2017

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

I am happy and proud to present the annual IDCCM report for 2017.

We continue to build our collective vision to offer the best educational program and become one of the strongest research groups in critical care for researchers, clinicians and for the benefit of our patients.

I want to thank our Program Director, David Hall and the Program Committee for the extraordinary work they have achieved to really reshape our program. We will continue working hard to adapt the program and curriculum to the emerging needs in our discipline, which also require importing new talents and skills.

I want to deeply thank our Research Leadership, Margaret Herridge and Hannah Wunsch, who, through a series of spectacular and tangible initiatives, are developing a new research environment within IDCCM and I will give a few examples.

The structure of IDCCM is unique with Faculty members working at six different academic hospitals across Toronto collaborating with scientists for improving the care of the critically ill. Collaboration is a priority for us. In 2017, we have initiated the Alliance Days, where our members present and discuss projects and form working groups on specific thematic, such as the NeuroCritical Care group. These days are key opportunities to network and create new connections within our “Toronto critical care virtual campus”.

Collaboration is a priority and you will notice more than 20 new “cross-appointed” members this year coming from different discipline but involved in improving the care of critically ill patients. Promoting young talents is a priority. We have created the Nuts And Bolts of Research sessions to offer some clues about the complexity of clinical research. This is a useful complement to our monthly Clinical Research In Progress sessions attached to our Visiting Professor program or the Physiology Rounds. We have initiated a Scholar Award program and we are proud to have Liz Wilcox as our first IDCCM Scholar. We have reshaped the research Day and the Art Slutsky Day is every year a growing success.

I want to thank all our administrative assistants (including research, education, clinical departments) at the different sites for the complex and important work they all do making all our events possible and running so smoothly.
Promoting diversity is also a priority for us, gender diversity being often the most visible.

I would like to congratulate all members who were awarded with important recognitions in various domains – too numerous to be cited here!

Lastly, I would like to reiterate my gratitude to all of you for giving me the privilege to work in Toronto among such a talented group for serving our Division and our Community.

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. David Hall, IDCCM Program Director Adult Critical Care Medicine Resident & Clinical Fellowships
Dr. Margaret Herridge, IDCCM Research Director
Dr. Tillman Humpl, The Hospital for Sick Children, Interim Paediatric Education Program Director
Dr. Brian Kavanagh, The Hospital for Sick Children, Staff Intensivist
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. Hannah Wunsch, IDCCM Associate Research Director
The University of Toronto is the premier centre for sub-specialty training in Critical Care Medicine. With more than 65 registered trainees, it continues to be the largest Adult Critical Care training program in Canada.

Over the past decade, we have been fortunate in attracting some of the best physicians in the world with diverse specialized backgrounds. 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.

The Center for World University Rankings (CWUR) has ranked the University of Toronto as the second most productive Critical Care research center in the world in 2017. With our 5 principal academic training hospitals and our community hospital partners we produce the highest quality intensivists and leaders in Critical Care Medicine.

Our Program

2016-2017 has been a transition year and as of January 1, 2017, I (David Hall) took over the role of Program Director. I would like to thank Dr. Andrew Steel and Dr. Damon Scales for the hard work and dedication they have provided over the years. I am thrilled to be part of a dynamic and exciting program with such truly incredible trainees.

The introduction of Competency by Design (CBD) has brought some new changes to the IDCCM Program. Formative workplace assessments have been introduced, in addition to ITERs, as well as more tailored educational plans structured to meet Critical Care Medicine Entrustable Professional Activities (EPAs). We continue to work with the University of Toronto Post MD Education office, as well as the RCPSC to ensure the most efficient and effective onboarding of CMBE, scheduled to launch as of July 2018.
Competency Based Medical Education has also been the catalyst for the division of portfolios, allowing for greater efficiency in the areas of curriculum development, scholarly activity, assessment and mentorship & wellness. We would like to thank the following faculty for heading these initiatives:

Curriculum Development & Evaluation – Dr. Dominique Piquette  
Scholarly Activity – Dr. Dominique Piquette  
Trainee Assessment – Dr. Christie Lee  
Mentorship & Wellness – Dr. Shelly Dev  

**Trauma and Critical Care Training**

The combined Trauma Surgery and Critical Care Fellowship is highly competitive with other programs in Canada and the United States, continuing to draw outstanding surgeons. It represents an important innovation in critical care education to the IDCCM, adding breadth and depth to the program. It also continues to be a very successful collaboration between IDCCM and the Division of Trauma Surgery.

**Dr. David Paskar** joined the Critical Care Residency Program in July 2015. He is now in his final months of Critical Care training after the completion of his Trauma year, and is scheduled to graduate as of June 2017.

**Dr. Markus Ziesmann** is currently training with the Trauma Program after a successful first year with Critical Care. He is scheduled to rejoin the Critical Care Program in July 2018.

**Dr. Jordan Nantais** will be starting with the Critical Care Residency Program as of July 2017 and will complete a year with Trauma following his 2017-18 year with CCM.

**Art Slutsky Day 2017**

An inaugural Pub evening was held on Monday June 19th at the Mill Street Brewery in the Distillery District to kick off Art Slutsky Day 2017 festivities. It was a fun evening and a great celebration in honour of the 15th annual Art Slutsky Research Day, which not only pays tribute to **Dr. Arthur Slutsky**, but also celebrates the breadth of academic activity and achievement of Faculty and trainees of the IDCCM Division.

This year, we hosted distinguished speaker, **Dr. Daniel Talmor**, Chair of the Department of Anesthesia and Critical Care at Beth Israel Deaconess Medical Centre, and Edward Lowenstein Professor of Anesthesia at Harvard Medical School.

IDCCM Chair, **Dr. Laurent Brochard**, as well as Faculty Members, **Drs. Eddy Fan, Andre Amaral, Gail Annich** and **Rob Fowler** also provided comprehensive overviews and valuable insights on their current work and research related to the IDCCM and University community.
The Abstract Section received over 45 entries from trainees within or with supervisors in the Division this year. Judges identified the top 9 abstracts, with those authors invited to give an oral presentation. After presentations and deliberation with Visiting Professor, Dr. Danny Talmor and the IDCCM Research Committee the top 2 *Overall Best Abstracts* were awarded to the following:

**Dr. Bhushan Katira** – 1st Place  
**Dr. Hira Raheel** – 2nd Place

A separate group of abstract judges were tasked with identifying Best Abstracts in each of the four (4) categories of *Clinical Practice, Basic & Translational Science, Quality Improvement, and Physiology*. Winners were awarded as follows:

**Dr. Daniel Marinescu** – Clinical Practice  
**Dr. Diana Islam** – Basic & Translation Science  
**Dr. Pierre-Alexis Lepine** – Quality Improvement  
**Dr. Lu Chen** – Physiology

This year the IDCCM Research Executive Committee bestowed a much-deserved honour to **Dr. Laura Hawryluck** for her outstanding contribution to improving the welfare of others through scholarly activity and patient care. She was awarded the 2017 *Humanitarian Award* for her continued dedication to education and outreach in developing communities.

The residents and clinical fellows awarded the *John Granton Award*, for outstanding contribution to Critical Care Education, to **Dr. Andrew Steel** in recognition of his support and significant contribution to education during his term as IDCCM Program Director.

The Education & Residency Program Committee awarded the *Simon Abrahamson Award*, for outstanding academic performance in Critical Care Medicine, to **Dr. Oshri Zaulan**, for his leadership at the Divisional and University level, as well as for his exemplary clinical, teacher, learner and humanitarian work.

The site-specific winners for excellence in teaching were: **Dr. Brian Kavanagh** (Hospital for Sick Children), **Dr. Christie Lee** (Sinai Health Systems), **Dr. Natalie Wong** (St. Michael’s Hospital), **Dr. Damon Scales** (Sunnybrook Health Science Centre), **Dr. Andrew Steel** (Toronto General Hospital), **Dr. Alberto Goffi** (Toronto Western Hospital), and **Dr. Alvin Chang** (U of T-affiliated community hospitals, Toronto East General Hospital).

We concluded the year graduating **Drs. Abdulrahman Al-Fares, Abdulaziz Alali, David Cape, Niall Filewood, Anna Geagea, David Katz, Tiffany Lee, Ingrid Morgan** and **Sameer Vakani** from the Critical Care Residency Program. We look forward to following them in their continued career development and success!
Canadian Resident Matching System (CaRMS 2017)

I am pleased to announce that the following physicians have joined in the Adult Critical Care Medicine Residency Program: Dr. Lior Bibas (McGill University), Dr. Jordan Nantais (Dalhousie University), Dr. Maude Peretz-Larochelle (McGill University), Dr. Jenna Spring (University of Toronto), Dr. Alexander White (University of Toronto), and Dr. Christopher Yarnell (University of Toronto).

Thank You

I would like to thank our Chief Residents, Dr. Brian Buchan and Dr. David Paskar as well as our Critical Care Chief Fellows, Dr. Carmen Lopez-Soto, Dr. Martin Urner & Dr. Bruno Ferreyro. They continue to demonstrate excellent leadership in representing our trainees and are wonderful ambassadors for the IDCCM Resident and Fellowship programs.

The Future

Recent meetings at the Royal College have led to a new set of competencies for Critical Care Medicine. While we are still awaiting the final document, there are likely to be a number of changes required in our current curriculum to support our trainees and ensure they meet these competencies. There will be a greater focus on direct observation of our trainees and timely feedback. There will also be a significant increase in the number of assessments by supervisors that will be used to inform a Promotions Committee; all of which will ensure our trainees are ready to transition to practice as leaders in Critical Care Medicine.
St. Michael’s Hospital Department of Critical Care has continued to strive for success in areas of education, research, clinical activity, quality and performance. The successes of the Department’s members have been recognized in many ways including the awards and appointments they have received in 2017.

