Mar 16  **Invited Lecturer.** Understanding Laboratory Values – Electrolytes, LFTs, CBC and Differential, Coagulation studies, SvO2 and Lactates. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Mar 9  **Invited Lecturer.** How many ventricles in a repair (1 or 2 or 1 ½ ventricle repair). Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Feb 17  **Facilitator.** SIM Day with CCM fellows. Station ECMO. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Feb 9  **Facilitator.** ECLS Education Day/ Simulation. The Hospital for Sick Children. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Book Chapters


Editorials


Peer-Reviewed Grants

Funded


**Invited Lectures and Presentations**

**International**


**Abstracts**


New Orleans, Louisiana, USA.

National


2016 May 2  Invited Provocateur. Resuscitation in Motion (RiM) 2016 - Li Ka Shing Knowledge Institute, St. Michael’s Hospital, University of Toronto, Faculty of Medicine. Toronto, Ontario, Canada.


Abstracts


Extracorporeal Support: The development of a levelling platform for the safe and effective use of an interventional lung assist membrane oxygenator. Presenter(s): Lati J, Guerguerian AM, Niles E, Granger C, Todd M.


8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.

2016 Jun 6


2016 Jun 14

Peer-Reviewed Publications

Journal Articles


**Letters to Editor**

1. Beghetti M, Berger RM, Ivy DD, Bonnet D, Humpl T. To “Cath” or Not in Pediatric Pulmonary Hypertension? J Am Coll Cardiol. 2016 Mar 1;67(8):1010-1. **Coauthor or Collaborator.**

**Invited Lectures and Presentations**

**National Abstracts**

2016 Jun


World Congress Pediatric Intensive Critical Care 2016. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Comment, Editorials

Peer-Reviewed Grants

Funded


2014 Oct-2018 Sep  **Co-Investigator.** Quantifying brain injury on computed tomography in hospitalized children: a prospective trial. Canadian Institutes of Health Research (CIHR). Open operating grant. PI: Guerguerian AM. 600,000 CAD. [Grants]


2013 Jan-2018 Mar  **Site Investigator.** ABC PICU Study - Age of Blood in Children in Pediatric Intensive Care Units Inclusion - Exclusion Criteria. Canadian Institutes of Health Research (CIHR) PI: Tucci M [Grants]

2010 Jan-2016 Dec  **Co-Investigator.** From Bench to Bedside to Curbside. Clinical Research Consortium to improve Resuscitation Outcomes. Heart and Stroke Foundation of Canada (HSFC). PI: Morrison L. 15,000,000 CAD. [Grants]

2009 Jan-2016 Dec  **Co-Investigator.** From Bench to Bedside to Curbside. Clinical Research Consortium to improve Resuscitation Outcomes. Canadian Institutes of Health Research (CIHR). PI: Morrison L. 1,057,000 CAD. [Grants]
Invited Lectures and Presentations

International


National

2016 Jun 6   Chair. Parallel Session: Neuro Session 1: Head and Spinal Cord Trauma.

Invited Speaker. Severe TBI Inflicted Injury.

8th World Congress on Pediatric Intensive and Critical Care (PICC). Toronto, Ontario, Canada.

Abstracts

Peer-Reviewed Publications

Journal Articles


4. JG Laffey, BP Kavanagh. Does this Patient have ARDS? – A Potentially Life-Saving Question. 2016. Senior Responsible Author.

5. JG Laffey, BP Kavanagh. Insight into ARDS – From Models to Patients. Senior Responsible Author.


Book Chapters


Peer-Reviewed Grants

Funded


2014-2019 **Principal Applicant.** Ventilator-Induced Lung Injury: Linking gene activation, physiology and outcome. Canadian Institutes of Health Research (CIHR) Collaborator(s): Post M, Santyr G, Amato M. 718,000 CAD. [Operating Grant]


**Invited Lectures and Presentations**

**International**

2016 Nov  **Invited Speaker.** Evidence based practices in HFV, NO and ECMO; What do we do to the lungs when we ventilate them?; Hypercapnia: From bench to bedside.

**Panelist.** How Do I Recruit the Lungs?

2016 Oct  **Invited Speaker.** ARDS: Have we really made a difference? American Society of Anesthesiologists (ASA). Chicago, USA.


2016 May  **Invited Speaker.** Guidelines and Protocols.

San Francisco, California, USA.

2016 Apr Invited Speaker. CO2 in Critical Care. Beth Israel Deaconess Medical Center. Boston, USA.


2016 Mar Invited Speaker. How CO2 may both protect and harm; Protocols and guidelines: Misaligned and misattributed; Molecular mechanisms; A place for negative pressure ventilation?; Although children are less susceptible to lung injury. 36th International Symposium on Intensive Care and Emergency Medicine. Brussels, Belgium.

2016 Mar Invited Speaker. How do ventilators injure lungs; What’s the evidence for evidence-based medicine. NEICS Spring Meeting. Darlington, UK.

2016 Jan Invited Speaker. Perspectives on protocols; How CO2 may help in ICU Cedars-Sinai Medical Center. Los Angeles, California, USA.

National


Co-Moderator. Opening Plenary; ARDS – Basics; Plenary Session: The Brian Death Concept – History and Controversies.

Critical Care Canada Forum. Toronto, Ontario, Canada.

2016 Jun Invited Speaker. Mentorship – An essential foundation for success; TRALI and other complications; ARDS: Wet or Dry?

Co-Chair. Modes, Strategies and Targets of Mechanical Ventilation in Various Settings; Late Breakers.

8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.
Peer Reviewed Publications

Journal Articles


Abstracts


Invited Lectures and Presentations

International

2016 Dec 10 Moderator. What are the Ethical Implications of Offering Therapy in the Face of Likely ‘Poor Outcome’? Special Session 2 – Ethics – The Burdens of Offering. (Panel with an Intensivist, Surgeon, RN, Cardiologist), PCICS 12th Annual International Meeting. Miami Beach, Florida, USA.

2016 Mar 2-3  **Invited Speaker.** The Difficult Patient: Ethical Issues in ECLS – Crestone / Red Cloud.

**Panelist.** Cultural Differences in ECLS. 32nd Annual CNMC Symposium: ECMO & the Advanced Therapies.

Keystone, Colorado, USA.

2016 Feb 24  **Invited Speaker.** Early Postoperative Management.

**Moderator.** When Is Care Futile?

19th Annual Update on Pediatric and Congenital Cardiovascular Disease.

Lowes Royal Pacific Resort. Orlando, USA.

**Provincial**

2016 Mar 8-13  **Invited Speaker.** Helping Families Prepare for the Worst while Hoping for the Best: Palliative Care in VAD and Transplant. Alberta Transplant Institute, ATI Seminar Series, Edmonton, Alberta.

**National**

2016 Oct 31  **Invited Speaker.** ICU Care is not a Buffet: Problems with Shared Decision Making.

**Moderator.** End of Life – Decisions and Support.

Critical Care Canada Forum. Toronto, Ontario, Canada.

2016 Jun 7-8  **Invited Speaker.** Ethical Practices Can It Be Too Expensive to Survive? Parallel Session: Palliative Care and End of Life.

**Invited Speaker.** Novel Approaches to Ethics Education: Educating the Multiprofessional Team to Reduce Moral Distress. Ethics and Moral Distress Session 2: Moral Distress & Ethics Education.

**Panel.** How to Prepare for Difficult Conversations. Sunrise Session.

8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Books


Book Chapters

Peer-Reviewed Publications

Journal Articles


Book Chapters


Peer-Reviewed Grants

Funded

2015 Jul-2017 Jun Principal Applicant. Validating a hemodynamic early warning system in pediatric critical care. University of Toronto. Department of Anesthesia Merit Award. 60,000 CAD. [Grants]


Invited Lectures and Presentations

International


2016 Jan 9  Invited Speaker. Five on Five Session: Future of Medical Intelligence; Five on Five Session: Applications in Pediatrics Pediatrics 2040: Trends and Innovations for the Next 25 Years. Dana Point, California, USA.

Professional Educational Media Presentations


Abstracts


Laguna Beach, California, USA.

**National**


2016 Jun 4-6  **Chair.** Big Data in Critical Care; Redesigning Systems and Structures for Optimal Delivery of Critical Care; Risky Business/Critical Care. 8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.


**Honours and Awards**

2016 Jun  Leader’s Circle Ambassador Award (co-chairing successful 2016 World Congress on Pediatric Intensive & Critical Care), Leaders Circle. (Distinction)
Peer-Reviewed Publication

Journal Articles


Peer-Reviewed Grants

Peer-Reviewed Publications

Abstracts


Invited Lectures and Presentations

International


National

2016 Oct 30-Nov 2 Invited Speaker. Resuscitation-Improvement beyond the ABCs.


Canada Forum. Toronto, Ontario, Canada.

**Local**

2016 Dec 1  **Invited Speaker.** Help! My baby is blue, troubleshooting the cyanotic newborn. Cardiac Anaesthesia Seminar. The Hospital for Sick Children. Toronto, Ontario, Canada.

2016 Nov 30 **Invited Speaker.** Continuous Quality Improvement in Resuscitation. Cardiology Program Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.


2016 Jul 12  **Invited Speaker.** Basic Cardiology. Critical Care Medicine Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Editorials


Peer-Reviewed Grants

Funded


Non-Peer Reviewed Grants

Funded

2012-2016 **Principal Applicant.** End of Life Research Funding. RDV Foundation. Unrestricted grant for RDV Foundation. 150,000 CAD. [Grants]

Invited Lectures and Presentations

International

2016 Feb 22 **Invited Speaker.** BedsidePEWS. Queen Fabiola Children’s University Hospital. Brussels, Belgium.

National


2016 Jun 29 **Invited Speaker.** TBC. Critical Care Response Team Conference. Toronto, Ontario, Canada.

2016 Jun 22 **Invited Speaker.** BedsidePEWS. McMaster Children’s Hospital. Hamilton, Ontario, Canada.

2016 Jun 7 **Chair.** Parallel Session: The Deteriorating Child.

**Invited Speaker.** Where are we up to with rapid response systems?

8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.

2016 Apr 20 **Invited Speaker.** Bedside Paediatric Early Warning System (PEWS). Education Session. Co-Speaker(s): Middaugh K. Markham Stouffville Hospital. Markham, Ontario, Canada.
Abstracts


2016 Jun 6 **Principal Supervisor.** Moral distress in paediatric and neonatal intensive care practitioners - a cross sectional evaluation. 8th World Congress on Pediatric Intensive and Critical Care. Presenter(s): Larson C, Dryden-Palmer K. Toronto, Ontario, Canada.

Posters


**Principal Supervisor.** Nephrotoxic medication exposure in critically ill children: A nested case-control study.

8th World Congress on Pediatric Intensive and Critical Care. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Book Chapters


Peer-Reviewed Grants

Funded

2015 - 2021 Co-Investigator. Cardiovascular Physiology and Brain Development in Newborns with Congenital Heart Disease. Canadian Institutes of Health Research (CIHR). PI: Miller S, Seed M. Collaborator(s): Blaser SI, Brant RF, Chau V, Hickey EJ, Kingdom JC, Ly LG, MacGowan CK, Sled JG. 1,008,289 CAD. [Grants]
Invited Lectures and Presentations

International

2016 Oct  Invited Speaker  Pediatric Cardiac ECMO; Physiology of ECMO; Inotropes after congenital heart surgery: Science and Practice; Cardiopulmonary and Mechanical ventilation considerations in Cardiac ICU.

Invited Moderator  Critical Case Scenarios. Pediatric Cardiac Society of India. Bangalore, India.

Pediatric Cardiac Society of India. Bangalore, India.

2016 Jul  Invited Speaker  Care of the Neonate with Heart Disease. Tianjin Medical Union of Neonate Congenital Heart Disease; Initiation and Signing Ceremony. Tianjin, China.

National

2016 Sep  Invited Speaker  Managing Cardio-renal Issues in Heart Failure. Toronto Pediatric Heart Failure Summit. Toronto, Ontario, Canada.

2016 Jun 6  Invited Speaker  Neonatal Heart Disease.

Chair  Neonatal Heart Disease.

World Congress Pediatric Intensive Critical Care. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Case Reports


Peer-Reviewed Grants

Funded


Non-Peer Reviewed Grants

Funded

Invited Lectures and Presentations

**International**

2016 Jan 19  **Invited Speaker.** Optimization of decision planning in the ICU; Predicting patient centered outcomes: The PCOP study. Douglas White, Pittsburgh, Pennsylvania, USA.