Our Faculty

We welcomed Dr. Niall Filewod who joined our Department as a Clinical Associate.

Promotions

Dr. Najma Ahmed was promoted to Professor of Surgery, Dr. Sara Gray was promoted to Associate Professor, and Dr. Warren Lee was promoted to Associate Professor.

Education

The Simon Abrahamson Award for Outstanding Academic Performance in Critical Care Medicine continues to be awarded to CCM fellows in recognition of the excellence and innovation that Dr. Abrahamson has demonstrated in fellow education and mentorship for an extended period of time.

Dr. David Hall and Dr. Simon Abrahamson continued to do an excellent work in their leadership role for the Residency and Fellowship Program, Critical Care Department at St. Michael’s Hospital. Dr. Natalie Wong has always been recognized for her excellence in teaching, and this year, she received another two outstanding/excellent teaching awards; a) IDCCM Award for Teaching Excellence at St. Michael’s Hospital and b) Outstanding Teacher Award from the General Internal Medicine, Department of Medicine at St Michael’s Hospital. Dr. Sara Gray received uniformly rave reviews on her outstanding and very inspired engaging talk on the importance of training in mindfulness, self-compassion and empathy when providing care - “Voices in Our Heads” - which she gave to 2500 Das SMACC delegates at the Berlin Tempodrom.
Quality

Dr. Andrew Baker, David Hall and their group project, Improving Procedural Quality and Safety in the ICU through the Introduction of a Procedural Checklist and Pause: An Inter-professional Quality Improvement Initiative was selected as the first place recipient of the 2017 Spacelabs Innovative Project Award.

Research

Dr. Laurent Brochard was awarded the Canadian Academy of Health Sciences Fellow Award and his international research fellow, Dr. Lu Chen won the Best Poster for Physiology Research at Art Slutsky Day. Dr. Claudia dos Santos received a University of Toronto Clinician Scientist Merit Award. Dr. Art Slutsky received the 2017 Distinguished Lecturer in Respiratory Sciences Award, CIHR Institute of Circulatory and Respiratory Health and the Canadian Thoracic Society and also received the Outstanding Achievements in Intensive Care Medicine Award at the Smart Meeting Anesthesia Resuscitation Intensive Care in Italy. Drs. Andrew Baker, Laurent Brochard, Karen Burns, Claudia Dos Santos, Sara Gray, John Laffey, Warren Lee, John Marshall, David Mazer, Sandro Rizoli and Haibo Zhang were awarded 25 new research awards/grants/funding in 2017.

The physicians in the Critical Care Department have continued their consistent contributions in the realm of research by publishing 166 articles in peer-reviewed journals in the past year. Our department was well represented at the ATS. In order to present their own research and further their knowledge of new findings in similar research fields, our faculty traveled to a variety of conferences and presentations throughout the world. There were a total of 56 local, 38 national and 138 international presentations by our faculty in 2017.

Leadership

Because of his outstanding leadership in Medical Education, Dr. David Hall was appointed Program Director for Adult Critical Care Medicine at the University of Toronto.
The leadership team for the Trauma, Emergency and Critical Care Program at Sunnybrook Health Sciences Centre changed in 2017 as Dr. Gordon Rubenfeld’s tenure came to an end. Dr. Brian Cuthbertson remained the Chief of Critical Care Medicine. 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. Mike Tylee joined our department in July 2017 as a Clinical Associate. Dr. Shannon Goddard has taken on a new role as the Hospitalist in Hematology-Oncology in October 2017.

Research

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

Over the past year, we have developed a new research group, the Acute and Intensive Care Outcomes Research Network (AICORN). This group, led by Drs. Hannah Wunsch, Damon Scales and Robert Fowler, focuses on health services research projects that make use of Ontario population health data, with a particular focus on ICU-related research, including long-term outcomes, trends over time in care of critically ill patients, trauma care, and end-of-life care. The AICORN group meets bi-weekly to discuss progress on specific projects and plan new studies. The group includes postdocs, masters’ students, research coordinators, and collaborators throughout the city, as well as other parts of Canada and the US. AICORN will hold its first research retreat in May at Hart House at the University of Toronto to allow for more in-depth discussion of projects and an opportunity for collaborators to come together to exchange ideas. AICORN has received funding support from the Chief’s Fund from the Sunnybrook Department of Critical Care Medicine, and is also supported by operating grants from CIHR, NIH and the Canadian Frailty Network.

In 2017, Dr. Brian Cuthbertson’s main research focus was on the SuDDICU study and he received $3.1M from CIHR to conduct the project in Canada. He worked closely with the Australia and UK collaborative group to launch the study in those areas also. He is currently seeking further funding for SuDDICU from CIHR project grant funding. The multi-national METS study (cardio-pulmonary exercise testing in patients before major surgery) is now complete and being submitted for publication after recruiting 1400 patients. 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. Cuthbertson all led the pragmatic trials course at HPME this last year which received excellent student reviews.
Dr. Gordon Rubenfeld sent greetings from Balmy, London (UK, for those who asked why I was sabbaticalling in Southwest Ontario). The artistic, historic, and culinary distractions, not to mention the many visitors from home, have been delightful. He has a small flat in Clerkenwell that costs about the same as his townhouse rents for in Summerhill. He has made some wonderful connections with ICNARC, the NHS, and Ernst and Young and has become very interested in how the ICU quality agenda is implemented and resourced in different health care systems. There is a stimulating group of health services researchers there. There is also a large cohort of former Sunnybrook International Fellows who all seemed to have been stricken with the research bug. It seems that prolonged exposure to Damon Scales has this effect.

Dr. Damon Scales published the results of the ICEPACS RCT (PMID 28988962), a large pragmatic RCT comparing prehospital cooling after cardiac arrest to usual resuscitation and transport. The study showed that prehospital cooling increased delivery of therapeutic hypothermia to patients after hospital arrival, but did not improve overall neurological outcomes. He continued to prepare for the launch of 2 CIHR-funded trials: the PROTEST RCT, which will compare the safety and effectiveness of early versus delayed thromboembolic prophylaxis using anticoagulants in patients with traumatic brain injury, and the PITSTOP RCT, which will evaluate the impact on mortality of prompt antibiotic and/or intravenous fluid administration by paramedics to patients with sepsis. He continued to enrol patients into the vanguard phase of the NEURO-ETT RCT, which 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. Scales was also the inaugural recipient of the Canadian EMS Research Network - Reseau Canadien de Recherche en Soins Prehospitaliers (CERN-RCRSP) EMS Research Mentorship Award.

In 2017, Dr. Neill Adhikari contributed to several publications and co-chaired a CIHR-funded meeting in December on developing a grant for a trial of Vitamin C in sepsis. He also coordinated the launch of the Toronto-Addis Ababa Academic Collaboration agreement in Critical Care Medicine, with a fellowship scheduled to start in Addis Ababa in 2018. Details of this appeared in the December IDCCM newsletter and states “The Toronto Addis Ababa Academic Collaboration (TAAAC; http://taaac.com) was created in 2008 as an educational initiative partnering University of Toronto (U of T) with Addis Ababa University (AAU) in Ethiopia. This initiative focuses on sustainably building postgraduate programme capacity in medical and other graduate programmes. U of T volunteer faculty members teach and co-build residency, fellowship, Masters and PhD programs in Ethiopia with our Ethiopian colleagues. In residency programmes, the volunteers provide clinical supervision and lectures and teach technical skills. Graduates are hired as faculty at AAU and at other Ethiopian universities. By establishing a critical mass of faculty in each needed specialty, TAAAC has contributed to a 90% retention rate of newly graduated medical and academic experts. We plan three annual trips to Tikur Anbessa (Black Lion) Hospital in Addis Ababa. For each trip, a team of 1-2 U of T faculty members and an adult CCM resident/clinical fellow will provide bedside and formal teaching based on a curriculum developed in collaboration between U of T and AAU. IDCCM will also provide support in the form of mentorship, research collaboration and curriculum development. Interested faculty or trainees are welcome to contact Drs. Alberto Goffi or Neill Adhikari.
Over the past year, Dr. Rob Fowler has enjoyed clinical work, teaching and learning in the ICU’s at Sunnybrook Hospital, supporting graduate students as the Director of the Clinical Epidemiology and Health Care Research Program at U of T’s Institute of Health Policy, Management and Evaluation, and a few academic foci: infection-related critical illness, end-of-life care, and care of critically patients in resource limited settings. He is collaborating with Dr. Nick Daneman and many other members of the Canadian Critical Care Trials Group as part of the BALANCE (Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness) Randomized Control Trial, with sites in Canada, Saudi Arabia, New Zealand and Australia. Working with the newly planted AICORN (Acute and Intensive Care Outcomes Research) Network, they’ve examined trends in end-of-life and palliative care in Ontario and Canada, and end-of-life care delivered to recently immigrated Canadians. They have also continued to work on ways to improve the care of patients in resource-constrained environments in the context of outbreaks (assisting with practice guidelines with WHO) in addition to working with the Toronto-Addis Ababa Academic Collaboration to explore the feasibility of a clinical research graduate program supported by U of T. Dr Fowler has published in NEJM, JAMA and Lancet this year.

Dr. Hannah Wunsch was active in the Interdepartmental Division of Critical Care Medicine (IDCCM) as the Associate Research Director. As lead for the Visiting Professor Program, she helped to host 7 visiting professors from around the world. She also led the Clinical Research in Progress (CRIP) program, bringing together researchers from across the city monthly for dinner and a discussion of ongoing research projects, and launched the “Nuts and Bolts of Research” series with an afternoon of speakers and discussion in April 12, 2017 attended by 40 individuals from across the city, followed by a grant writing mini symposium in October 19, 2017, attended by 40. She also oversaw the development of a new program to support the research careers of junior faculty with the appointment of the first IDCCM Scholar (Dr. Elizabeth Wilcox), providing academic recognition and operating funds for 2 years.

In her own research, Dr. Wunsch published an important paper on the care of patients with septic shock in JAMA in March, 2017. In collaboration with Dr. Gordon Rubenfeld, Dr. Wunsch and her collaborators assessed the impact of a nationwide shortage of norepinephrine on patients with septic shock in the US. The work highlighted the profound impact the shortage had on care patterns as well as an increase in hospital mortality for septic shock patients associated with the shortage. In other work, Dr. Wunsch and Dr. Hayley Gershengorn (University of Miami) published a study using data from the United Kingdom to examine the important question of physician staffing in ICUs (published in JAMA Internal Medicine). This work demonstrated a possible relationship between the patient-to-intensivist ratio and mortality for critically ill patients. Dr. Wunsch is now actively working on extending this research internationally, with similar studies in Canada, Australia and the US.

In September 2017, Dr. Wunsch received a grant for US$2.1 million from the National Institute on Drug Abuse at the National Institutes of Health (NIH) to study opioid prescribing after surgery. Dr. Wunsch is the lead Principal Investigator, in collaboration with Dr. Mark Neuman (co-Principal Investigator) in the Department of Anesthesiology at the University of Pennsylvania. The grant involves collaborators at Sunnybrook Hospital (Dr. Avery Nathens) and Li Ka Shing Knowledge Institute (Dr. Duminda Wijeysundera), as well as other investigators at the University of Pennsylvania, Columbia University and Harvard University. The work involves analysis of Ontario health data, as well as US datasets, to understand the transition from acute to chronic opioid use after surgery, identify risk factors for such transitions and to explore ways to reduce this risk.
During 2017, Dr. Taz Sinuff’s most significant achievement was as a co-investigator and methods expert in the CFN Transformative Grant for $2.7 million for the study Improving Advance Care Planning for Frail Elderly Canadians. This was a highly competitive granting process. Dr. Sinuff co-authored 6 published papers in peer review journals.

Dr. Martin Chapman continues to remain focused on neurocritical care and management of brain injury, is a member of a group of faculty at U of T who teach ENLS and has 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 2017, Dr. Louise Rose, who holds the TD Nursing Professorship in Critical Care Research at Sunnybrook Health Sciences Centre and is also the Research Director of the Provincial Centre of Weaning Excellence at Michael Garron Hospital, was successful in 13 grant competitions totalling $4,174,872, including five as the nominated principal investigator. This success includes a CIHR project grant to develop core outcome sets for effectiveness trials of interventions to either prevent or treat delirium, and a European Society of Intensive Care Medicine Life Priority grant to identify patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness.

Additionally, Dr. Rose is a principal investigator on the CIHR SPOR and project grant funded SUDDICU study (nominated principal investigator, Dr. Brian Cuthbertson). She published 17 manuscripts in 2017 including a Cochrane systematic review on cough augmentation techniques for extubation and weaning of critically ill patients. She has a further four papers in press. These include a 470 patient randomized controlled trial on an innovative case management and care integration intervention for patients with COPD and substantial co-morbidity (presented at ATS and accepted by the European Respiratory Journal), and the largest to-date evaluation of public and private healthcare utilization and costs, including caregiver time, for individuals living at home on mechanical ventilation (accepted by Thorax).

Dr. Barbara Haas continues to focus her research and education efforts on the care of severely injured older adults and older adults with surgical emergencies. In addition to ICES work focused on the geriatric trauma care in Ontario, her team is currently recruiting participants in two studies, one focused on the experiences of older adults within the trauma system and one focused on prognostication of long-term outcomes after critical illness among intensivists and surgeons (Dr. Michael Detsky, Co-PI). She has been invited by the Division of General Surgery to develop resident lectures regarding establishing goals of care for patients with surgical emergencies. Finally, she has contributed to five publications in 2017.

Dr. Bourke Tillmann is continuing his work as a Masters student in the Clinical Epidemiology and Health Care Research Program at IHPME. He is involved in several ongoing research projects focused on the care of the traumatically injured patient including his thesis project examining factors associated with over triage of the trauma patient and the implications of over triage on health care resource utilization, as well as an analysis of the impact of intoxication on interventions in patients who have suffered severe traumatic brain injuries. He is also continuing his research focused on health care resource utilization and is working with Dr. Wunsch using large databases to examine changes in trends of health care utilization overtime.
Dr. Tylee completed a year of clinical training in cardiovascular anaesthesia in 2017, including specific training in advanced perioperative transesophageal echocardiography. He completed the National Board of Echocardiography (NBE) Advanced PTEeXAM, and currently holds testamur status with the NBE (full certification is pending NBE review and is expected early in 2018). He continues in the MSc program at the Institute for Health Policy, Management, and Evaluation, and has completed preparatory work to transfer to the PhD stream in early 2018. The focus of his PhD work is physician-patient communication around high stakes decisions with surgical patients in the ICU.

In 2017, Dr. Lorraine Tremblay won the prestigious Robert Mustard Mentorship Award for outstanding contributions to the training of General Surgery residents at the University of Toronto (as voted by the residents), and was appointed to the Examination Committee of the Royal College of Physicians and Surgeons of Canada. She also continued to serve as the only Canadian on the American Board of Surgery, Trauma, Burns, and Critical Care Examination Committee, and was elected as President-Elect of the Trauma Association of Canada (and will be President from 2018-2020).

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. Their team contributed to the success of 14 academic and investigator initiated studies resulting in several presentations and publications for the DCCM. For 2017-18, they are collaborating on one industry sponsored study and 10+ academic funded studies. Their group continues to support the Department of Critical Care Medicine through research feasibility review, regulatory submissions, budgets, study implementation, education and research compliance.

The Visiting Professorship Program organized by 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 seven Visiting Professors from across North America. Since Dr. Rubenfeld implemented the program in 2010, the IDCCM has hosted over 72 Visiting Professors. The Clinical Research in Progress sessions (CRIP) continue to provide a supportive environment where investigators can bring research projects for critical evaluation and discussion.

**Education and Quality Improvement**

We pride ourselves on our high quality clinical teaching and in the 2016-2017 academic year, the Department has continued to receive high scores for teaching assessments from both resident and fellowship training attachments.

In a rather fortuitous turn of events over the last year, Dr. Dev found herself leading the conversation on physician wellness. After an essay she wrote for the University of Toronto Faculty of Medicine went viral and gained international attention, Dr. Dev has become a highly sought out speaker on her own challenges in seeking wellness as a physician and her perspective on how to change our medical culture. She holds the IDCCM portfolio for Mentorship for our Critical Care trainees and has recently been appointed as the Mentorship lead for the Peter's-Boyd academy for Undergraduate Medical Students. Dr. Dev continues to work on independent and collaborative multimedia projects, acting as producer and consultant with colleagues across the Faculty of Medicine. Her current projects in production for the New England Journal of Medicine across the IDCCM include Video Laryngoscopy, Lung Ultrasound and Esophageal Balloon Insertion. In partnership with Dr. Andre Amaral and
Dr. Brian Cuthbertson, Dr. Dev 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 is also in the midst of developing educational materials for new clinical studies including the CHORAL and SUDDICU trials headed by Dr. Brian Cuthbertson. Also on the radar is the soon to launch newly revamped IDCCM website Dr. Dev has been developing with Dr. Laurent Brochard.

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 continue to 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. The current indicators have been revised at an interprofessional meeting and the new dataset will be distributed in 2018 after further refinement of definitions, making the data more appealing to clinicians. Further work continues to expand the database to community hospitals, and Drs. Amaral and Fan have been actively engaged with stakeholders to increase adoption. Scarborough and Rouge hospital, St Joseph’s, St. Catherine’s and Toronto East are partners that are in various stages of contractual development to contribute to the registry. We continue to present projects and share ideas in an annual multi-professional quality meeting across all of critical care central (QUICK-ICU project) with encouraging feedback, this year we met to discuss and share success stories of QI projects among all partners. This collaborative group also continues to engage online using Basecamp to discuss QI ideas and problems in real-time. In association with the Canadian Critical Care Society, Canadian Association of Critical Care Nurses and Canadian Society of Respiratory Therapists, Dr. Amaral led and published online the Choosing Wisely Campaign items for Critical Care in Canada. Following the IDCCM strategic plan, Drs. Amaral, Dhar, Orla Smith and Vagia Campbell continue to supervise voluntary fellows and residents in a Quality Improvement workshop. Trainees attend a workshop created by Dr. Brian Wong from Department of Medicine and, as a group, work on a quality improvement projects throughout the year. One of the projects from last year, devoted to decreasing blood work, received awards in the UofT QI day. The main QI project at Sunnybrook in 2017 evolved around rounding practices and issues around team presence and workflow. This work will continue in 2018. Dr. Amaral was awarded an EBD (Experience-Based Design) project offered by Sunnybrook QI. We received funds and mentoring from an EBD expert to involve families and patients in a QI project on delirium in the ICU. This EBD award was partnered with a QI fellowship award to Karen Montgomery, PT, at Sunnybrook to explore action items to improve delirium incidence at Sunnybrook. Dr. Amaral, in collaboration with Drs. Ford and Mikkelsen, developed and administered a highly successful QI postgraduate course at the American Thoracic Society. This course will be repeated in 2018 in San Diego.