**Local**

2016 May 4  **Invited Lecturer.** Predicting Patient Centred Outcomes in the Critically Ill: The PCOP study. UHN/MSH Department of Medicine. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


**Letters to the Editor**


2. Chen L, Sklar M, Dres M, **Goligher EC**. Different Definitions of Lung Recruitment by Computed Tomography Scan. Am J Respir Crit Care Med. 2016;193(11):1314-5. **Senior Responsible Author.**

**Monographs**


**Peer-Reviewed Grants**

**Funded**

2016 **Principal Investigator.** Rehabilitation Aimed at Muscle Performance. Canadian Foundation for Innovation.$194,716 CAD. [Grants]

2016 **Co-Investigator:** Diaphragm Activity and Function During Mechanical Ventilation: the MYOTRAUMA Study. Ontario Thoracic Society/Canadian Lung Association. PI: Reid, Darlene. $48,316 CAD. [Operating Grants]
Invited Lectures and Presentations

International


2016 May 27  Invited Speaker. Patient-ventilator interaction: diaphragm thickness monitoring; Should we tailor PEEP to physiological targets?; PEEP: Challenging the Experts’ Opinions; Point of Care Ultrasound: the Diaphragm. SMART Conference 2016. Milan, Italy.

Oral Presentations


Provincial


National


Local


Abstracts


Critical Care Canada Forum (CCCF). Toronto, Ontario, Canada.


American Thoracic Society Scientific Meeting. San Francisco, California, USA.
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

Invited Lectures and Presentations

International


Provincial


National

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2016 Jul-2017 Jun **Co-Principal Investigator.** Management of Pain, agitation and delirium in neutorauma patients: a cohort study. Respirology Petit Block Grant. PI: Burry L. 10,000 CAD. [Grants]

2015 Feb-2016 Jan **Co-Investigator.** Situating education in patient care: exploring how residents navigate learning opportunities for central venous catheter insertion skills. Department of Medicine, Faculty of Medicine, University of Toronto. Department of Medicine Education Research & Scholarship Grant. PI: Brydges R. Collaborator(s): Mylopoulos M, Goffi A. 11,250 CAD. [Grants]

Invited Lectures and Presentations

National

2016 Oct 25 **Invited Speaker.** Social Media and Medical Education. Education Scholars Program, Center for Faculty Development. Toronto, Ontario, Canada.

2016 Jun 14 **Chair.** Education Session. Art Slutsky Day. Toronto, Ontario, Canada.

2016 Apr 22 **Invited Speaker.** Shock and Sepsis in the Wild. Faculty Development for RN and RRT.CCRT training day with Hawryluck C, Ma P. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Abstracts


Non-Peer Reviewed Publications

Letters to Editor


Clinical Care Guidelines


Peer-Reviewed Grants

Funded


2014-present Co-Investigator. Frequency of Screening And SBT Technique Trial: The FAST Trial. CIHR Operating Grant. PI: Burns K. 212,067.6 CAD. [Grants]


2016 Jan-2017 Dec  **Co-Investigator.** Sedation and delirium in the ICU: network meta-analyses. CIHR Knowledge Synthesis Grant. PI: Burry L. 90,000 CAD. [Grants]

2016 Jan-2016 Jul  **Supervisor.** Sedation and analgesia practice in extra-corporeal membrane oxygenation (ECMO) - treated patients with acute respiratory distress syndrome (ARDS): a retrospective study. Mount Sinai Hospital Department of Medicine Studentship Awards Program. 2,500 CAD. [Grants]


2015 Oct-2016 Sep  **Co-Investigator.** The RECOVER Program: A Patient- and Family-Centred international practice standard for follow-up care after critical illness and National ICU-outcomes educational program. University of Toronto Department of Medicine Integrating Challenge Grant. PI: Herridge, M. 200,000 CAD. [Grants]

2015 Jun-2016 May  **Principal Investigator.** Outcomes of patients with leukemia admitted to the Intensive Care Unit at Mount Sinai Hospital. Department of Medicine Clinical Research Voucher Support Program. 5,000 CAD. [Grants]

2014-2016  **Co-Principal Investigator.** Survey of pharmacists’ attitudes toward the use of probiotics to prevent ventilator associated pneumonia. Technology Evaluation in the Elderly Network, Summer Student Award 2014. PI: Burry L. 6,000 CAD. [Grants]

2009-2016  **Co-Investigator.** OSCILLation for ARDS Treated Early (OSCILLATE) Trial. Canadian Institutes of Health Research (CIHR). PI: Meade M, Ferguson N. 3,792,489 CAD. [Grants].

**Invited Lectures and Presentations**

**International**

2016 Mar 12-16  **Chair.** A closer look at albumin.

    **Invited Speaker.**

    36th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium.


**Abstracts**

2016 May  Discordant determinants of functional disability compared to mortality outcomes in the RECOVER program cohort; Risk stratification of the Toronto ARDS cohort using RECOVER Program disability groups; Citizens’ views regarding important outcomes and treatment options during weaning from mechanical ventilation. American Thoracic Society. San Francisco, California, USA.

National

2016 Oct 31-Nov 2  Invited Speaker. Delirium in the ICU - Helped by Restraints; ICU outcomes of patients with hematologic malignancy; Is your ICU elder/frail friendly?

Plenary session Co-Chair. Presentation of EUPHRATES Randomized Trial results.

Critical Care Canada Forum, Toronto, Ontario, Canada.


National

Abstracts


Sleep assessment in critically ill patients the night before a spontaneous breathing trial: a feasibility and descriptive study. Presenter(s): Dres M, Chau E, Mehta S, Kendzerska T, Grieco D, Rittayamai N, Wilcox E, Leung R, Brochard L.


Critical Care Canada Forum, Toronto, Ontario, Canada.
Peer Reviewed Publications

Journal Articles


Book Chapters


Peer Reviewed Grants

Funded

2015-ongoing **Principal Investigator.** Adjuvants to Mechanical Ventilation for Acute Respiratory Failure. CIHR. Supervisor: Rubenfeld G. 146,666 CAD. [Grants]
2013-2016  **Principal Investigator.** Adjuvants to Mechanical Ventilation for Acute Respiratory Failure. Eliot Phillipson Clinician Scientist Training Program. Department of Medicine, University of Toronto. Supervisor: Rubenfeld G. 225,000 CAD. [Grants]

2015-2016  **Co-Principal Investigator.** Measurement of Extravascular Lung Water to Detect and Predict Primary Graft Dysfunction Following Bilateral Lung Transplant. Ontario Thoracic Society Research Grant. PIs: Cypel M, Granton G. 48,038.00 CAD. [Grants]

2015-2017  **Co-Principal Investigator.** Predictors of Apnea and Their Relationship to Time to Death Following Withdrawal of Life Sustaining Therapies. Physician Services Incorporated Award. PI: Singh J. 37,025.00 CAD. [Grants]

2015 -2016  **Co-Principal Investigator.** The Association Between Oxygenation and Mortality in Extracorporeal Life Support. Extracorporeal Life Support Organization Research Grant. PI: Fan E. 4,800.00 CAD. [Grants]

**Invited Lectures and Presentations**

**International**

2016 September  **Invited Speaker.** The Relationship Between Oxygenation and Mortality in Extracorporeal Life Support. Annual Extracorporeal Life Support Organization International Conference. San Diego, California, USA.

2016 May  **Invited Speaker.** Adoption and De-Adoption of Adjuvant Treatments for Acute Respiratory Failure. American Thoracic Society Annual Meeting. San Francisco, California, USA.
Peer-Reviewed Publication

Journal Articles


Reviews

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International


2016 Nov 5-7  Course Director. When to leave the abdomen open and when to close it; Mesenteric Ischemia. Course Director(s): with Sugrue M, Fraga G. 2016 Emergency Abdominal Surgery Course. University of Campinas, Campinas, Brazil.

Abstracts


Provincial Abstracts


Trauma Association of Canada. Annual Scientific Meeting, Halifax, Nova Scotia.
National Abstracts


Honours and Awards

2016 Royal College AMS/Donald Richards Wilson Award, Royal College of Physicians and Surgeons of Canada - Given for excellence in leadership in Post Graduate Education.

2016 Jameel Ali Award for Excellence in Continuing Education. St. Michael’s Hospital, Department of Surgery, University of Toronto.

2016 Canadian Association of Medical Education (CAME) – Ian Hart Award for Distinguished Contribution in Medical Education. (Nominated)
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


2015 - 2017 Principal Investigator. The role of neuroinflammation following traumatic brain injury to the pathogenesis of neurodegenerative disorders. Merit Award. Department of Anesthesia, University of Toronto. 30,000 CAD. [Grants]

2015 Sep - 2016 Sep Principal Investigator. Ontario Concussion Care Strategy: Phases I and II. Ontario Neurotrauma Foundation. 70,000 CAD. [Grants]

2010-2016 Co-investigator. From bench to bedside to curbside. Heart and Stroke Foundation of Canada. PI: Morris L. 1,500,000 CAD. [Grants]

2010-2016 Principal investigator. From bench to bedside to curbside. National Institutes of Health. 648,000 USD. [Grants]

2009-2016 Co-investigator. From bench to bedside to curbside. Canadian Institutes of Health Research. 1,057,000 CAD. [Grants]

Invited Lectures and Presentations

National

2016 Nov 2 Invited Speaker. Update on concussion and TBI for intensivists.

Moderator. Neurocritical Care - Prognosis and outcomes.

Critical Care Canada Forum. Toronto, Ontario, Canada.

2016 May 2 Chair. Discovery.

Invited Speaker. Gender disparities in end-of-life care decisions for cardiac arrest patients.

Resuscitation in Motion. Toronto, Ontario, Canada.

2016 Apr 18 Invited Speaker. Neuroscience Research in Anesthesia. Professor's Rounds for Fellows, Department of Anaesthesia, University of Toronto. Toronto, Ontario, Canada.

Honours and Awards

2016 Nov Jeffrey C. Lozon Physician Leadership Award, St. Michael's Hospital.

2016 Oct Keenan Legacy Award, Keenan Research Centre for Biomedical Science. Li KaShing Knowledge Institute.

2016 May Lifetime Achievement Award, Ontario Trillium Gift of Life Network.
Peer-Reviewed Publications

Journal Articles


20. **Brochard L**, Pham T, Rubenfeld G. Does my patient really have ARDS? Intensive Care Med. 2016 May 1;42(5):656-8. **Principal Author.**


Reviews


Peer-Reviewed Grants

Funded


2013 Oct-2016 Sep  **Co-Investigator.** The Importance of Spontaneous Breathing Efforts in Mechanically Ventilated Patients with Acute Respiratory Distress Syndrome. Physicians Services Incorporated Foundation Operating Grant (PSI). PI: Fan E. 50,000 CAD. [Grants]

### Non-Peer Reviewed Grants

#### Funded

2014 Jan-2018 Dec  **Principal Investigator.** Start-Up Operating Funds (Annually). St. Michael’s Hospital. 200,000 CAD. [Contracts]

2014-2016  **Principal Investigator.** Randomized cross-over physiologic study of High Flow nasal oxygEN cannula versus non-invasive ventilation in cystic fibrosis: The HIFEN study. Fisher and Paykel. 20,000 CAD. [Industrial Grants]
Presentations and Special Lectures

International

2016 Nov 29  
**Invited Speaker.** PaO2/FiO2 in clinical practice; Lung mechanics: the equation of motion at the bedside; Lung protective strategies: A practical approach; Respirator management; Pressure vs. Volume targeted mechanical ventilation. 22nd Postgraduate Refresher Course, Cardiovascular and Respiratory Physiology, Applied to Intensive Care Medicine. Brussels, Belgium.

2016 Nov 26  
**Invited Speaker.** Le cercle infernal de l’insuffisance respiratoire aiguë; Ventilation du SDRA et recrutement; Avec le soutien de GE Healthcare.

**Moderator:** Mécanique ventilatoire with S Jaber.


2016 Nov 17  
**Invited Speaker.** Charla magistral: CPAP, BIPAP, Canula de alto flujo, VNI: Cúal elegir?; Manejo individualizado y práctico del SDRA. 34th Chilean Congress of Intensive Medicine. Coquimbo, Chile.

2016 Oct 2-5  
**Invited Speaker.** Weaning from Mechanical Ventilation & Clinical Case History: Difficult Weaning; How could it be applied at bedside supported by new clinical data: What can we monitor with Edi signal; Esophageal pressure: Different approaches.

**Chair:** Perioperative Intensive Care and Sedation; PLUG; Clinical Trials in Intensive Care.

ESICM 29th Annual Congress. Milano, Italy.

2016 Sep 29  
**Invited Speaker.** Grand Rounds Presentation: Several Physiological Advances Useful for ARDS Management. Department of Anesthesia, Critical Care and Pain Medicine at Mass General Hospital. Boston, Massachusetts, USA.