During the last academic year, Dr. Dominique Piquette has pursued a range of educational research projects aimed at better understanding how changes in the healthcare and medical education systems affect education and learning. She has completed a CIHR-funded pilot study on the competencies acquired by specialty residents during a 4-week ICU rotation. She is leading an ongoing RCPSC-funded project on the implementation of competency-based medical education within the Adult critical care residency program. She has also undertaken a new externally funded project that explores different educational strategies to provide formative feedback to practicing critical care physicians. On a similar topic, she is currently preparing, on behalf of the Canadian Critical Care Society, a national survey on intensivists’ current use of assessment activities as part of their continuing professional development. In addition to these projects, she is collaborating with various groups of local and national researchers whose
research interests include organ donation education, competency-based medical education, physician moral distress, and international fellows’ transition into Canadian ICU teams. In 2017, she received a medical education research award at Sunnybrook Health Sciences Centre recognizing her contributions to medical education research. Beyond these research endeavors, Dr. Piquette has been a leader within the University of Toronto Adult Critical Care Medicine Residency and Fellowship programs in many areas: oversight of trainees’ scholarly activities, planning and evaluation of the Program’s transition to CBME, and strategic renewal of the critical care curriculum.
The clinical activities for the department in 2017 were one of the busiest we have experienced. By the numbers, this included: 2277 admissions to the PICU and CCCU combined, with a total of 13761 patient days; 5232 follow-up visits after transfer from the CCU by our CCRT and an additional 814 new consults by the team; just over 1100 extramural bridge calls for consultation and transfer; and 45 ECMO with over 8000 hours of care. The overall mortality was in line with preceding years at 3.7%. I wish to extend my gratitude for the extraordinary care provided by all staff, always doing what was needed and then some. The quality of care is exceptional and meets all societal or regulatory benchmarks. The Quality, Risk and Safety teams have juggled many competing pressures very well, and we had notable successes, such as sustained hand hygiene audit (moments 1 and 4) above 90%. Vascular Health, Nutrition Health and Respiratory Health teams have made significant strides, and I particularly want to acknowledge the interdisciplinary practices that have been embedded in the unit. We continued to partner with HumanEra at the University to understand human factors within the unit, and are about to embark on a large project mapping the way we round and transfer information across the unit.

Our training program remains very large and my thanks to Tilman Humpl and Melanie Hamilton for the structure and efficient organization of all aspects of the program. This past year, we trained: 35 critical care residents and international fellows, another 82 rotating or elective trainees, and 14 observers to the CCU. My thanks to our outstanding Chief Fellows for the year, Valerie Brule and Oshri Zaulan.

Congratulations to Oshri Zaulan who received an IDCCM Fellows Contribution Award, and to Bhushan Katira and Rishi Lalgudi Ganesan who received Art Slutsky Day Research Awards. Three senior fellows received Restracomp support (Bhushan Katira, Nadia Roumeliotis, Haifa Mtaweh). In addition, Bhushan Katira received a Graduate Scholarship award from CHIR, Nadia Roumeliotis a CCCTG Fellowship award, and Rishi Lalgudi Ganesan a c-BMH Integrative Research Training Fellowship.

Under the direction of Dr. Jamie Hutchison, our research team continued to be extremely productive. We expanded our infrastructure to include a more interdisciplinary profile. Our research team members include a research manager, 1 clinical nurse specialist and 1 advanced practice nurse both currently pursuing their PhD, 4 Engineers, data programmers, 2 analysts, research fellows, PhD students, Post graduate students, project managers and several research assistants and summer students. In 2017, we have had 48 publications. Grant awards including $688,500 CIHR Project Grant Award Principal Applicant and $485,775 as Co-applicant for Brian...
Kavanagh, $29,866 from SickKids Internal funds and $200,469 in Research Fellowship awards. There are currently 73 active studies in varying stages with 15 actively recruiting. In addition there are 7 external studies from various departments also approaching for recruitment.

Some of our team members attended the Canadian Critical Care Trials Group (CCCTG) 3 scientific meetings and provided updates on current active studies at our site that are being conducted locally and nationally. Our team hosted the Canadian Critical Care Research Coordinator Group annual workshop here at the RI in November 2017 which had the largest attendance in its history. Members of our research team also attended the Canadian Critical Care Translational Biology Group (CCCTBG) which coincides with the CCCTG meetings.

The department hosted the Terry Hickson Research in Practice Challenge Workshop in 2017. It was an innovative program to enhance the capacity of critical care front line clinicians to participate and engage in research activities. This 2 day workshop welcomed 5 groups to present their proposals following 3 months of mentoring with a member of the research team.

As the year closed out an announcement has been made that after 10 years of extreme productivity and growth under the direction of Dr. Jamie Hutchison the role of Director of Research has been transitioned to Dr. Anne-Marie Guerguerian who looks forward enthusiastically to continue the success of this program.
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 2017 several important personnel changes occurred within our group.

New Faculty:  
Dr. Preeti Dhar, Surgeon-Teacher / Quality Improver, UHN  
Dr. Ewan Goligher, Clinician-Scientist, TGH  
Dr. Victoria McCredie, Clinician-Scientist, TWH

We are excited to welcome our new team members and look forward to their future successes.

The executive committee for our group in 2017 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

We moved to a new devolved model of research infrastructure in 2017 – with each geographic site managing research coordinator resources and a local research lead for each site – Dr. Elizabeth Wilcox at TWH, Dr. Eddy Fan at TGH and Dr. Michael Detsky at Sinai. We were also delighted that Dr. Elizabeth Wilcox was the inaugural recipient of the IDDCM Scholar Award.
2017 was another excellent year for our research group. Our group of 13 faculty clinician-investigators and scientists published over 130 unique papers in 2017, with about 20% of these 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

Our site education leads are Dr. Ghislaine Douflé for TGH, Dr. Christie Lee at Sinai, and Dr. Alberto Goffi at TWH – they continue to do a phenomenal job of reinvigorating the educational experience for trainees of all levels at these sites. Dr. Christie Lee completed her first full year as Director of the International Fellowship Director at UHN/SHS – thanks to her leadership we continue to attract and train outstanding clinical fellows from around the world.
5 Year Impact Factor

![Bar chart showing number of publications and mean impact factor from 2013 to 2017.](chart.png)
Publication Analysis

University Rank Full-Time Faculty

Professors 32
Associate Professors 18
Assistant Professors 48
Lecturers 4
Clinical Associates 7
### Job Description Faculty

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![Pie chart showing the distribution of faculty positions]
Overall Interdepartmental Summary

Our interdepartmental division consists of 102 faculty members and 7 clinical associates.
APPENDICES
## Appendix I: Faculty List

### Hospital for Sick Children

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<tr>
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# University Health Network

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### Cross-Appointed Faculty

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**University Health Network - Toronto General Hospital**

**Department of Anesthesia, CVICU**

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<tr>
<td>Jariani, Marjan</td>
<td>Assistant Professor</td>
<td>Clinician Investigator</td>
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<tr>
<td>Karkouti, Keyvan</td>
<td>Professor</td>
<td>Senior Scientist</td>
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<tr>
<td>Luksun, Warren</td>
<td>Lecturer</td>
<td>Clinician Investigator</td>
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<td>Mashari, Azad</td>
<td>Lecturer</td>
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<tr>
<td>Meineri, Massimiliano</td>
<td>Associate Professor</td>
<td>Clinician Investigator</td>
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<tr>
<td>Moreno, Jacobo</td>
<td>Assistant Professor</td>
<td>Clinician Investigator</td>
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<td>Murphy, Patricia</td>
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<td>Randall, Ian</td>
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<td>Vegas, Annette</td>
<td>Professor</td>
<td>Clinician Investigator</td>
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<tr>
<td>Wasowicz, Marcin</td>
<td>Associate Professor</td>
<td>Clinician Investigator</td>
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**University of Toronto – Department of Physical Therapy**
<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Reid, Darlene</td>
<td>Professor</td>
<td>Senior Scientist</td>
</tr>
<tr>
<td>Burry, Lisa</td>
<td>Assistant Professor</td>
<td>Clinician Scientist</td>
</tr>
</tbody>
</table>
Appendix II: Summary Activity Reports
Peer-Reviewed Publications

Journal Articles

Eytan D, Bitterman Y, Annich GM. VV extracorporeal life support for the Third Millennium: will we need anticoagulation? J Thorac Dis. 2017 Nov. Senior Responsible Author


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International


Invited Speaker. The circuit of the future.

13th International Conference on Pediatric Mechanical Circulatory Support System and Pediatric Cardiopulmonary Perfusion. Rome, Italy.

2017 May 6 - 7 Moderator. Not so common, but emerging indications in ECMO.

Invited Speaker. What's new in anticoagulation on ECMO.