2016 Sep 14  
**Invited Speaker.** Grand Rounds Presentation: Several physiological advances that improved (or can improve) treatment for ARDS. Cleveland Clinic, Respiratory Institute. Ohio, USA.

2016 Jul 16  
**Invited Speaker.** Key Mechanics in ARDS: Pressures, Respiratory Muscle Activity, and Proportional Modes; PLUG asynchronies; Patient Ventilator Interactions: Problems and Solutions. 38th Annual Meeting of the Japan Society of Respiratory Care Medicine. Osaka, Japan.


Chair: Improving Patient-Ventilator Interaction; Peep in Patients with ARDS; Driving Pressure.

27 SMART Congress. Milano, Italy.

2016 May 14-18 Invited Speaker. Physiology of Mechanical Ventilation in ARDS - Driving Pressure; Leading Journal in Respiratory, Critical Care, and Sleep Medicine - Key Papers, Publication Ethics, New Initiatives - Highlights in Critical in AJRCCM.

Chair: Leading Journal in Respiratory, Critical Care, and Sleep Medicine - Key Papers, Publication Ethics, New Initiatives.

American Thoracic Society (ATS). San Francisco, California, USA.


2016 Mar 15-17 Invited Speaker. The Max Harry Weil Memorial Lecture: Individualized Management of ARDS; Learning physiology through mechanical ventilation - Respiratory basics; Ventilation with helium - Decompensated COPD: New insights; What is it all about? - Nasal high-flow oxygen therapy;Respiratory muscle underuse - Respiratory muscle activity during mechanical ventilation; CPAP, BIPAP, High flow nasal oxygen, NIV.: How to choose?.

108
Moderator: Mechanical ventilation in ARDS - Standard presentation; Lung recruitment in ARDS - Standard presentation.


2016 Jan 13 Invited Speaker. SDRA: l’épidemiologie a-t-ell change?; Comment améliorer le sommeil des patients en réanimation?; Utilisation des nouveaux outils en pratique : Quizz autour de la PAV+; Automated weaning: from assistance level to oxygen titration; A Pro.

Meet the Expert: How do I manage severe ARDS.

Moderator: Optiflow: des effets physiologiques aux benefices cliniques (Fisher & Paykel).

Chair: My ten “must-read” articles.


2016 Jan 11-12 Invited Speaker. Bases physiologiques de la ventilation en pression positive; Reglages des modes assistes(VAC, AI); Volume controle - Pression controlee: exercise sur simulateur;SDRA: Definition et epidemiologie. DU de Ventilation Artificielle Module 1. Université d’Angers. Angers, France.

2016 Jan 6 Invited Speaker. Weaning from Mechanical Ventilation. Cook County Medical Grand Rounds, Department of Medicine, Videoconference. Chicago, Illinois, USA.
Provincial

2016 Sep 19-22 Invited Speaker. Généralités, concepts de base en ventilation et physiologie; From physiology to clinical application with Thiel cadavers, Live simulation via videoconference from UQTR; Mécanique respiratoire et recrutabilité; SDRA: Quelle définition et données épidémiologiques? VCV vs. PCV: simulation interactive; Sevrage de la ventilation artificielle : Définition et données épidémiologiques; Ventilation non invasive : Indications et résultats. Diplome International en Ventilation Artificelle (DIVA). À l’auditorium de L’Hôpital St-François d’Assise, 10, rue de l’Espinay, Montreal, Quebec, Canada.

National

2016 Oct 31 Invited Speaker. Pips to Set PEEP - The (French) Canadian Perspective; Proportional modes. What for?; Do we have solutions to combine spontaneous and mechanical breaths?

Moderator. ARDS -Basics with N. Adhikari; Weaning Part II with L. Chen.

Critical Care Canada Forum. Toronto, Ontario, Canada.


2016 Jun 27-29 Invited Speaker. Physiological Principles: Equation of motion: pressures, volumes and flow; Ventilator waveforms and patient-ventilator synchrony; Interactive session on simulator: Respiratory mechanics during volume and pressure ventilation; Modes of Ventilation: Determinants of inspiratory effort under mechanical ventilation; Proportional assist ventilation; Testing the ability to be separated from mechanical ventilaton; Non-invasive ventilation technique and inidcations (including high flow); Humidification, aerosols; Hands-on Workshops - Monitoring - Patient ventilator synchrony; Diseases, Syndromes and Clinical Recommendations: ARSD: from stiff lungs to baby lung, stress and strain; Workshops: Challenging cases - Interactive case presentation:COPD. Mechanical Ventilation Course with Critical Care Canada Forum (CCCF). Toronto, Ontario, Canada.

Local

2016 Nov 8  **Invited Speaker.** ARDS and Complications from Mechanical Ventilation. SMH Critical Care Rounds. Toronto, Ontario, Canada.


2016 Apr 27  **Invited Speaker.** COPD/NIPPV. SMH Critical Care Rounds. Toronto, Ontario, Canada.

2016 Jan 27  **Invited Speaker.** COPD/NIPPV. SMH Critical Care Rounds. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


**Presentations and Special Lectures**

**International**

**Abstracts**


Citizen’s Views Regarding Important Outcomes and Treatment Options During Weaning From Mechanical Ventilation. AJRCCM D103:A7601. Poster 710. Presenter(s): Karottaiyamvelil JS, Burns KE, Aguirre VA, Gomes J, Mehta S, Rizvi L.

American Thoracic Society (ATS). San Francisco, California, USA.


Provincial

Abstracts

2016 Apr 16 Weaning Elderly Critically Ill Adults from Invasive Mechanical Ventilation: A Tale of Two Pilot Randomized Controlled Trials. Presenter(s): Burns KE. Canadian Geriatric Society Meeting. Vancouver, British Columbia, Canada.

27 Jan 2016 The WE Succeed Trial; The International Observational Study of Mechanical Ventilation Discontinuation Practices and the RELEASE and SENIOR Trials. Presenter(s): Burns KE. CCCTG Meeting. Lake Louise, Alberta, Canada.

National


Abstracts


Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


2014 Jul-2019 Jun Principal Investigator. Molecular Mechanism(s) of Protection from Acute Lung Injury. Canadian Institutes of Health Research (CIHR). 900,000 CAD. [Grants]


2013 Jan-2018 Jun **Principal Investigator.** Mechanisms of protection and informed target discovery for gene and stem cell therapy in sepsis. Canadian Institutes of Health Research (CIHR). 130331. 750,000 CAD. [Grants]

2012 Mar-2017 Apr **Principal Investigator.** New Investigator Award: Informed discovery of novel targets for therapy. Canadian Institutes of Health Research (CIHR). 562,000 CAD. [Grants]

**Presentations and Special Lectures**

**International**

2016 May 18 **Invited Speaker.** Is all Organ Failure Created Equal? American Thoracic Society Meeting. San Francisco, California, USA.


**Abstracts**

2016 May Burden Of Comorbid Illness Is Associated With 1-Year Survival But Not Early Disability After Critical Illness: Results From The RECOVER Program. 


Mechanisms of chronic muscle wasting and dysfunction after an intensive care unit stay: a pilot study. Presenter(s): dos Santos C.

American Thoracic Society. San Francisco, California, USA.

National


Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed

Journal Articles


Abstracts


Peer-Reviewed Grants

Funded


**Presentations and Special Lectures**

**Provincial**

2016 Feb 29  **Invited Speaker.** Mortality Outcomes in Critical Care Trials”, International Federation of Acute Care Trialists (InFACT)/ISARIC Colloquium on Building Global Clinical Research Collaboration-Outcome Measures. Whistler, British Columbia, Canada.

**National**

2016 Nov 1  **Invited Speaker.** Continuous vs intermittent dosing of antibiotics in critically-ill patients.

**Moderator.** Critical Care Nephrology.

Critical Care Canada Forum, Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Presentations and Special Lectures

International

2016 Jun 14-15  Invited Speaker. Critical care triage for scarce resources in a disaster; Resuscitative hysterotomy; DNR should be the default – Debate. Presenter(s): with Psirides A. SMACC. Dublin, Ireland.


Abstracts


Oral Presentations

2016 Oct 13  Socking it to sepsis. UK Sepsis Trust. Presenter(s): McGowan M, Guiyab M, Barratt L, Smith O, Gray SH. (won top oral presentation prize)

Posters


2016 Arp 20  Ten patients, one ventilator: How to best allocate critical care resources during mass disaster. Presenter(s): Acton C, McGowan M, Ziegler C, Gray SH. ICEM. Cape Town, South Africa.
Provincial

2016 Feb 21-23 Invited Speaker. Critical Care cases; Plenary on ACLS update. U of T EM Conference. Whistler, British Columbia, Canada.

Oral Presentations


Posters

2016 Jun 4 Ten patients, one ventilator: How to best allocate critical care resources during mass disaster. Presenter(s): Acton C, McGowan M, Ziegler C, Gray SH. Canadian Association of Emergency Physicians (CAEP). Quebec City, Quebec, Canada.

National


2016 Jul Invited Speaker. ACEP Frontline Podcasts on Resuscitative Hysterotomy and Disaster Planning. Toronto, Ontario, Canada.

2016 May 3-5 Invited Speaker. Critical Care cases workshop; Sepsis plenary. EMU. North York General Hospital. Toronto, Ontario, Canada.

2016 Feb 19 Invited Speaker. PMCD; Ventilators; Disaster triage. UWO Emergency Medicine, Visiting Professor. London, Ontario, Canada.

2016 Feb Invited Speaker. Emcrit.org podcast on Optimizing Critical Care in your ED. Toronto, Ontario, Canada.
2016 Jan 5  **Invited Speaker.** Critical Care cases. U of T EM City-wide Grand Rounds. Toronto, Ontario, Canada.

**Local**

2016 Sep 16  **Invited Speaker.** SMH ICU Grand Rounds on Sepsis. St. Michael's Hospital. Toronto, Ontario, Canada.


**Honours and Awards**

2016 May 19  Nominated for Outstanding Clinical Teacher of the Year award in Emergency Medicine. St Michael's Hospital.
Dr. David Hall, St. Michael's Hospital

Peer-Reviewed Publications

Book Chapters


Non-Peer Reviewed Grants

Funded


Presentations and Special Lectures

International

Abstracts

National

2016 Feb 27 Co-Chair and Speaker. COPD: Moving From Definitions to Phenotype-Driven Management. Lung 2016. Toronto, Ontario, Canada.

Honours and Awards

2016 Jun Outstanding Teacher for Critical Care Medicine. Dept of Critical Care Medicine, Faculty of Medicine, St. Michael’s Hospital.
Peer-Reviewed Grants

Funded

2012 Oct–present  **Principal Investigator.** SEARCHED: Sepsis Early Antibiotics and Resuscitation to Control Infected Patients in the Emergency Department. AHSC Alternate Funding Plan Innovation Fund – MOHLTC. $82,455.00 CAD. [Grants]

Honours and Awards

2016  Recipient of the William Goldie Prize and Travel Award in Quality and Innovation
Peer-Reviewed Publications

Journal Articles

1. Douglas M. Campbel, Laya Poost-Foroosh, Katerina Pavenski, Maya Contreras, Fahad Alam, Jason Lee, Houston P. Simulation as a toolkit – understanding the perils of blood transfusion in a complex health care environment. Advances in Simulation (2016) 1:32. **Senior Responsible Author.**

Presentations and Special Lectures

Provincial

Oral Presentation

2016 Apr  Use of Simulation to Detect Errors in Perioperative Blood Transfusion Administration. Presenter(s): Houston P, Campbell D, Poost L, Contreras M, Khodadoust N, Pavenski K. Canadian Conference on Medical Education. Montreal, Quebec, Canada.

Posters


Honours and Awards

2016 Jun  Student Experience Award. St. Michael’s Hospital (Distinction)
Peer-Reviewed Publications

Journal Articles

Peer-Reviewed Publications

Journal Articles


Book Chapters


Peer-Reviewed Grants

Funded

2014 Oct-2017 Sep **Co-Investigator.** Health Research Board. Enhancing the antimicrobial efficacy of mesenchymal stem cells (MSCs) for eliminating sepsis induced acute lung injury (ALI) using a novel combination of immune-stimulants. PI: Rowan N. 288,000 €. [Grants]

2014 Oct-2017 Sep **Co-Investigator.** Health Research Board. STandaRd Issue TrAnSfusion versuS Fresher red blood cell Use in intenSive carE (TRANSFUSE) – a randomised controlled trial. PI: Nichol A. 750,000 €. [Grants]

Presentations and Special Lectures

International

2016 Oct 4-5 **Invited Speaker.** Effect of postoperative high-flow nasal cannula vs. conventional oxygen therapy on hypoxemia in patients after major abdominal surgery: A randomized clinical trial; What can I learn from lung injury models; LUNG SAFE: Regional variations and factors contributing to patient outcome from ARDS; Acute hypoxaemic respiratory failure: different from ARDS; Oxygenation targets in ARDS patients. European Society of Intensive Care Medicine. Annual Conference, Milan, Italy.