Euro ELSO 2017 Maastricht, Netherlands.
National


Local

Invited Lectures and Presentations

International


Provincial


Honours and Awards

2017  President’s Award in Innovating to Drive Impact. The Hospital for Sick Children.
**Peer-Reviewed Publications**

**Journal Articles**


**Conference Publications**


**Book Chapters**


**Floh AA**, Jean-St-Michel E, Schwartz SM. The Use of Inotropic Agents in Acute Decompensated Heart Failure. Heart Failure in the Child and Young Adult: From Bench to Bedside. **Principal Author**

**Floh AA**, Krawczeski CD, Schwartz SM. Peri-operative Care of the Child with Congenital Heart Disease. Pediatric Critical Care Medicine: Basic Science and Clinical Evidence. Springer-Verlag. **Principal Author**

**Peer-Reviewed Grants**

**Funded**

2017 Jul - 2020 Dec **Co-Investigator**. Targeting the central nervous system for the treatment of obesity and metabolic disease in humans. Diabetes Canada Grant. 375,000 CAD. [Clinical Trials]

**Invited Lectures and Presentations**
International

2017 May 22 - 26  Invited Speaker. Post-operative Assessment of BCPS and TCPC - Southwest Complex CHD Forum; Follow up of Single Ventricle Patients; Recognition and Treatment of Arrhythmia After Cardiac Surgery; PICU Sedation: Neurological Complications after CHD Surgery; Nutrition in CHD. Children’s HeartLink and Sick Kids Team Visit. West China Hospital. Chengdu, China.

National

2017 Oct 3  Invited Speaker/ Panelist. Talk with Experts.


Critical Care Canada Forum. Toronto, Ontario, Canada.

Local


2017 Sep 26  Invited Lecturer. ECLS for the Cardiac Patient. Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Mar 8  Invited Lecturer. How many ventricles in the repair? (1 or 2 or 1 ½ ventricular report): Assessment and Management. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Mar 2  Invited Lecturer. Interpretation of Paediatrics Cardiac ECGs. CV Anaesthesia Rounds.
2017 Mar 1  **Invited Lecturer.** Post-operative Management of Hypoplastic Left Heart Syndrome. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.


Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International


2017 Sep 24 - 27  Invited Participant. 28th Annual ELSO Conference. Baltimore, Maryland, United States.


Provincial


National


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

Journal Articles


Invited Lectures and Presentations

International


2017 Invited Speaker. Panel Discussion. Children’s Hospital Association CMO forum, New Orleans 2017

National


Local

Peer-Reviewed Publications

Journal Articles


Book Chapers

Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International


2017 Jul  Invited Speaker. CGMP Treatment. 7th World Congress of Pediatric Cardiology & Cardiac Surgery. Barcelona, Spain.
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


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(s): Tucci M. [Grants]

**Invited Lectures and Presentations**

**International**


**Provincial**


2017  **Invited Speaker.** A National Biobank and Database for Patients with Traumatic Brain Injury (CanTBI); Inhaled Nitric Oxide (iNO) to improve return of spontaneous circulation and for neuroprotection following cardiac arrest. Canadian Critical Care Trials Group. Lake Louise, Alberta, Canada.

Peer-Reviewed Publications

Journal Articles


Laffey JG, Misak C, Kavanagh BP. Acute respiratory distress syndrome. BMJ. 2017 Nov 16;359:j5055. Senior Responsible Author


Peer-Reviewed Grants

Funded


2017 - 2022  **Principal Investigator.** Acute Lung Injury – Directions from Therapeutic Hypercapnia. Canadian Institutes of Health Research (CIHR). Collaborator(s): Post M.

2015 - 2017  **Co-Investigator.** Diaphragm Activity and Function During Mechanical Ventilation. Ontario Thoracic Society. PI(s): Ferguson N, Goligher E. 100,000 CAD. [Grants]

2015 - 2017  **Co-Investigator.** Physiology of Negative Pressure Ventilation. Canadian Institutes of Health Research (CIHR). PI(s): Yoshida T. 100,000 CAD. [Grants]

2014 Apr - 2019 Mar  **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]

2013 - 2018  **Co-Investigator.** Linking Ventilator-induced diaphragm Dysfunction and Weaning Failure to Diaphragm Inactivity During Mechanical Ventilation: A Physiological Clinical Research Program. Canadian Institutes of Health Research (CIHR). PI(s): Goligher E. 275,000 CAD. [Grants]

**Invited Lectures and Presentations**

**International**


2017 Oct  **Invited Speaker.** Ventilator Induced Lung Injury in Children; How to Avoid It. 7th Hedenstierna Laboratory Master Class Symposium. Uppsala, Sweden.

2017 Sep  **Chair.** Spontaneous breathing: the good, the bad and the ugly; Let’s talk tech: what new technology do we need in ventilation?; Sepsis, the controversy; Muscle mass preservation. 30th ESICM Annual Congress, Vienna, Austria.

2017 May  **Invited Speaker.** We should use more guidelines to manage our patients (pro/con debate – CON); Monitoring Alveolar Recruitment: By respiratory mechanics and gas exchange.28th SMART Congress. Milan, Italy.


2017 Mar  **Invited Speaker.** Respiratory Basics: The effects of hypercapnia; Early Resuscitation in Sepsis: Should we protocolize all this?; A Critical Look at Evidence-Based Medicine: Protocols are misunderstood; Diaphragm and Respiratory Muscle Function (moderator); Spontaneous breathing during mechanical ventilation is not that bad (CON); Perioperative Optimization: Protective ventilation; Lung Recruitment in ARDS: Selective recruitment with abdominal pressure. 37th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium.
2017 Feb  Invited Speaker. The History of ARDS. 50th Anniversary of Dept of Anesthesiology & Intensive Care Medicine, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan.

National


2017 Apr  Invited Speaker. Ventilator-induced lung injury. Mechanical Ventilation: From Physiology to Clinical Practice, Interdepartmental Division of Critical Care Medicine, University of Toronto, Toronto, Ontario, Canada.
Peer Reviewed Publications

Journal Articles


Editorials, Reviews, Chapters


Invited Lectures and Presentations

International


2017 Jul 16 - 20 Invited Speaker. What can we learn from adolescent palliative care? - Advance Care Planning in ACHD: Preparing Patient and Providers; Do we really having nothing more to offer and who decides - Wellbeing and Ethical Dilemmas Cardiac Intensive Care; Counseling and - how do you answer the question ‘Doctor, what would you do if it were your child?’ - Fetal & Neurodevelopment. 7th World Congress of Pediatric Cardiology and Cardiac Surgery. Barcelona, Spain


National


Moderator. Prognosis, Limits, and Exceptional Circumstances.

Critical Care Canada Forum. Toronto, Ontario, Canada.
DR. PETER LAUSSEN, HOSPITAL FOR SICK CHILDREN

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

**Funded**

2018 Jan - 2020 Jan **Co-Applicant**. Development of MyHeartPass. Hospital for Sick Children. Labatt Heart Centre Innovation Fund. 23,866 CAD. [Grants]

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**

2017 Dec 12  
**Invited Speaker.** Application of AI in Medicine: Decision Support and Hospital Monitoring*. Artificial Intelligence in Medicine (AIMed). Laguna Beach, California, USA.

2017 Oct 11 -12  
**Invited Speaker.** Is Modern and Efficient Monitoring Affordable and Universal? A Metaphysical Analysis; ECPR; Low Cardiac Output: Syndrome or State. 5th European Conference on Paediatric and Neonatal Cardiac Intensive Care (EPNCIC). Marbella, Spain.

2017 Jul 16 - 21  
**Invited Speaker.** Pediatric Intensive Care and Anesthesia: Continuums and Conundrums; Deep Blue, Chess and ICU: Can the Machine Beat the Intensivist?; Low Cardiac Output Syndrome in Neonates with Congenital Heart Disease; Data Generation and Interpretation in the Cardiac ICU  
**Moderator.** Focused Learning Sessions/Intensive Care & Anesthesia; Innovation. 
7th World Congress of Pediatric Cardiology & Cardiac Surgery. Barcelona, Spain.

2017 Jun 1  
**Invited Speaker.** The Ins, Outs and Bottlenecks of Time Series Data: A Solution Through Translational Engineering in Critical Care. Tom B. Rice Summit – Transforming Pediatric Critical Care: How Data Analytics Will Change Your Practice. Milwaukee, Wisconsin, USA.

2017 May 10 - 11  
**Chair.** The Future – Artificial Intelligence, Virtual Reality and Robotics.
**Invited Speaker.** NASCARS, Simulation and Animation. 

2017 Apr 22  
**Keynote Speaker.** Reducing Modifiable Risk in Critical Care: The Promise of Harnessing Physiologic Data Streams. 16th Annual UT-ORNL-KBRIN Bioinformatics Summit 2017. Burns, TN, USA.

2017 Mar 16 - 18  
**Invited Speaker.** Postnatal management of the decompensating neonate with CHD; ECLS in infants with congenital heart disease*. 12th European Postgraduate Course in Neonatal and Pediatric Intensive Care; Case Presentation: Do I follow the PCICS pharmacotherapy consensus statement; CPR in acquired and congenital heart disease. 12th European Postgraduate Course in Neonatal and Pediatric Intensive Care. Bern, Switzerland.

2017 Feb 25 - 26  
**Keynote Speaker.** Risk Management and Forecasting in Critical Care; Cardiopulmonary Interactions*, Mechanical Ventilation workshop  
26th Annual Prof. M.S. Ramakrishnan Memorial Oration Lecture. Chennai, India.
National

Peer-Reviewed Publications

Journal Articles


Invited Lectures and Presentations

International

2017 Dec  Invited Speaker. Novel Techniques for Research Discovery in Critical Care Medicine Session: Necessity is the Mother of Invention. PCICS 13th International Meeting. Washington DC, USA.