2016 Sept 8-9 **Invited Speaker.** Acute hypoxemic respiratory failure – Epidemiology update; Challenging clinical cases. International Conference in Anesthesia and Critical Care, Cong, County Mayo, Ireland.

2016 Sept 6 **Invited Speaker.** Therapeutic efficacy of human mesenchymal cells (MSCs) in the repair of ARDS and VILI; Mesenchymal cells (MSCs) for ARDS – translational challenges. European Respiratory Society. Annual Conference, London, England, UK.

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<tr>
<th>Date</th>
<th>Event</th>
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<td>2016 May 26</td>
<td><strong>Invited Speaker.</strong> ARDS and acute hypoxic respiratory failure – is</td>
<td>there a difference; ARDS and acute hypoxic respiratory failure in the real world – what have we learned. SMART Annual Meeting, Milan,</td>
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<td>Italy.</td>
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<td>2016 Apr 29</td>
<td><strong>Invited Speaker.</strong> Severe chest trauma. European Society. Annual</td>
<td>Regional Conference, Porto, Portugal.</td>
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<td>2016 Feb 23</td>
<td><strong>Invited Speaker.</strong> Epidemiology, Epidemiology, patterns of care, and</td>
<td>mortality for patients with acute respiratory distress syndrome in intensive care units in 50 countries. Society of Critical Care Medicine.</td>
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<td>Annual Conference, Orlando, Florida, USA.</td>
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<tr>
<td>2016 Oct 30-31</td>
<td><strong>Invited Speaker.</strong> Stem cells for ARDS; Lessons from LUNG SAFE.</td>
<td>Canadian Critical Care Forum. Toronto, Ontario, Canada.</td>
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<tr>
<td>2016 Apr 8</td>
<td><strong>Invited Speaker.</strong> Epidemiology, Epidemiology, patterns of care, and</td>
<td>mortality for patients. St. Michael’s Hospital. Critical Care Grand Rounds. Toronto, Ontario, Canada.</td>
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<tr>
<td>2016 Apr 1</td>
<td><strong>Invited Speaker.</strong> Epidemiology, Epidemiology, patterns of care, and</td>
<td>mortality for patients. St. Michael’s Hospital. Critical Care Grand Rounds. Toronto, Ontario, Canada.</td>
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Peer-Reviewed Publications

Journal Articles


Manuals


Presentations and Special Lectures

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Abstract

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Peer-Reviewed Publications

Journal Articles


**Peer-Reviewed Grants**

**Funded**


2015 Nov-2017 Jul **Principal Investigator.** Canada Foundation for Innovation - John R. Evans Leadership Fund (JELF) & Ontario Research Fund - Small Infrastructure Grant (JELF-ORF). Purchased a TIRF microscope that is dedicated to the work in this proposal. Co-applicant(s) : Kapus A, Szaszik. Canada Foundation for Innovation (CFI). 1,000,000 CAD. [Grants]

2015 Apr-2020 Mar **Principal Investigator.** NSERC Discovery Grant - Molecular characterization of albumin transcytosis by different tissue beds. Natural Sciences and Engineering Research Council of Canada (NSERC). 150,000 CAD. [Discovery Grant]

2013 Jul-2018 Jun **Principal Investigator.** Influenza and acute lung injury: priming, platelets and permeability. Canadian Institutes of Health Research (CIHR). 487,130 CAD. [Operating Grant]

2011 Jan-2016 Jan  **Principal Investigator.** Leaky blood vessels - new insights into how influenza causes death. Ministry of Research and Innovation (MRI) (Ontario). Early Researcher Award. 150,000 CAD. [Grants]

**Presentations and Special Lectures**

**International**

**2016**  **Invited Speaker.** Integrity of the lung endothelium determines mortality in mouse models of severe influenza. Faseb Scientific Research Conference. Saxtons River, USA.

**Posters**

2016  Flow promotes insulin uptake and transcytosis in microvascular endothelial cells independently of nitric oxide – potential role of the actin cytoskeleton. (Student, Guan L). Experimental Biology, San Diego, USA.

**Provincial**

**2016**  **Invited Speaker.** LDL transcytosis by SR-BI is regulated distinctly from reverse cholesterol transport. Canadian Lipoprotein Conference. St. John’s, Newfoundland and Labrador, Canada.

**National**


**2016**  **Invited Speaker.** The Tie2-agonist Vasculotide rescues mice from lethal influenza infection. Latner Thoracic Surgery Research Lab Seminar. Toronto, Ontario, Canada.

**2016**  **Invited Speaker.** Plugging a hole as a novel therapeutic strategy – the contribution of leaky blood vessels to death. CALAS Symposium. Toronto, Ontario, Canada.

**Honours and Awards**

**2016 Oct**  Canada Research Chair (Tier II), Mechanisms of Endothelial Permeability. Government of Canada.
Peer-Reviewed Publications

Journal Articles


Book Chapters


Consensus Development Conference, Journal Articles, Meta-Analysis, Review


Reviews


Peer-Reviewed Grants

Funded


2016 Sep - 2017 Jun **Principal Applicant.** Regulation of Neutrophil Inflammatory Function by Casase-8 Phosphorylation. Canadian Institutes of Health Research. Collaborator(s): Juss J. 676,584 CAD. [Grants]

2016 Sep - 2019 Jun **Co-Investigator.** PROSPECT: Probiotics to Prevent Severe Pneumonia and Endotracheal Colonization Trial. Canadian Institutes of Health Research (CIHR). Project Grant. PI: Johnstone J. 1,272,893 CAD. [Clinical Trials]


2016 Jul - 2018 Jun **Co-Investigator.** Temperature, Heart and Respiratory Rate Investigation with Variability Evaluation and Serum Biomarkers (THRRIVES) to provide early and specific warning of infection. The Ottawa Hospital Academic Medical Organization. Innovation Fund. PI: Seely A. [Clinical Trials]

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<tr>
<th>Date Range</th>
<th>Role/Title</th>
<th>Project Description</th>
<th>Funding Details</th>
<th>Notes</th>
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<tr>
<td>2015 Apr - 2016 Mar</td>
<td>Principal Investigator</td>
<td>International Forum for Acute Care Trialists. Canadian Institutes of Health Research (CIHR). Institute of Circulatory and Respiratory Health. 40,000 CAD. [Grants]</td>
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</tbody>
</table>
2014 Jul - 2016 Jun  **Co-Investigator.** Temperature, Heart and Respiratory Rate Investigation with Variability Evaluation and Serum Biomarkers (THRRIVES) to provide early and specific warning of infection. The Ottawa Hospital Academic Medical Organization. Innovation Fund. PI: Seely A. [Clinical Trials]

**Presentations and Special Lectures**

**International**

2016 Oct 1-5  **Invited Speaker.** Update on sepsis; Acute pancreatitis; Clinical trials in sepsis: Is big beautiful? Annual Congress, European Society of Intensive Care Medicine. Milan, Lombardia, Italy.

2016 Sep 8  **Invited Speaker.** Pandemic Readiness: The role of global collaboration. First World Sepsis Congress; Online Conference.


2016 Aug 25-28  **Invited Speaker.** Influenza: The role of the ICU. International Society for Influenza and Respiratory Viruses Options IX. Chicago, Illinois, USA.

2016 Jun 11-14  **Invited Speaker.** The Multiple Organ Dysfunction Score: The role of the doctor. Shock Society Annual Meeting. Austin, Texas, USA.

2016 May 12-14  **Invited Speaker.** Sepsis 2016: Are we making progress?; The Multiple Organ Dysfunction Syndrome (MODS) at 40; Acinetobacter infection in the ICU; Why do good trials yield divergent results? 14th Symposium of Medical Emergency and Critical Care 2016. Santiago, Chile.


2016 Apr 7-8  **Invited Speaker.** Failure: The inevitable pathway of sepsis protocols; Deresuscitation: The final stage in sepsis management; CCCTG: What is next in sepsis clinical trials? 13th International Sepsis Forum, Latin American Sepsis Institute. ao Paulo, Brazil.


2016 Feb 5-6  Invited Speaker. Pandemics: How to prepare; Outcome measures for ICU trials; Peritonitis; Investigator-led research: The Canadian Critical Care Trials Group; Basic immunology for the intensivist. Sepsis 2016 - 22nd Annual Conference of the Indian Society of Critical Care Medicine. Agra, India.


National

Peer-Reviewed Publications

Journal Articles


3. Hall R, Beattie S, Grocott HP, **Mazer CD**, Turgeon AF, Denault A, Yang H, Lalu MM, George RB, Sampson S, McDonald H, members of the Canadian Perioperative Anesthesiology Clinical Trials Group (PACT) Steering Committee. Can we create a Canadian Perioperative Anesthesia Clinical Trials Group? We review the first five years and glimpse into the future. Can J Anesth. 2016 Nov; 63:1215-1222. **Coauthor or Collaborator.**


**Peer-Reviewed Grants**

**Funded**

2016-2019 **Co-Principal Investigator.** Transfusion Triggers in Cardiac Surgery New Zealand Trial (TRICS III). Health Research Council of New Zealand. [Grants]

2016 Oct **Co-Investigator.** Accelerating the safe and effective translation of research to STOP-MI (Stem cell Therapy fOr Perioperative Myocardial Infarction). [Grants]
2016 Sep  **Co-Investigator.** Kidney Outcomes in the Transfusion Requirements in Cardiac Surgery – III (TRICS – III) Trial. (Kidney Foundation of Canada - Biomedical Research Grant. [Grants]

2016 Sep  **Co-Investigator.** Randomized trial of a chiropody-led intervention to reduce diabetic foot complications (ENABLE-CHIROPODY). Heart and Stroke Foundation of Canada. [Grants]

2016 Sep  **Co-Principal Investigator.** Anticoagulation strategies for bioprosthetic heart valves - a randomized controlled trial (ACHIEVE). Heart and Stroke Foundation of Canada. [Grants]


2015-2018  **Co-Principal investigator.** Transfusion Triggers in Cardiac Surgery Australia Trial (TRICS III). National Health and Medical Research Council of Australia. [Grants]

2015-2017  **Principal Investigator.** Clinical trials to improve outcomes in patients undergoing cardiovascular surgery. University of Toronto, Department of Anesthesia 2015 Merit Award Research Competition. [Grants]

2014-2019  **Site Principal Investigator.** Left Atrial Appendage Occlusion Study III (LAAOS III). [Grants]

2013-2018  **Principal Investigator.** Transfusion Requirement in Cardiac Surgery III (TRICS III). CIHR. [Grants]

2013-2016  **Co-investigator.** The METS (Measurement of Exercise Tolerance before Surgery) Study: An international multicentre prospective cohort study of cardiopulmonary exercise testing for improving preoperative risk stratification for major non-cardiac surgery. CIHR; Heart and Stroke Foundation of Canada. [Grants]
2013-2015 Principal Investigator. Reducing adverse outcomes in cardiac surgery related to tissue hypoxia. University of Toronto, Department of Anesthesia 2013 Merit Award Research Competition. [Grants]

Non-PeerReviewed Grants

Funded


2016-2018 Co-Investigator. A Randomized, Double-Blind, Placebo Controlled, Phase 2 Study to Evaluate the Efficacy and Safety of QPI-1002 for the Prevention of Acute Kidney Injury in Subjects at High Risk for AKI following Cardiac Surgery (QRK209) Quark Pharmaceuticals Inc. [Grants]


2015-2016 Co-Investigator. LEVO-CTS (A Double-Blind, Randomized, Placebo-Controlled Study of Levosimendan in Patients with Left Ventricular Systolic Dysfunction Undergoing Cardiac Surgery Requiring Cardiopulmonary Bypass) Tenax Therapeutics. [Grants]

2013-2016 Principal Investigator. Efficacy and safety of perioperative infusion of 6% hydroxyethyl starch 130/0.4 in an isotonic electrolyte solution (Volulyte™) vs. 5% HSA as volume replacement therapy during cardiac surgery for adult patients. Fresenius Kabi. [Grants]


Presentations and Special Lectures

International


2016 Aug 28-31 Invited Speaker. New oral anticoagulants (NOACs) monitoring; Anesthetic implications of the new antithrombotic agents. 16th World Congress of Anaesthesiologists. Hong Kong, China.


2016 Apr 2  Invited Speaker. Coagulation and Transfusion: cell salvage” (workshop). Society of Cardiovascular Anesthesiologists annual meeting. San Diego, California, USA.

2016 Apr 5  Invited Speaker. Liberal and conservative transfusion triggers – What do they mean?” Society of Cardiovascular Anesthesiologists annual meeting, San Diego California, USA.
Peer-Reviewed Grants

Funded

Peer-Reviewed Publications

Journal Articles

Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Articles

Journal Articles


Book Chapters


**Journal Issues**


**Peer-Reviewed Grants**

**Funded**

2012 - 2016 **Principal Site Investigator.** Prospective randomized optimal platelet and plasma ratio trial. CIHR and Defense Research and Development Canada. CRR120612. PI: Holcomb J. [Clinical Trials]

2012 - 2016 **Principal Investigator.** Coagulopathy in Trauma: A Comparative Study. Defense Research and Development Canada. W7719-125093/001/TOR. [Contracts]

**Non-Peer Reviewed Grants**

**Funded**


2015 - 2016 **Principal Investigator.** Using rotational thromboelastometry and simplified guidelines to reduce inappropriate transfusion of blood and blood products to trauma patients at St. Michael’s Hospital. St. Michael’s Hospital. AFP Innovation Funds. 29,200 CAD. [Clinical Trials]

**Presentations and Special Lectures**

**International**

2016 Dec 2 **Invited Speaker.** Trauma Coagulopathy: University of Toronto protocol and how to perform damage control resuscitation; Address question #3 on the role of laboratorial tests (including viscoelastic tests) in diagnosing and guiding hemostatic resuscitation. Trauma Coagulopathy Consensus Conference. São Paulo, Brazil.

2016 Jul 14 **Lecturer.** Anything new in blood utilization since 1:1 was proposed; Adrenaline and head injury: any role for beta blockers or alpha-agonists?. Trauma Conference International. Coronado, California, USA.

2016 Apr 28 **Lecturer.** Coagulopathy in trauma, management from pre-hospital to ICU. XVIII Trauma Course and Pre-Congress of the Brazilian Trauma Leagues. State University of Campinas (UNICAMP). Campinas, Brazil.

2016 Apr 26 **Lecturer.** Trauma, bleeding and coagulopathy.1st International Trauma Symposium, XVI Introductory Course of the Trauma League and Emergency Surgery. Faculty of Medicine of Santo Amaro (UNISA). Santo Amaro, São Paulo, Brazil.

2016 Jan 31 **Examiner.** Practice oral exam for senior general surgery residents. Kuwait University, Faculty of Medicine. Kuwait City, Kuwait, Saudi Arabia.

2016 Jan **Lecturer.** Assessment and management of massive bleeding; Blunt hepatic trauma; Management of stab wounds to the anterior abdominal wall; Evidence based telemedicine; Further understanding traumatic brain injury. 14th Annual Kuwait Postgraduate Assembly in Surgery and 3rd Annual Kuwait Surgical Society Meeting. Kuwait City, Kuwait, Saudi Arabia
Abstracts


Provincial Abstracts


National


2016 May 3 session chair and facilitator. Speed dating session - meeting with senior investigators - Trauma and Coagulopathy. Research in Motion (RIM) 2016. Toronto, Ontario, Canada.


Local

Peer-Reviewed Publications

Journal Articles


Presentations and Special Lectures

International


Honours and Awards

2016 Translational Innovation Fund, St-Michael’s Hospital Foundation Award. “Endo-Tracheal Through Flow: Cleaning the Blood with Minimal Risk”

2016 Angel’s Den, 2nd place, “Endo-Tracheal Through Flow: Cleaning the Blood with Minimal Risk. St. Michael’s Hospital
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

**Funded**

2015 - 2022 **Principal Investigator.** Mechanisms and Therapies of ARDS. Co-PI: Zhang H: Canadian Institutes of Health Research - Foundation Scheme. 2,588,884 CAD. [Grants]

2014 - 2019 **Principal Investigator.** CIHR Health Researcher of the Year Prize Grant. Canadian Institutes of Health Research (CIHR). 500,000 CAD. [Grants]


2010 - 2016 **Principal Investigator.** From Bench to Bedside to Curbside. Clinical Research Consortium to Improve Resuscitation Outcomes. Collaborator(s): Morrison LJ, Dorian P: National Institutes of Health, 600,000 CAD. Funding partners: Heart and Stroke Foundation of Canada, 1,500,000 CAD; CIHR 1,000,000 CAD. 3,100,000 CAD. [Grants]

2010 - 2016 **Principal Investigator.** Resuscitation Outcomes Consortium Core Training Grant. Collaborator(s): Morrison LJ, Nathens A, Cheskes S, Dorian P. NIH, 1,009,800 CAD; Heart & Stroke Foundation of Canada, 1,500,000 CAD; Canadian Institutes of Health Research, 1,000,000 CAD; National Institutes of Health and funding partners. 3,509,800 CAD. [Grants]

**Presentations and Special Lectures**

**International**


2016 Oct 13-18 **Invited Speaker.** Mechanical Ventilation: From Velsalius to VILI. SECCM Annual Conference, Chi Mei Medical Center, Tainan, Taiwan.
2016 Sep 20  Invited Speaker. Lung Protective Ventilation: What is it and why is it Important? Department of Medicine Grand Rounds, Northwestern University. Chicago, Illinois, USA.

2016 Sep 16-17  Invited Speaker. ARDS: New insights; Lung protective ventilation: What is it, and why is it important?; History of Mechanical Ventilation. Departamento de Anestesia - Medicina Critica, Bogota, Columbia.

2016 May 25-26  Invited Speaker. PEEP in patients with ARDS (Interactive Twitter Session - PEEP: Challenging the Expert Opinions; Open Issues in ARDS with Dr. V.M. Ranieri; Considering driving pressure instead of tidal volume in ARDS. Simposio Mostra Anestesia Rianimazione e Terapia Intesiva (SMART), Milan, Italy.

2016 Apr 8-9  Invited Speaker. Mechanical ventilation historical perspective; Three papers published in the last two years that might change your practice. 17th International Conference on Mechanical Ventilation, Madrid, Spain.

2016 Mar 15-18  Invited Speaker. High frequency ventilation: What did we do wrong? Mechanical Ventilation in ARDS; Zero tidal volume is what we need - VILI: 40 years on using driving pressure in ventilation settings (pro).

Moderator: Respiratory Basics.

36th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium.

Honours and Awards

2016  Distinguished Lecturer in Respiratory Sciences Award, Canadian Institutes of Health Research (CIHR) Institute of Circulatory and Respiratory Health (ICRHR) and the Canadian Thoracic Society (CTS)
Peer-Reviewed Publications

Journal Articles

2. No abstract available. **Principal Author.**

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2014 - present  Principal Investigator. Simulation Training of Cardiac Arrest Team for In-Patient Cardiac Arrests. Association of Fundraising Professionals (AFP). AFP grant. collaborator(s): ER & Anesthesia Departments, St. Michael's Hospital. 91,000 CAD. [Grants].

2014 - present  Principal Investigator. Optimizing End-tidal CO2 (ETCO2) use for in-hospital cardiac arrests using a novel inter-professional simulation training program and increased ETCO2 availability. Association of Funding Professionals (AFP). Collaborator(s): Hicks C., Chandra D. 146,028 CAD. [Grants].

Honours and Awards

2016  Bob Hyland Teaching Award. General Internal Medicine, Dept of Medicine, Faculty of Medicine, St. Michael's Hospital. (Postgraduate MD, Core Program)
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2016 Jan-2018 Dec  Principal Investigator. Yangcheng Research Chair, Respiratory Medicine, Government of Guangzhou, China. 130,000 CAD. [Grants].

2015 Sep-2016 Aug  Primary Supervisor. 2015 Ontario Graduate Scholarship. University of Toronto, Jung-Eun Ustina Huh. 15,000 CAD. [Grants].


Presentations and Special Lectures

International

2016 Aug 7-12    Invited Speaker. Tissue niches & resident stem cells in adult epithelia Gordon Research Conference. The Hong Kong University of Science and Technology, Hong Kong.


2016 Mar 18-20    Invited Speaker. Sepsis definition and therapy: where we stand and where we are going. 9th Guangdong Society of Critical Care Medicine. Guangzhou, China.
Local


Honours and Awards

2016  Yangcheng Research Chair, Respiratory Medicine, Government of Guangzhou in association with Guangzhou Medical University, China
Peer-Reviewed Publications

Journal Articles


Book Chapters


Editorials


Published Erratum


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International


2016 Apr 7-8  Invited Speaker. RRT: does any aspect of the prescription matter?; Sepsis in dispute - free discussion of ideas; Fighting sepsis in low and middle resource settings; The challenge of measuring sepsis burden. XIII Forum Internacional de Sepse. Sao Paulo, Brazil.

Abstracts


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<tr>
<td><strong>National</strong></td>
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<tr>
<td>2016 Nov 1</td>
<td><strong>Invited Speaker</strong>. Antimicrobial resistance in low- and middle-income countries. Critical Care Canada Forum. Toronto, Ontario, Canada</td>
</tr>
<tr>
<td>2016 Dec 8</td>
<td><strong>Invited Speaker</strong>. Be it resolved that the use of 5% albumin for volume expansion in the intensive care patient is evidence-based: con. University of Toronto Transfusion Medicine Rounds. Toronto, Ontario, Canada.</td>
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<tr>
<td>2016 Dec 7</td>
<td><strong>Invited Speaker</strong>. Recent trials in AKI. University of Toronto Critical Care Nephrology Day. Toronto, Ontario, Canada.</td>
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<td>2016 Jun 14</td>
<td><strong>Invited Lecturer</strong>. Large-scale trials in <em>resource-constrained settings</em>: _a tale of 2 (unfunded) studies. Interdepartmental Division of Critical Care Slutsky Day. Toronto, Ontario, Canada.</td>
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<td><strong>Local</strong></td>
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<tr>
<td>2016 Jan 20</td>
<td><strong>Invited Speaker</strong>. When should dialysis be started for patients with acute kidney injury? Sunnybrook Department of Critical Care Medicine Grand Rounds.</td>
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Abstracts

2016 Feb  A Study to Determine the Pharmacological Management of Delirium in the Cardiovascular Intensive Care Unit. Presenter(s): Tsang L, Ng O, Adhikari NK. Canadian Society of Hospital Pharmacists Professional Practice Conference. Toronto, Ontario, Canada.

Honours and Awards

2016 Jun  Interdepartmental Division of Critical Care Humanitarian Award, University of Toronto. (Distinction)
Peer Reviewed Publications

Journal Articles


Editorials


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International

2016 May 17 **Invited Lecturer.** Integrating the Evidence for Effective Rounding in the ICU. American Thoracic Society International Conference. San Francisco, California, USA.
Peer-Reviewed Publication

Journal Articles


Peer Reviewed Grants

Funded


Presentations and Special Lectures

International

Oral Presentation


International Society for Therapeutic Ultrasound Symposium. Tel Aviv, Israel.

Provincial

Poster

National

Peer-Reviewed Publications

Journal Articles

1. Hodgson C, **Cuthbertson BH**. Improving outcomes after critical illness: harder than we thought! Intensive Care Med. 2016 Nov;42(11):1772-1774. **Senior Responsible Author.**


3. McCredie VA, Alali AS, Scales DC, Adhikari NK, Rubenfeld GD, **Cuthbertson BH**, Nathens AB. Effect of Early Versus Late Tracheostomy or Prolonged Intubation in Critically Ill Patients with Acute Brain Injury: A Systematic Review and Meta-Analysis. McCredie Neurocrit Care. 2016 Sep 6. **Coauthor or Collaborator.**


Journal Articles, Multicenter Study


Journal Articles, Multicenter Study, Randomized Controlled Trial


Non-Peer Reviewed Publications

Editorials

Peer-Reviewed Grants

Funded


2013 Jul-2016 Jun **Principal Investigator.** The METS (Measurement of Exercise Tolerance before Surgery) Study: An International Multicentre Prospective Cohort Study of Cardiopulmonary Exercise Testing For Improving Preoperative Risk Stratification for Major Non-Cardiac Surgery. Heart and Stroke Foundation of Ontario (The) (HSFO). Grant in Aid. 144,000 CAD. [Grants]

Presentations and Special Lectures

International

2016 Jun 23  Invited Lecturer. SUDDICU: finding UK funding for an international “mega” trial.

Chair. Research Proposals.

UKCCTF Newcastle. United Kingdom.


National


Invited Speaker. Resuscitation in Motion (RiM) 2016: Igniting Canadian and international synergies for future impact in resuscitation science. Speed Dating Session - Brian Cuthbertson / Steve Brooks - How To negotiate an MD Scientist Position.