2017 Nov  Invited Member. Scientific Committee for Cardiovascular disease in the young, American Heart Association (AHA) Scientific Sessions. Anaheim, California, USA.

2017 Mar  Invited Speaker. How computational medicine is helping me predict and prevent cardiac arrest. NeoHeart Conference. San Diego, California, USA.

2017    Invited Speaker. Clinical Research in the era of data science. PCICS International Meeting. Miami, Florida, USA.
Peer-Reviewed Publication

Journal Articles


Peer-Reviewed Grants

2016 - 2017 Collaborator. InCURES: Intensive Care Units Residents Scheduling Study Canadian Institutes of Health Research. PI(s): Parshuram CS. 100,000 CAD. [Project Grant]

2016 - 2017 Co-Investigator. Programmatic Assessment in the Workplace: A Realist Exploration Of Contexts, Mechanisms, and Outcomes in Critical Care Medicine Royal College of Physician and Surgeons of Canada. PI(s): Piquette D. 55,000.00 CAD. [Grants]

2016 - 2017 Co-Investigator. Organ and Tissue Donation Competency Based Medical Educational Program For Ontario Critical Care Medical Residents. Trillium Gift of Life Network. PI(s): Sarthee A. 99,000.00 CAD. [Grants]

2015 - 2017 Principal Investigator. In search of the optimal bronchoscopy training platform: Evaluating the use of a novel, low cost, virtual tool for pre-training novice learners. Perioperative Services Innovation Projects, Hospital for Sick Children. 9,000 CAD. [Grants]


Invited Lectures and Presentations

International


2017 Feb Invited Speaker. Workshop: Procedural teaching: beyond see one, do one (with Moga MA). International Medical Simulation in Healthcare. Orlando, Florida, USA.
Provincial

2017 Oct Invited Speaker. Learning path in bronchoscopy simulation before transition to real-life: do trainees maximize their learning. International Conference Residency Education (ICRE). Quebec City, Quebec, Canada.


National

2017 Dec Invited Speaker. Workshop: Is there a valid tool in simulation or do I have to develop one to assess competence of my trainee?: Virtual reality simulators: Using them to the max. (with Kawamura A, Piquette D). SIM One 2017. Mississauga, Ontario, Canada.


2017 Oct Invited Speaker. From Rehearsal to Premier. Canadian Critical Care Form (CCCF), Toronto, Ontario, Canada.

2017 May Invited Speaker. Workshop: Center for Faculty Development - Stepping Stones Programme - Feedback; Checking in (with Kawamura A). University of Toronto. Toronto, Ontario, Canada.


2017 Apr Invited Speaker. Workshop: Center for Faculty Development – Education Scholars Programme – Learner Assessment (with Mori B). University of Toronto. Toronto, Ontario, Canada.

Local


Peer-Reviewed Publications

Journal Articles


Invited Lectures and Presentations

International


National


Local


2017 Aug 10  **Invited Speaker.** Troubleshooting the Cyanotic Newborn. Pediatric Anesthesia Fellows Seminar. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Jul 18  **Invited Speaker.** Basic Cardiology. Critical Care Medicine Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Jun 8  **Invited Speaker.** TBI and raised ICP. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 May 9  **Invited Speaker.** Decision Making (Lecture & Exercise). Critical Care Medicine Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Apr 20  **Invited Speaker.** Sepsis on VA ECMO, Hemorrhagic Shock on VA ECMO. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Feb 23  **Invited Speaker.** Cardiac Anatomy and Physiology-Make it Simple. Pediatric Anesthesia Fellow Seminar. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Feb 9  **Invited Speaker.** Cardiac Physiology vs Anatomy: Keeping It Simple. Cardiovascular Surgery Anaesthesia Rounds. The Hospital for Sick Children. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Manuscripts


Invited Lectures and Presentations

Local

2017 Invited Speaker. PICU Resident Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.


2017 Invited Speaker. Critical Care Fellowship Education Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

Honours and Awards

2017 Canada Graduate Scholarship – Master’s ($17,500 over 1 year). Canadian Institutes of Health Research and University of Toronto. Mentor: Dr C Parshuram
Peer-Reviewed Publications

Journal Articles


Taylor KL, **Parshuram CS**, Ferri S, Mema B. A description of the "event manager” role in resuscitations: A qualitative study of interviews and focus groups of resuscitation participants. Journal of Critical Care. 2017;39: 254-258. **Coauthor or Collaborator**


Mtaweh H, **Parshuram CS**. Indirect Calorimetry: History, Technology, and Application. Frontiers Pediatrics. 2017. **Senior Responsible Author**

Jayaram N, Chan ML, Tang F, **Parshuram CS**, Chan PS. Frequency of medical emergency team activation prior to pediatric cardiopulmonary resuscitation. Resuscitation. 2017;115: 110-115. **Coauthor or Collaborator**
Stremler R, Haddad S, Pullenayegum E, Parshuram CS. Psychological Outcomes in Parents of Critically Ill Hospitalized Children. Journal of Pediatric Nursing. 2017;34: 36-43. **Senior Responsible Author**


**Peer-Reviewed Grants**

**Funded**


**Invited Lectures and Presentations**

**International**


2017 **Invited Speaker.** Evaluating Processes of Care and Outcomes of Children in Hospital (EPOCH) a Cluster Randomized Trial of the Bedside Pediatric Early Warning System.13th International Conference on Rapid Response Systems and Medical Emergency Teams. Chicago, Illinois, USA.

2017 **Invited Speaker.** Beyond Resiliency Training: Organizational Strategies to Alleviate Burnout and Increase Wellness in Academic Medicine. University of Texas (UT) System symposium. Houston, Texas, USA.

**Provincial**
2017 **Invited Speaker.** InCURS: Intensive Care Unit Resident Scheduling (with Piquette D): EPOCH. CCCTG. Lake Louise, Alberta, Calgary, Canada

**National**


**Local**

2017 **Invited Speaker.** The Survey - Easily the most difficult to design. PCCM Education Program. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 **Invited Speaker.** BedsidePEWS - A Documentation Based System of Care., Department of Pediatrics. The Hospital for Sick Children. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Romans RA, Schwartz SM, Costello JM, Chanani NK, Prodhan P, Gazit AZ, Smith AH, Cooper DS, Alten J, Mistry KP, Zhang W, Donohue JE, Gaeis M. Epidemiology of Noninvasive Ventilation in Pediatric Cardiac ICUs. Pediatric Critical Care Medicine. 2017 July. Coauthor or Collaborator


Peer-Reviewed Grants

Funded

2017 - 2023 Co-Principal Investigator. Pediatric Heart Network - The Hospital for Sick Children, Toronto. NIH NHLBI. PI(s): McCrindle BW, Mital S. [Grants]

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

### International

<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
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<tbody>
<tr>
<td>2017 Oct</td>
<td><strong>Visiting Professor.</strong> Looking after Hypoplastic Left Heart Syndrome – Antenatal care to Stage 1; Cardiopulmonary Interactions; Steroids and Paediatric Cardiac Surgery – What is the evidence?; Paediatric Intensive Care – Past, Present and Future Directions; Management of Post-Operative Cardiac Surgical Patients; Post-operative Cardiac Surgery Extracorporeal Membrane Oxygenation (ECMO): Medical and Nursing Care; Safety Culture in the ICU: Frequent Mishaps/ Mistakes and How to Prevent them; Endocrinological Issues in the Cardiac ICU; Physiology of the Functionally Univentricular Heart; Pulmonary Hypertension Pre and Post-Operative Cardiac Surgery; Risk and Outcomes in Congenital Heart Disease; Non-invasive ventilation in the Paediatric Cardiac ICU. HMDP Visiting Experts. Singapore.</td>
</tr>
<tr>
<td>2017 Oct</td>
<td><strong>Chair.</strong> The Neonate with Congenital Heart Disease; Transdisciplinary session: Current Management of Single Ventricle Patients.</td>
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<tr>
<td></td>
<td><strong>Invited Speaker.</strong> Physiology of the Left and Right Heart in Various Conditions; ECLS in Single Ventricle Physiology, ECLS (ECMO and Assistive Devices); Pro-Cons: Use of Dobutamine in Paediatric Cardiac Patients in the 21st Century – Useful or Useless? (Con).</td>
</tr>
<tr>
<td>2017 Jul</td>
<td><strong>Invited Speaker.</strong> Pharmaceutical vasodilation and vasoconstriction of the systemic and pulmonary circulation; Weekly Performance Rounds – Managing Threat and Error After Cardiac Surgery. 7th World Congress of Pediatric Cardiology and Cardiac Surgery. Barcelona, Spain.</td>
</tr>
<tr>
<td>2017 Apr</td>
<td><strong>Invited Speaker.</strong> Non-Invasive Ventilation for Children in cardiac Surgery; Case Presentations in Paediatric CCU Cardiorespiratory Management; Cardiopulmonary Interactions in Perioperative Paediatric Heart Disease; Intensive Care Management of Acute and Chronic Heart Failure in Children: It’s not Just About the Inotropes. National Training Program for Complex Congenital Heart Disease. Fuwai Hospital. Beijing, China.</td>
</tr>
<tr>
<td>2017 Apr</td>
<td><strong>Visiting Professor.</strong> Intensive Care Management of Acute and Chronic Heart Failure in Children: It’s not Just About the Inotropes. Our Lady’s Children’s Hospital. Dublin, Ireland.</td>
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### National

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<th>Title</th>
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<tr>
<td>2017 Oct</td>
<td><strong>Invited Speaker.</strong> When Cyanosis is the Norm. Critical Care Canada Forum. Toronto, Ontario, Canada.</td>
</tr>
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</table>
Peer-Reviewed Publications

Journal Articles


Non-Peer Reviewed Publications

Case Reports

Chan T, Shannon PT, **Detsky ME**. An unexpected but underestimated case of disseminated toxoplasmosis. 2017 Nov 20. **Senior Responsible Author**

Letters to Editor


Peer-Reviewed Grants

Funded


2017 Dec - 2019 Nov  **Co-Investigator.** Critical Care Outcomes in Hematology Malignancy and Stem Cell Transplant. CIHR. PI(s): Munshi L, Mehta S. 199,745.5 CAD. [Grants]

2016 Jul - 2021 Jun **Co-Investigator.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial. CIHR. PI(s): Daneman N, Fowler R. 2,010,635 CAD. [Grants].

2016 Jan - 2019 Dec **Consultant.** Prognosticating Outcomes and Nudging Decisions with Electronic Records in the ICU. Donaghue Foundation. PI(s): Halpern S. Collaborator(s): Courtright K, Singh J. 600,000 USD. [Grants].
Non-Peer Reviewed Grants

Funded


Invited Lectures and Presentations

International


Provincial


National


Peer-Reviewed Publications

Journal Articles


Goligher EC, Amato MPB, Slutsky AS. Applying Precision Medicine to Trial Design Using Physiology: Extracorporeal CO₂ Removal for ARDS. Am J Respir Crit Care Med. 2017;196(5):558-568. Principal Author


Reviews


Editorials & Commentary

Goligher EC. Synchrony and the Art of Mechanical Ventilation. Anesthesiology. 2017; 127:915-917. Principal Author

Goligher EC. Six questions about physician-assisted death from a conscientious objector. Linacre Q. 2017;84(2):105-107. Principal Author

Goligher EC. Not just oxygen? Mechanisms of benefit from high flow nasal cannula in acute hypoxemic respiratory failure. Am J Respir Crit Care Med 2017;195(9):1128-1131. Principal Author


Letters to the Editor

Goligher EC. Reply to: Precision Medicine for Extracorporeal CO₂ removal for ARDS: Physiological Considerations. Am J Respir Crit Care Med. 2017. Principal Author


Goligher EC, Ely EW. The authors reply. Crit Care Med. 2017;45(6):e628-e629. Principal Author
Peer-Reviewed Grants

Funded

2017 **Co-Principal Investigator.** Optimizing protective mechanical ventilation by artificial intelligence-based modelling: a strategy for achieving precision ventilation. University of Toronto. EMH Seed Competition. 60,000 CAD. [Grants]

2017 **Principal Investigator:** Mechanisms and Long-term Impact of Diaphragm Weakness in ARDS: An Ancillary Study of the Rose Trial. 65,000 CAD. [Grants]

Invited Lectures and Presentations

International

2017 May 12 **Invited Speaker.** Preventing ventilator-induced diaphragm dysfunction. SMART Conference, Milan, Italy.

2017 May 10 **Invited Speaker.** Respiratory Muscle Dysfunction in the ICU: Mechanisms and Impact. Department of Anesthesia and Intensive Care, Universita Degli Studi di Brescia, Brescia, Italy.


National

2017 **Invited Speaker.** Predicting the Physiological Response to Extracorporeal CO\(_2\) Removal: Implications for Treatment and Trial Design. Critical Care Physiology Rounds. Interdepartmental Division of Critical Care Medicine. University of Toronto, Toronto, Canada.


Local


Honours and Awards

2017 Society of Critical Care Medicine Discovery Research Grant
Peer-Reviewed Publications

Journal Articles


Lapinsky SE. Management of Acute Respiratory Failure in Pregnancy. Seminar Respir Crit Care Med. 2017;38:201-207. Principal Author

Non-Peer Reviewed Publications

Editorials


Letters to Editor

Sklar MC, Lapinsky SE. Video Laryngoscope vs. Direct Laryngoscopy in the ICU: Are We Asking the Right Question? Critical Care. 2017;21(1):112. Senior Responsible Author

Sklar MC, Lapinsky SE. Post-Intubation Hypotension in the Critically-Ill: An (Un)necessary Evil? Journal of Trauma. 2017. Senior Responsible Author

Book Chapters


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

International

National


2017 Oct  Chair. Care of the Critically ill Pregnant Patient.

Invited Speaker. Update on asthma in pregnancy.

American College of Chest Physicians. Toronto, Ontario, Canada.


2017 Mar 19  Invited Speaker. Mechanical ventilation in pregnancy. International Society for Obstetric Medicine, Cape Town, South Africa.
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

Provincial


National

2017 Oct 10 Invited Speaker. Asthma: The forgotten hypercapnic respiratory failure (with Lepine PA). Interdepartmental Division of Critical Care Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.


2017 May 9  **Chair.** Education Session (with Piquette D). Oral Viva by U of T Adult Critical Care Medicine Training Program. Toronto, Ontario, Canada.


**Local**

2017 Sep 29  **Invited Speaker.** Shock and Resuscitation. Mount Sinai Hospital, Department of Medicine, University of Toronto, Toronto, Ontario, Canada.

**Honours and Awards**

2017  IDCCM Teaching Excellence, Critical Care Medicine, Department of Medicine, Faculty of Medicine. University of Toronto. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Guenette M, Burry L, Cheung A, Farquharson T, Traille M, Mantas I, **Mehta S,** Rose L. Psychotropic Drug Use in Physically Restrained, Critically Ill Adults Receiving Mechanical Ventilation. Psychotropic drug use in


Editorials


Non-Peer Reviewed Publications

Editorials


Letters to Editor

Arabi YM, Tamim HM, **Mehta S**. Reply to letter to the editor titled "Is less really more with respect to permissive underfeeding in critical illness? Am J Respir Crit Care Med. 2017 Mar 1;195(5):692-693. **Senior Responsible Author**

Online Resources


Peer-Reviewed Grants

Funded

2014 - present **Co-Investigator**. LibeRation from MEchanicaL VEntilAtion and ScrEening Frequency Trial: The RELEASE Trial. Ontario Thoracic Society, Grant-In-Aid. PI(s): Burns K. 50,000 CAD. [Grants]

2017 Jul - 2020 Jun **Co-Investigator**. REVISE: Re-Evaluating the Inhibition of Stress Erosions: Gastrointestinal Bleeding in the ICU. Canadian Institute of Health Research, Project Scheme. PI(s): Guyatt G. 1,935,832 CAD. [Clinical Trials]

2017 Jun - 2019 May **Co-Principal Investigator**. Critical Care Outcomes in Hematologic Malignancy and Stem Cell Transplant. The Leukemia & Lymphoma Society of Canada. 199,742 CAD. [Grants]


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


2014 - 2017  Co-Investigator. Frequency of Screening And SBT Technique Trial: The FAST Trial. CIHR Operating Grant. PI(s): Burns K. 212,067.6 CAD. [Grants]

Invited Lectures and Presentations

International

2017 Nov 8 - 10  Invited Speaker. Women in Critical care: how to improve gender diversity; Early rehabilitation in the ICU: is there room for it? XIII World Congress of Intensive and Critical Care Medicine, and XXII Brazilian Congress of Intensive Care Medicine, Rio De Janeiro, Brazil.

2017 Sep 26 - 27  Invited Speaker. Pharmacological prevention: Role of antipsychotics revisited; Gender diversity in Intensive Care.

Session Co-Chair. Don’t lose your mind!

European Society of Intensive Care Medicine (ESICM) LIVES 2017, Vienna, Austria.


National

2017 Apr 27  Invited Speaker. Sedation for Mechanical Ventilation. Mechanical Ventilation – from physiology to clinical practice. CCCF and interdepartmental Division of Critical Care Medicine, University of Toronto. Toronto, Ontario, Canada.

Honours and Awards

Peer Reviewed Publications

Journal Articles


**Book Chapters**


**Peer Reviewed Grants**

**Funded**


2017 - 2018 **Co-Principal Investigator.** High flow nasal cannula during fiberoptic bronchoscopy in patients with hematologic malignancies. Godfrey Pettit Block. PI(s): Mehta S. 10,000 CAD. [Grants].