St. Michael's Hospital. Toronto, Ontario, Canada.
Peer Reviewed Grants

Funded

2014 Mar-present  **Co-Investigator.** Therapeutic Alliance in the ICU: Enhanced Information to Facilitate Decision-Making. AFP Sunnybrook Health Sciences Centre. PI: Amaral AC. 99,000 CAD. [Grants]

2011 Mar-present  **Principal Investigator.** Is a Multimedia-Based Teaching Tool as Effective As Bedside Teaching? Proposal for a Validation Study. Education Development Fund, University of Toronto. Educational Development Fund Grant. Collaborator(s): Chow CM, Bandiera G. 4,993 CAD. [Grants]

2010 Nov-present  **Principal Investigator.** Multimedia Teaching Tools: A Video Series on Splinting Techniques. Sunnybrook Health Sciences Centre. ACMS Fund. PI: Stefan A. 10,000 CAD. [Grants]


Presentations and Special Lectures

Provincial


National

2016 Mar  
**Invited Speaker.** Making Learning Stick. Students As Teachers, University of Toronto Faculty of Medicine. Toronto, Ontario, Canada.

2016 Jan  
**Invited Speaker.** Great Expectations: Setting Objectives and Identifying Learner Needs. Toronto East General Hospital, Department of Continuing Medical Education. Toronto, Ontario, Canada.

Local

2016 Mar  
**Invited Speaker.** Everybody Hurts: The Epidemic of Burnout in the Intensive Care Unit. Department of Critical Care Medicine, Grand Rounds, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journals


Non-Peer Reviewed

Journal Articles


Book Chapters


Letters


Peer-Reviewed Grants

Funded


**Presentations and Special Lectures**

**International**


2016 Jun 1-3 **Invited Speaker.** How to avoid pitfalls when performing clinical studies; How can I manage my ICU patient differently to improve outcomes; Physical Sequelae after critical illness. The 2nd Scandinavian Intensivist Meeting. Helsinki, Finland.

30 Mar 2016 **Invited Speaker.** Care at the End of Life: Global Differences, Shared Challenges; Caring for Patients During Outbreaks. King Faisal Specialist Hospital. Jeddah, Saudi Arabia.

24 Feb 2016 **Invited Speaker.** Ebola Virus Disease: what have learned. Society of Critical Care Medicine. Orlando, Florida, USA.


**Abstracts**


Provincial


Abstracts

National


2016 Sep 9 Invited Speaker. Lessons to be Learned from the H1N1 Influenza Pandemic. Virtual World Sepsis Congress. Toronto, Ontario, Canada.


Abstracts


Local


Honours and Awards

2016 Order of Ontario (OOnt), Lieutenant Governor of Ontario
Peer-Reviewed Publications

Editorials


Peer Reviewed Grants

Funded


Presentations and Special Lectures

International

Oral Presentation


National

Local

Peer-Reviewed Publications

Journal Articles


Book Chapters

Presentations and Special Lectures

National

2016 Sep 10  **Invited Speaker.** Challenges and controversies in trauma and acute care surgery. Canadian Surgical Forum. Toronto, Ontario, Canada.


Local

2016 Nov 21  **Invited Speaker.** Too much, too little, too early, too late: the challenges of fluid resuscitation in the week following trauma. Trauma Clinical Update. Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Editorials

Letters to Editor


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

Provincial

2016  **Invited Speaker.** Organization, Monitoring and Treatment Thresholds for Acutely Brain Injury Patients within Canada Canadian Critical Care Trials Group, Lake Louise, Canada.

National

2016  **Moderator.** NeuroCritical Care – Prognosis & Outcomes; Critical Care Residents Day. Presenter(s): with Baker AJ.  
**Invited Speaker.** Precision Medicine in Neurocritical Care: Should We Individualize Care? Critical Care Canada Forum. Toronto, Ontario, Canada.

Abstracts


Institute of Health Policy, Management and Evaluation Annual Research Day, University of Toronto. Toronto, Ontario, Canada.

Honours and Awards

2016  Canadian Critical Care Trials Group Young Investigator Retreat award. Training workshop for a small group of junior investigators selected in a competitive process from the CCCTG membership. ($5,000 per year)

2016  Gillian Hawker Best PhD Poster Student Award, Clinical Epidemiology & Health Care Research, Institute of Health Policy, Management and Evaluation Annual Research Day, University of Toronto. ($200)
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


2015 Mar-2016 Aug  **Principal Investigator.** Effects of level of trainee autonomy during acute care episodes on learning of technical and non-technical skills to prevent harm. Co-investigators: Brydges R, Lee C, Goffi A, Amaral AC, Ringsted C. Sunnybrook Education Advisory Council (SEAC) and Education Research Unit (ERU) Education Research and Scholarship Grant. 10,000 CAD. [Grants]


**Presentations and Special Lectures**

**National**


2016 Sept 22  **Invited Speaker.** Competency-Based Medical Education. University of Toronto Medical Education Seminar. SickKids Hospital. Toronto, Ontario, Canada.

Local

2016 Jun 22  Invited Speaker. Medical Education Beyond Certification. Grand Rounds, Department of Critical Care Medicine, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

Peer-Reviewed Publications

Journal Articles


**Abstracts**


**Papers**

1. Rose L, Adhikari NKJ, Leasa D, Fergusson DA, McKim D. Cough augmentation techniques for extubation and weaning of critically ill patients. Accepted by Cochrane Database of Systematic Reviews. 2016 Dec 1. **Principal Author.**


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International

2016 Dec 5-7 Invited Speaker. Collaborate to mobilise: who does what?; Transition from paediatric to adult healthcare services - the technology-dependent adolescent. UK Intensive Care Society State of the Art meeting. London, United Kingdom.

Oral Poster


2016 Oct 1-5 Presenter. Cough augmentation techniques for extubation and weaning critically ill patients from mechanical ventilation. Presenter(s): Adhikari NK, Leasa D, Fergusson D, McKim D.


European Society of Intensive Care Medicine. Milan, Italy.
Posters


Presenter. Patterns of home ventilator assistance in the province of Alberta, Canada: A retrospective population-based cohort study.

American Thoracic Society Annual Congress. San Francisco, California, USA.

National


Posters

2016 Jun 4-8 Presenter. Management of mechanical ventilation and weaning in European PICUs: VESPER Survey. 8th World Congress on Paediatric Intensive and Critical Care. Presenter(s): Tume L, Kneijber M. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Journal Articles


Editorials


Peer-Reviewed Grants

Funded


Non-Peer Reviewed Grants

Funded

Presentations and Special Lectures

International


2016 May 18    Co-Chair. Critical Care: Reducing Variation in Usual Care. Presenter(s): with H.B. Gershengorn, MD, Bronx, NY; A.J. Walkey, MD, MSc, Boston, MA. Mini Symposium.

Chair. CON: Patient and Family Satisfaction is a Key Quality Metric in Critical Care. Scientific Symposium, The Patient-Centered Juggernaut: The right move for clinical care, policy, and research?.

American Thoracic Society. San Francisco, California, USA.

2016 Apr 6-7  Invited Speaker. Evidence-Based Practice in the ICU; Web-based Ventilator Management Tested via Cluster RCT NHLBI. Implementation Science in Critical Care Workshop. Bethesda, Maryland, USA.

2016 Mar 31-Apr 1  Visiting Professor. Why We Agree on the Evidence but Disagree on the Medicine; Pulmonary Disease & Critical Care Medicine Grand Rounds Lecture - (The Intensivist Workforce “Crisis”: Too Few Doctors or too Many ICU Beds?). UVM Medical Center Medicine Grand Rounds - Tisdale Lecture Series. Burlington, Vermont, USA.

2016 Mar 12-16  Invited Speaker. Big data or big hype? - How big the trial?; Can the physician decide alone? - End-of-life issues; Is Berlin the final word? G Rubenfeld - 50 shades of ARDS; The big picture: There is no unique post-ICU syndrome - Long-term outcomes; How can we build a rehabilitation trial that will be positive?; Round Table Conference - Recovery after Critical Illness: Putting the Puzzle Together.


2016 Jan 10  Visiting Professor. ARDs: Where are We Now; Where Do We Go from Here?; Too Few Intensivists or Too Much Intensive Care?: The Workforce “Crisis”.University of Washington - Seattle Conference. Seattle, Washington, USA.
Abstracts


Adoption and De-Adoption of Adjuvant Treatments for Acute Respiratory Failure. Presenter(s): with Munshi L. (Trainee Presentation).

READS - Randomized Educational ARDS Diagnosis Study: A LUNGSAFE Sub-Study. Presenter(s): with Goddard S. (Trainee Presentation).

American Thoracic Society. San Francisco, California, USA.

National


2016 Oct 19  Invited Lecturer. If you have a hammer you can find some really interesting nails: clinical epidemiology as a gateway to a research career. Clinical Epidemiology Synthesis Sessions 2016. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Book Chapters


Editorials


Peer-Reviewed Grants

Funded


2016 Sep-2017 Aug  **Co-Investigator.** Effectiveness of intermittent electrical stimulation in preventing the formation of pressure ulcers in acute care facilities. CIHR. Project Grant. PI: Mushahwar V, Emmons K. Collaborator(s): Dukelow S, Ferguson N, McCabe C, Tsuyuki R, Zygun D. 100,000. [Grants]


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<th>Date Range</th>
<th>Role</th>
<th>Project Description</th>
<th>Grant Information</th>
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**Presentations and Special Lectures**

**International**

2016 Apr 6  **Invited Speaker.** Implementation Science in Critical Care Workshop. National Heart, Lung, and Blood Institute (NHLBI) -NIH. Bethesda, Maryland, USA.

**Provincial**

2016 Jan  **Presenter.** The Neuro_ETT study protocol. Canadian Critical Care Trials Group (CCCTG). Lake Louise, Alberta, Canada.

**National**

2016 Nov 2  **Invited Speaker.** Cardia Arrest and Organ Donation - Neuroprognostication after Resuscitated Cardiac Arrest.

  **Moderator.** Resuscitation. Co-Moderator: McIntyre L.

  Critical Care Canada Forum. Toronto, Ontario, Canada.

2016 Nov 1  **Invited Speaker.** Plenary RCT - The ICE-PACs Trial. Critical Care Canada Forum. Toronto, Ontario, Canada.


2016 Jun 9  **Invited Lecturer.** Should ECLS replace CPR? Pro: In-hospital Code Blue protocols should include ECLS; Con: We need more data before adding ECLS to crash carts. Critical Challenges Conference 2016. Toronto, Ontario, Canada. Co-Presenter(s): Adhikari N.

2016 May 2  **Facilitator.** Human umbilical cord mesenchymal stem/stromal cells....patients with severe sepsis. Presenter(s): Grace Hogan. “Provocateur”. Provide critical feedback to trainees on their new, never presented research.

**Facilitator.** Cost effectiveness of cardiac arrest management. Presenter(s): Guillaume Geri. 'Provocateur'. Provide critical feedback to trainees on new, never presented research. (Trainee Presentation).

**Chair.** Resuscitation in Motion (RiM2016), Scientific Sessions # 3 (Bedside Research).

University of Toronto, Resuscitation in Motion (RiM2016). Toronto, Ontario, Canada.

2016 Apr 21  **Keynote Speaker.** Life after Death: Improving Outcomes After Cardiac Arrest.

**Invited Speaker.** Moving Sepsis Therapy Upstream.

Queens University, Department of Emergency Medicine Research Day. Kingston, Ontario, Canada.

2016 Apr 21  **Invited Speaker.** Update on Cooling and Other Post-Cardiac Arrest Treatments. Southlake Interprofessionnal Care Rounds. Toronto, Ontario, Canada.

2016 Apr 14  **Invited Speaker.** Lessons Learned From Quality Imporvement Research. University of Toronto Critical Care Medicine Academic Half Day. Toronto, Ontario, Canada.
2016 Jan 15  Invited Speaker. What to Do When Critical Illness is First Seen by Paramedics? Toronto Paramedics. Toronto, Ontario, Canada.

Local


Honours and Awards

2015 Jul-2018 Jun  Merit Award. Barriers to Early Rehabilitation in Mechanically Ventilated Patients. (Research Award)
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Book Chapters

Peer-Reviewed Grants

Funded


Presentations and Special Lectures

Provincial

Abstracts


Palliative Care International Congress. Montreal, Quebec, Canada.
Peer-Reviewed Grants

2013-present  **Primary Investigator.** Retrospective burden of illness analysis of massively transfused trauma patients. Novo Nordisk Canada. Manuscript.$20,000.00 CDN. [Grants]

2013-present  **Co-Investigator.** Pharmacoeconomic analysis of burden of illness of massively transfused trauma patients. Manuscript.$40,000.00 CDN. [Grants]
Peer-Reviewed Publications

Letters

1. **Tillmann B**, Takematsu M, Lugassy D Letter to the editor: Acetylcysteine for acetaminophen overdose in patients who weigh > 100Kg. American Journal of Therapeutics. 2016 Jan-Feb; 23(1): e244-5. **Principal Author.**
Peer-Reviewed Grants

Funded

2014 Apr-present  Co-Investigator. The impact of an institutional multidisciplinary tracheostomy team on patient care and clinical outcomes: An observational before and after cohort study. Sunnybrook General Surgery AEF Grant. AEF Grant. PI: Chu P; Chapman M. Collaborator(s): Tien H. 9,750 CAD. [Grants]


Presentations and Special Lectures

Local

2016 Feb 25-27  Invited Speaker. ATLS Intro, Initial Assessment, Airway & Ventilation, Shock, Thoracic Trauma, Abdominal Trauma; ATLS Thoracic Xrays and assessment; ATLS Transfer to Definitive Care, Triage and Assessment. Faculty of Medicine, Dept of Surgery, General Surgery. Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

Honours and Awards

2016 Jun  Award for Individual Teaching Excellence. Sunnybrook Health Sciences Centre.
Peer-Reviewed Publications

Journal Articles


Editorials, Letters, and Review Chapters


Book Chapters

1. Vail E, Gershengorn HB, Wunsch H. Have the Outcomes in the Critically Ill Improved? In: Evidence-Based Practice of Critical Care, Deutschmann (Ed). Elsevier Inc. Senior Responsible Author. [in press]


**Peer-Reviewed Grants**

**Funded**

2016-2018 **Principal Investigator**. Opioid use after critical illness. CIHR. 183,480 CAD. [Grants]

2015-2017 **Co-Investigator**. Changes in Work and Earnings After Heart Attack, Stroke and Cardiac Arrest. Heart & Stroke. 245,000 CAD. [Operating Grants]

2015-2020 **Mentor**. Determinants of Critical Care Intensity for Hospitalized Older Adults: the Effect of Hospital-based Palliative Care Services NIH/NIA. 862,510 CAD. [Beeson Award]

2014-2017 **Principal Investigator**. Identifying Risk Factors for and Outcomes following Rehospitalizations for Elderly Critically Ill Patients. CIHR. 189,225 CAD [Operating Grants]

**Presentations and Special Lectures**

**International**

2016 May **Invited Speaker**. Trials you should be aware of Society of Critical Care Anesthesiologists. Canadian Critical Care Trials Group Annual Meeting. San Francisco, California, USA.

2016 Mar **Invited Speaker**. Dementia after Critical Illness; Pros and Cons of Intermediate Care; ICU Care in Over-Resourced Settings. International Society of Intensive Care & Emergency Medicine Annual Meeting. Brussels, Belgium


2016 Feb  **Invited Speaker.** Lost in Translation: The Evidence in Support of Follow-up Clinics; How Should a Region Design Critical Care? SCCM. Orlando, Florida, USA.

2016 Feb  **Invited Speaker.** Triaging Surgical Patients for the ICU. Grand Rounds, Department of Anesthesiology, Johns Hopkins University. Baltimore, Maryland, USA.

**Provincial**

2016 May  **Invited Speaker.** Triaging Patient for Intensive Care. University of Manitoba, Department of Critical Care Medicine Research Seminar. Winnipeg, Manitoba, Canada.

**Local**


**Honours and Awards**

2016  Presidential Scholars Award, American Society of Anesthesiology
Peer-Reviewed Publications

Journal Articles


Book Chapters


Letters to Editor

1. **Del Sorbo L**, Fan E, Nava S, Ranieri VM. ECCO2R in COPD exacerbation only for the right patients and with the right strategy. Intensive Care Med. 2016 Sep 1. Epub ahead of print. **Principal Author**.

Non-Peer Reviewed Publications


Non-Peer Reviewed Grants

Funded

2016 **Co-Investigator**. Start-AKI: Standard vs. Accelerated Initiation of RRT in Acute Kidney Injury. NCT02568722. [Clinical Trials]

2016 **Co-Investigator**. A simple approach to estimate alveolar recruitability in patients with acute respiratory distress syndrome: a validation study. NCT02457741. [Clinical Trials]

2013-2016 **Co-Investigator**. Safety and Efficacy of Polymyxin B Hemoperfusion (PMX) for Septic Shock (EUPHRATES). NCT01046669. [Clinical Trials]
Presentations and Special Lectures

International

National


Peer Reviewed Publications

Journal Articles


11. Downar J, Warner M, Sibbald R. Mandate to obtain consent for withholding nonbeneficial cardiopulmonary resuscitation is misguided. CMAJ. 2016 Mar 1;188(4):245-6. **Principal Author.**


Letters to Editor


Commissioned Report from Law Commission of Ontario


Commissioned Review

Non-Peer Reviewed Publications

Letters to Editor


Peer-Reviewed Grants

Funded


2016 Jul-2017 Jun **Principal Investigator**: Creating an ICU-based screening and support system for bereaved family members, and using patient-level feedback to help medical trainees improve their communication skills. Associated Medical Services Inc. (AMS). AMS Phoenix Fellowship. 50,000 CAD. [Research Fellowships]

2016 Apr-2020 Mar  **Co-Investigator.** Development and Evaluation of a Family-Partnered Care Pathway for Critically Ill Older Patients. Canadian Institutes of Health Research (CIHR). Team Grant - Late Life Issues. PI: Heyland D. Collaborator(s): Stelfox HT (PA), Heyland D (PA), Boucher P (KU), O’Neill B (KU), Robertson D (KU), Wickson P (KU), Zygun D (KU), Allatt P (CA), Au S (CA), Berg B(CA), Cohen R(CA), Coyle D (CA), Day A (CA), Ely W (CA), Fiest K (CA), Gramlich L (CA), Grant C (CA), Harries B (CA), Hartwick M (CA), Holroyd-Leduc J (CA), Jenkins J (CA), Kyeremanteng K (CA), Mourtzakis M (CA), Niven D (CA), Oczkowski S (CA), Papathanasoglou E (CA), Parsons Leigh J (CA), Potestio M (CA), Rahman A (CA), Rockwood K (CA). 1,388,754 CAD. [Grants]


Invited Lectures and Presentations

International


Provincial


2016 Nov 11  Invited Speaker. Soins Palliatifs pour les maladies non-cancéreuses; La vie après la mort: le chagrin et deuil compliqué. Symposium Quebecois de soins intensifs. Centre Hospitalier de l'Universite de Sherbrooke Fleurimont. Sherbrooke, Quebec, Canada.


2016 Oct 20-21  Chair. Session on Palliative Care in Noncancer Illness. 21st International Congress on Palliative Care. 21st International Congress on Palliative Care. Montreal, Quebec, Canada.


2016 May 10-11  Visiting Professor. Physician Assisted Death in Canada: Where we are, where we are going; Non beneficial Treatment in the ICU: Finding the Least Worst Option. University of Alberta, Dosseter Centre for Ethics. Edmonton, Alberta, Canada.

2016 May 9  Visiting Professor. Palliative Care in the ICU. Canadian Association of Critical Care Nurses. Edmonton, Alberta, Canada.


**Abstracts**


Towards Skilled Feedback on Challenging Conversations – A Simulation-Based Faculty Workshop. Presenter(s): Roze des Ordons A, **Downar J, Gaudet J, Cheng A.**


21st International Congress on Palliative Care. Montreal, Quebec, Canada.

**Media Appearances**

National

2016 Nov 24  
**Invited Speaker.** Physician-Assisted Death: The first 6 months. Ontario College of Family Physicians Annual Scientific Assembly. Toronto, Ontario, Canada.

2016 Nov 24  
**Invited Speaker.** Palliative and Critical Care. Ontario College of Family Physicians Annual Scientific Assembly 2016. Toronto, Ontario, Canada.

2016 Nov 8  
**Invited Speaker.** Palliative Care Matters Consensus Development Conference - Topic 4C Educational Needs for Physicians. Ontario, Canada.

2016 Nov 7  
**Invited Speaker.** Opioids in Chronic Obstructive Pulmonary Disease. University of Ottawa Division of Respirology. Ottawa, Ontario, Canada.

2016 Oct 31  

2016 Oct 22  
**Invited Speaker.** Physician Assisted Death- the first 6 months. Ontario Long-Term Care Physicians Annual Meeting - 2016. Toronto, Ontario, Canada.

2016 Oct 8  

2016 Sep 17-18  
**Invited Speaker.** Workshop on Physician-Assisted Death. 

**Keynote Speaker.** Physician-Assisted Death: Where we are, where we are going.

Canadian Society of Hospital Medicine. Niagara Falls, Ontario, Canada.

2016 Jun 29  

2016 Jun 15  
2016 Jun 8  **Invited Speaker.** End of Life Planning for Residents with Dementia. 2nd Annual Canadian Conference on Dementia Care. Toronto, Ontario, Canada.


2016 Jun 6  **Presenter.** Medical Aid in Dying: Lessons Learned. Trillium Hospital. Toronto, Ontario, Canada.


2016 May 13  **Invited Speaker.** Identification of Frailty for improved advance care planning and end-of-life care. Canadian Frailty Network. Co-Speaker(s): (s): You J. Presentation of white paper to CFN board and national stakeholders. Toronto, Ontario, Canada.

2016 May 12  **Invited Speaker.** Advance Care Planning and Frailty. Canadian Frailty Network. Presentation for CFN-funded fellows from across the country. Toronto, Ontario, Canada.


**Abstracts**


Hospice Palliative Care Ontario Annual Meeting. Newmarket, Ontario, Canada.

**Media Appearances**


**Local**

2016 Jun 1  **Invited Speaker.** Physician Assisted Death: Where are we, where are we going? Sunnybrook Hospital Medical Grand Rounds. Toronto, Ontario, Canada.

2016 Apr 7  **Invited Speaker.** Physician Assisted Death. Inner City Health Associates (Affiliated with St Michael’s Hospital). Co-Speaker(s): Chidwick P. Toronto, Ontario, Canada.

2016 Mar 7  **Presenter.** Behavioural Sciences and Health Research Rounds: An Automated Trigger Tool for Identifying those at risk of mortality. Department of Psychosocial Oncology, UHN. Toronto, Ontario, Canada.

2016 Feb 5  **Lecturer.** Physician Assisted Death in Canada. UHN Psychiatry Grand Rounds. Toronto, Ontario, Canada.

2016 Jan 6  **Lecturer.** Palliative Care for Noncancer Illness. UHN/MSH Medical Grand Rounds. Toronto, Ontario, Canada.
Honours and Awards

2016 May  

**Health Professional Award**, World Federation of Right to Die Societies. (Distinction)
Peer Reviewed Publications

Journal Articles


Journal Articles, Multicenter Study


Letters to Editor


Reviews


2. Silversides JA, Major E, Ferguson AJ, Mann EE, McAuley DF, Marshall JC, Blackwood B, **Fan E**. Conservative fluid management or deresuscitation for patients with sepsis or acute respiratory distress syndrome following the resuscitation phase of critical illness: a systematic review and meta-analysis. Intensive Care Med. 2016 Oct 12. **Senior Responsible Author**.


Peer-Reviewed Funding

Funded

2017 Jan-2017 Dec **Co-Investigator**. Physical Training for Patients Receiving ECMO to Improve Recovery: An International Pilot RCT. Monash University Strategic Grant Scheme. 45,000 AUD. [Grants].

2015 Jul-2020 Jun **Principal Investigator**. Strategies for Optimal Lung Ventilation in ECMO for ARDS: The SOLVE ARDS Study. Canadian Institutes of Health Research (CIHR). New Investigator Award. 300,000 CAD. [Grants].

2015 Jan-2015 Dec **Principal Investigator.** The Impact of Oxygen and Carbon Dioxide Thresholds on Mortality during ECLS. Extracorporeal Life Support Organization (ELSO). Research Grant. 5,000 USD. [Grants].

2014 Oct-2016 Sep **Co-Investigator.** Frequency and Screening and SBT Technique Trial: The FAST Trial. Canadian Institutes of Health Research (CIHR). Open Operating Grant. 158,000 CAD. [Grants].

**Non-Peer Reviewed Funding**

**Funded**

2016 Jun-2017 May **Co-Principal Investigator.** Nitric Oxide in Right Ventricular Dysfunction: Improvements in Congestion and Hemodynamics on VA ECMO (NOVICE) Study. Mallinckrodt Pharmaceuticals. 46,000 CAD. [Grants].

2015 May-2016 May **Principal Investigator.** The International ECMONet Registry Project. Hearts of ECMO. 15,000 USD. [Donations].

**Invited Lectures and Presentations**

**International**

2016 Sep 16 **Invited Speaker.** Mechanical Ventilation in VV ECMO: How I Do it. 29th Annual ELSO Conference. San Diego, USA.


2016 Apr 27 **Invited Speaker.** Ventilatory Management of ARDS. Universita degli Studi di Padova. Padova, Italy.

Provincial


National


Abstracts


2016 Oct  Electrical impedance tomography (EIT) in adult patients undergoing mechanical ventilation: A systematic review. Presenter(s): Fan E.
Peer-Reviewed Publications

Journal Articles


**Multicenter Study**


Editorials


Reviews


Review & Commentary

Peer-Reviewed Funding

Funded


Invited Lectures and Presentations

International

2016 Dec 12-13  Invited Speaker. ECMO - How it Works; How to set the Ventilator on ECMO; Clinical Trials in ARDS - What Progress Have We Made?; Patient-Ventilator Asynchrony - How to Recognize and How to Fix It; Still a Place for HFO?; Selecting PEEP Based on Physiological Response. Erasme University Hospital. Rome, Italy.

2016 Oct 4-5  Invited Speaker. Preventing Ventilation-Induced Lung Injury; Monitoring the Spontaneously Breathing Patient with Ultrasound; Tracheostomy in the ICU - Timing Matters; How to Manage a Patient with ARDS. European Society of Intensive Care Medicine 29th Annual Congress. Milan, Italy.

2016 Jul 15-16  **Invited Speaker.** How to be a Leader in the Intensive Care Unit; What is the Role for High-Frequency Oscillation in Adults with ARDS?; Using Ultrasound to Monitor Diaphragm Function During Mechanical Ventilation. XIX International Critical Care Medicine Forum. Mexico City, Mexico.


2016 Apr 28  **Invited Speaker.** Definition and Epidemiology of ARDS - Exploring the Berlin Definition; Monitoring and Improving Diaphragm Function During Mechanical Ventilation; The Role of HFOV in Adults with ARDS. 13th Annual Critical Care Symposium. Manchester, United Kingdom.


**National**


Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Non-Peer Reviewed Grants

Funded

2015 Apr-2019 Mar Principal Applicant. Bayer Pulmonary Hypertension Grant. Bayer Canada Inc. Bayer Candada. Collaborator(s): de Perrot M. 1,000,000 CAD. [Industrial Grants].
Invited Lectures and Presentations

International

2016 Nov 13  **Invited Speaker.** Mechanical support for the failing RV. American Heart Association, New Orleans, Louisiana, USA.

2016 Apr 26-27 **Chair.** Inflammation and Altered Metabolism in PH.

**Invited Speaker.** Group III PH. International Society for Heart Lung Transplant International Society for Heart Lung Transplant. Washington, District of Columbia, USA.


Provincial

2016 Sep 23 **Invited Speaker.** Pulmonary Arterial Hypertension. Memorial University MGR, St John’s, Newfoundland and Labrador, Canada.

National


2016 Oct 31-Nov 2 **Invited Speaker.** Medical Error. Missing the elephant in the room; Management of RV failure; Measurement of Extravascular lung water. Canadian Critical Care Forum, Toronto, Ontario, Canada.

2016 May 23-24 **Invited Speaker.** Review of approach to the diagnosis and management of pulmonary hypertension; Pulmonary Arterial Hypertension. Trillium Hospital MGR, Toronto, Ontario, Canada.

2016 May 10 **Invited Speaker.** After the Clot Settles - CTEPH and Post PE Syndrome. Cardiology Research Rounds Sunnybrook Schulich Heart Centre. Toronto, Ontario, Canada.

2016 Jan 23 **Invited Speaker.** Lessons From the Trenches: Introducing Smoking Cessation in Obvious Clinical Settings. Ottawa Heart Institute, Ottawa, Ontario, Canada.
Local

Peer-Reviewed Publications

Journal Articles


**Peer-Reviewed Funding**

**Funded**

- **2015 Jul-2018 Jul** **Principal Investigator.** The RECOVER Program: An International Model of Post-ICU care for patients and caregivers. Department of Medicine Challenge Grant. 200,000 CAD. [Grants]

- **2015 Mar-2016 Feb** **Co-Investigator.** E--CYCLE Pilot:A Pilot Randomized Study of Early Cycle Ergometry versus Routine Physiotherapy in Elderly Mechanically Ventilated Patients. TVN. 99,988 CAD. [Grants]


**Invited Lectures and Presentations**

**International**


2016 Mar **Invited Speaker.** Family Caregivers in Critical Illness; We need risk stratification in critical illness. How should we capture Post-ICU disability?; Mood Disorders in Critical Illness.

**Keynote Speaker.** Report of the Round Table on Recovery after Critical Illness: Putting the Puzzle Together.


**Provincial**

Peer-Reviewed Publications

Journal Articles


Multicenter Study


Invited Lectures and Presentations

International


2016 May 21 Invited Speaker. Heart failure in the perioperative period. International Anaesthesia Research Society. California, USA.

2016 May 20 Chair. 29th Annual Meeting and Critical Care Update. Society of Critical Care Anaesthesiologists. San Francisco, California, USA.

National


2016 Apr 9  Invited Speaker. What’s new in the ICU - translation to the OR. University of Toronto. Toronto Anaesthesia Symposium. Toronto, Ontario, Canada.

Local


Peer-Reviewed Publications

Journal Articles


Letters to Editor

Peer-Reviewed Grants

Funded

2015 Feb-2016 Jan Co-Investigator. Situating education in patient care: exploring how residents navigate learning opportunities for central venous catheter insertion skills. Department of Medicine, Faculty of Medicine, University of Toronto. Department of Medicine Education Research & Scholarship Grant. PI: Brydges R. Collaborator(s): Mylopoulos M, Goffi A. 11,250 CAD. [Grants]

Invited Lectures and Presentations

International

2016 Nov 5 Invited Lecturer. Portland Point of Care Ultrasound Course. Portland, Oregon, USA.


2016 Jul 16-18 Invited Lecturer. Advanced LV assessment hands-on; Diastology hands-on assessment; Clinical Cases; Intravascular Volume Assessment; Subcostal view hands-on session; Vascular Ultrasound hands-on session; Ask the expert hands-on session; Volume assessment session. Advanced Critical Care Ultrasound Course. Society of Critical Care Medicine (SCCM). Chicago, Illinois, United States.

2016 May Invited Lecturer. Introductory Perioperative Point of Care Ultrasound. IARS 2016 Annual Meeting and Internation Science Symposium. San Francisco, California, USA.

2016 Apr 21 Invited Lecturer. Point of Care Ultrasound, - The concept; TTE - Basic views and the eyeballing concept; Ultrasound for the evaluation of the patient in shock; Workshop Case analysis - The patient with dyspnea. Ultrasound for specialists in anesthesiology, emergency medicine, critical care medicine and peri-operative medicine. Anestesiology Service of Clinica Davila Santiago, Chile. Santiago, Chile.
National

2016 Nov 2 **Invited Lecturer.** Lung Ultrasound in ARDS; Role of Ultrasound in Liberation from Mechanical Ventilation.

**Moderator.** Scientific Session on ICU Rehab and Recovery.

Critical Care Canada Forum (CCCF). Toronto, Ontario, Canada.

2016 Jun 13 **Lecturer.** Focused Ultrasound for Neurocritical Care; Focused Cardiac Ultrasound Guidelines - Goals, Limitations & Training; Hypoxemia in the ICU; Moderation of the Afternoon Lecture Series (Preoperative Program); Instructor Focused Transthoracic Echocardiography Workshop. ISURA 2016. International Symposium of Ultrasound for Regional Anesthesia, Pain Medicine & Preoperative Applications. Toronto, Ontario, Canada.

Honours and Awards

2015 Jul-2016 Jun The John Granton Award for outstanding contribution to Critical Care Education, University of Toronto. (Distinction)

2015 Jun-2016 Jul Award for Individual Teaching Excellence - Toronto Western Hospital, Critical Care Medicine, Dept of Medicine, Faculty of Medicine, University of Toronto. (Postgraduate MD)
Peer-Reviewed Fundings


Invited Lectures and Presentation

National Abstracts


21st International Congress on Palliative Care. Montreal, Quebec, Canada.


Peer Reviewed Publications

Journal Articles


Policy


2. Alexander C, Janisse R, **Hawryluck L.** Code Blue policy, UHN 2015-2016. **Senior Responsible Author.**


Educational Videos


2. **Hawryluck L**, Ma P, Lam P. CCRT New Staff training 2 days education program with training modules, materials and standardized colleague and families simulation scenarios. May 2016.

3. Sataryana R, Staynor K, Meredith K, Partridge K, **Hawryluck L**, Staff Survey and Clinical tools development to Improve recognition and initial management of deteriorating patients. 2016-present


5. **Hawryluck L**, Aggrawal P. Communication Skills, Ethics and Law, A 5 day Faculty Development/Train and Trainer course using Simulation/Role play/Case discussions, Institute of Medicine, Tribhuvan University Kathmandu Nepal. Sept 2014-present

6. **Hawryluck L**, Acharya S, DM in Critical Care Medicine, Tribhuvan Teaching Hospital, Institute of Medicine Tribhuvan University, Kathmandu Nepal, 2012-present. (Development of teaching materials, daily teaching on site and weekly via Cisco Webex from Toronto for 3 years Doctorate of Medicine)
Invited Lectures and Presentations

National

2016 Jan 29  
**Invited Speaker.** Consent from Legislation to Practice. St. Michael’s Hospital, Dept of Critical Care. Toronto, Ontario, Canada.

2016 Mar  
**Invited Speaker.** GIM half day: critical incidents, negligence and statements of claim: all you need to know. Toronto, Ontario, Canada.

2016-2017  
**Invited Speaker.** Portfolio course Year3 U of T medical students teaching. Toronto, Ontario, Canada.

Local

2016-present  
**Invited Speaker.** UHN-CCRT at GIM rounds monthly - ICU fellow / resident teaching sessions on ABG, sepsis, EOL care, ARDS /respiratory failure, ethical issues. Toronto, Ontario, Canada.

2016-present  
**Invited Speaker.** UHN-GIM resident teaching ABGS/respiratory failure. Toronto, Ontario, Canada.

2016 July  
**Invited Speaker.** MAiD – understanding legislation and implications for ICU practice: ICU fellows teaching TWH. Toronto, Ontario, Canada.

2016 June  
**Participant.** UHN - Code Orange: mock mass casualty preparedness simulation. Toronto, Ontario, Canada.

2016 May  
**Invited Speaker and Chair.** CCRT New staff Training and Simulation Day 2-day course. Toronto, Ontario, Canada.

2016  
**Invited Speaker.** Consent to Resuscitation Policy: presentations at UHN Clinical Policy Committee, MAC, ICU rounds, GIM resident orientations, PAC, Surgical IP rounds. Toronto, Ontario, Canada.

Honours and Awards

2016  
Peer Reviewed Publications

Journal Articles


6. Rojek A, **Leligdowicz A**, Dunning J, Horby P: Conducting clinical trials during an Ebola epidemic; perspectives from the RAPIDE field team. 2016. **Coauthor or Collaborator**.
Invited Lectures and Presentations

International

Posters

2016 Nov  University of San Francisco, California Pulmonary Research Day. San Francisco, California, USA.

2016 May  American Thoracic Society (ATS) International Conference. San Francisco, California, USA.

Provincial


2016 Jan  Invited Participant. Canadian Critical Care Trials Translational Biology Group Meeting. Lake Louise, Alberta, Canada.

National


Posters

2016 Jun  University of Toronto Infectious Disease Microbiology Annual Research Day

2016 May  University of Toronto Department of Medicine Annual Research Day

Honours and Awards

2016  U of Toronto Department of Medicine research day (best poster presentation)

2015-17  CIHR Banting Postdoctoral Fellowship (ranked 11 out of 228 applications)

2015-17  Clinician Scientist Training Program, Department of Medicine, University of Toronto
Peer-Reviewed Publications

Journal Articles


Invited Lectures and Presentations

Local


Honours and Awards

2016 Research Award. University of Toronto Renal Trainee Research Day
Peer-Reviewed Publications

Journal Articles


Book Chapters

Non-Peer Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International

Abstracts


Posters


National


Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


2014 Jan-2016 Dec  Co-Principal Investigator. COGWell: Cognitive outcomes and wellness in survivors of critical illness. Physicians Services Incorporated Foundation (The) (PSI). Collaborator(s): Rubenfeld G. 139,000 CAD. [Grants]
Invited Lectures and Presentations

International


2016 Jun 9  Invited Speaker. Risk factors for brain injury post-ICU. Vanderbilt University Medical Centre. Nashville, Tennessee, USA.