2015 - 2018 **Co-Principal Investigator.** Predictors of Apnea and Their Relationship to Time to Death Following Withdrawal of Life Sustaining Therapies. Physician Services Incorporated Award. PI(s): Singh J. 37,025.00 CAD. [Grants]


**Invited Lectures and Presentations**

**National**


**Honours and Awards**

2017 May Best Poster Presentation, Oncologic Critical Care Research Network (ONCCRNet)
Peer-Reviewed Publication

Journal Articles

Kruisselbrink R1, Chan V, Cibinel GA, Abrahamson S, Goffi A. I-AIM (Indication, Acquisition, Interpretation, Medical Decision-making) Framework for Point of Care Lung Ultrasound. Anesthesiology. 2017 Sep;127(3):568-582. Coauthor or Collaborator
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

National


Local

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

**International**

2017 May  **Invited Speaker.** Brain Blast Injuries. Tianjin Medical University, China.

**National**

2017 Oct 4  **Invited Speaker.** DCD heart donation. CCCF. Toronto, Ontario, Canada.


**Local**

24 May 2017  **Invited Speaker.** Understanding the Healing Brain Conference. St. Michael's Hospital Head Injury Clinic. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Adler D, **Brochard L**. Reply: Selection Bias in Study Participants with Acute Hypercapnic Respiratory Failure. Am J Respir Crit Care Med. 2017 Feb 8. **Senior Responsible Author**


Beloncle F, Piquilloud L, Rittayamai N, Sinderby C, Rozé H, **Brochard L**. A diaphragmatic electrical activity-based optimization strategy during pressure support ventilation improves synchronization but does not impact work of breathing. Crit Care. 2017 Jan 31;21(1):21. **Senior Responsible Author**


**Research Letters to Editors**


Vivier E, Roche-Campo F, **Brochard L**, Mekontso Dessap A. Determinants of diaphragm thickening fraction during mechanical ventilation: an ancillary study of a randomised trial. Eur Respir J. 2017 Sep 20;50(3). No abstract available. **Coauthor or Collaborator**
Goligher EC, Detsky ME, Sklar MC, Campbell VT, Greco P, Amaral AC, Ferguson ND, **Brochard L.**
Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials Chest. 2017 Jun;151(6):1399-1400. **Senior Responsible Author**

**Editorials**

Vincent JL, **Brochard L.** Do we need randomized clinical trials in extracorporeal respiratory support? We are not sure. Intensive Care Med. 2017 Dec;43(12):1869-1871. **Senior Responsible Author**

Li HL, Chen L, **Brochard L.** Protecting lungs during spontaneous breathing: what can we do? J Thorac Dis. 2017 Sep;9(9):2777-2781. **Senior Responsible Author**


**Brochard L.** AJRCCM: 100-Year Anniversary. Critical Care Medicine: A Young, Indispensable, and Adaptive Discipline. Am J Respir Crit Care Med. 2017 May 1;195(9):1090-1092. **Principal Author**

Wedzicha JA, **Brochard L.** Martinez FD, Martinez FJ, Donaldson G. AJRCCM: 100-Year Anniversary. The Long View and the Fast Lane. Am J Respir Crit Care Med. 2017 May 1;195(9):1081-1085. **Coauthor or Collaborator**

**Brochard L.** Ventilation-induced lung injury exists in spontaneously breathing patients with acute respiratory failure: Yes. Intensive Care Med. 2017 Feb;43(2):250-252. **Senior Responsible Author**

**Reviews**


Dres M, Goligher EC, Heunks LMA, **Brochard L.** Critical illness-associated diaphragm weakness. Intensive Care Med. 2017 Oct;43(10):1441-1452. **Senior Responsible Author**


**Brochard L**, Slutsky A, Pesenti A. Response to Patel el al, and Al-Qadi and Erb. Am J Respir Crit Care Med. 2017 May 1. No abstract available. **Principal Author**

Henderson WR, Chen L, Amato MB, **Brochard L**. Fifty Years of Research in ARDS. Respiratory Mechanics in Acute Respiratory Distress Syndrome. Am J Respir Crit Care Med. 2017 Mar 17. **Senior Responsible Author**


Grieco DL, Chen L, Dres M, **Brochard L**. Should we use driving pressure to set tidal volume? Curr Opin Crit Care. 2017 Feb 1;23(1):38-44. **Senior Responsible Author**

**Book Chapters**


**Peer-Reviewed Grants**

**Funded**

- **2017 Decr - present** **Principal Investigator**. Breathing effort in ARDS (BEARDS). Collaborator(s): Pham T, Dres M, Telias I, Mauri T, Mancebo J, Bellani G, Goligher E, Blanch L, Heunks L, Slutsky A. 35,000 USD. [SCCM Discovery Research Grant]

- **2016 Jul - present** **Collaborator**. Rehabilitation Aimed at Muscle Performance (RAMP). PI: Reid, Darlene. Collaborator(s): Brochard L, Brooks D, Herridge M, Singer L, Goligher E, Mathur S, Patterson K, Sheel AW. CFI 75,000 CAD. RI 75,000 CAD. CFI (maintenance) $22,500 CAD. [Grants]


- **2015 Jan - present** **Principal Investigator**. Gas eXchange eXtracorporeaL (XXL) Techniques Study. UHN/MSH AFP Innovation Fund. Brochard L, Collaborator(s): Fan, Eddy. 130,950 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**

2017 Dec 9  **Invited Speaker.** Les questions non resolues de SDRA;

**Moderator.** Oxygenotherapie haut debit: nouvelles frontieres

24th JAVA. Faculte de Medecine de Creteil. France.
2017 Dec 6 - 7  
**Invited Speaker.** PaO2/FiO2 in clinical Practice; Lung mechanics: the equation of motion at the bedside; Lung protective strategies: A practical approach; Respiratory Management; Pressure vs Volume targeted mechanical ventilation. 23rd Postgraduate Refresher Course - Cardiovascular and Respiratory Physiology Applied to Intensive Care Medicine. Hospital Erasme, Brussels, Belgium.

2017 Dec 1 - 2  
**Invited Speaker.** Nouveautés dans le SDRA; Meet des experts: Prise en charge d'une décompensation de BPCO; L'oxygène nasal a fort débit. SDRA. Tunisie.

2017 Oct 5 - 9  
**Invited Speaker.** Mechanical Ventilation in Patients with Dynamic Hyperinflation; Influence of controlled and spontaneous ventilation on intrathoracic pressure. Associacao De Medecina Intensiva Brasileira (AMIB) & European Society of Intensive Care Medicine (ESICM). World Trade Centre/Sheraton (WTC). Sao Paulo, Brazil.

2017 Sept 24 - 27  
**Invited Speaker.** Weaning from Mechanical Ventilation; P-SILI (c/o Fisher-Paykel); How do I manage the difficult to wean patient; The role of the Edi signal for intensive care patients from admission to discharge (c/o Maquet/Getinge); Monitoring diaphragmatic (dis)function by ultrasound.

**Chair.** PLUG Scientific Committee; Breathing: Is spontaneous better?; Acute Respiratory Failure Monitoring.

European Society of Intensive Care Medicine (ESICM) Annual Congress. Austria Centre, Vienna, Austria.

2017 Sept 9  
**Invited Speaker.** International Symposium of Mechanical Ventilation: Disfuncion diagnostica en UIC; Aplicacion clinica de las mediciones de la Mecanica Respiratoria. Lima, Peru.

2017 Jul 12 - 16  
**Invited Speaker.** How to Use Waveforms to Assess Patient-Ventilator Interactions; Steroids: Is There Still a Role for Them in ARDS?; The future of the Ventilatory Care of the ARDS Patient? Critical Care Conference. Special Topics in Multidisciplinary Care: Acute Respiratory Failure and Mechanical Ventilation. Reboucas Convention Center. Sao Paulo, Brazil.

2017 Jun 2  
**Invited Speaker.** Early use of assisted models in ARDS: Patient-SILI or diaphragm protective; Patient-ventilator interaction in ARDS. Scientific Symposium. Amsterdam, Netherlands.

2017 May 8 - 12  
**Invited Speaker.** Lunch Session: Spontaneous Breathing in ARDS: Between ECMO and Weaning - Patient-ventilator interaction and weaning; High Flow Oxygen Therapy - High flow oxygen therapy: for which patients?; PRO-CON Debate: Invasive ventilation: Is it beneficial in ARDS (PRO- LB / Con - M. Antonelli); Smart Tutorials - Weaning from mechanical ventilation. 28 SMART. Milan, Italy.

2017 Mar 28  

2017 Mar 21 - 23  
**Invited Speaker.** We should monitor respiratory muscle pressure; A patient with hypercapnic respiratory failure (Clinical vignettes); Monitoring the diaphragm: why?; Weaning in real life: the WIND Study; Ventilation actually prevents injury.

**Moderator:** Driving Pressure & Power – Standard Presentation; High-flow oxygen therapy and non-invasive ventilation (Standard Presentation).
**Chair:** Transpulmonary pressure – the bedside lung protective tool (Sponsored by Hamilton Medical).

37th ISICEM, Brussels, Belgium.

**2017 Mar 19**  
**Invited Speaker.** Desinging clinical trials in critical care: promise and limitations; Study design in ECMO: limits of O1, CO2 and pressures without ECMO?. Round Table Conference. Brussels, Belgium.

**2017 Feb 16**  
**Chair.** Presentation of Studies IV with Dr. Thomas Mueller. 3rd Annual Int'l ECMONet Scientific Meeting. Barcelona, Spain.

**2017 Feb 3 - 4**  
**Invited Speaker.** Ventilation: Improving patient ventilator interactions by giving control to the patients; Learn from the Master with Dr. Shirish Prayag: Difficult to ventilate ARDS patient, How do I do it; Synchrony during assisted ventilation. Critical Care Conference, Kochi, India.

**2017 Jan 11**  
**Invited Speaker.** Synthèse; Vers une nouvelle definition du sevrage; Sommeil et ventilation mecanique: comment mieux faire?; Etat des lieux en Réanimation; Epidemiologie du SDRA; Meet the experts; Comment optimiser le réglage de la PEP?; Comment optimiser le réglage de la PEP?. Reanimation SRLF. Paris, France.

**2017 Jan 9**  
**Invited Speaker.** Réglage des modes assistés (VAC, Al); Volume contrôlé – Pression contrôlée : exercice sur simulateur; Bases physiologiques de la ventilation en pression positive;SDRA:Cas clinique interactif. DU de Ventilation Artificielle, Universite d' Angers. Angers, France.

**Provincial**

**2017 Nov 17**  
**Invited Speaker.** Ventilation en ARDS. Symposium de soins intensifs. Espace Jardin, Pavillon Alphonse-Desjardins, Universite Laval, 2325, rue de l'Universite. Quebec City, Quebec, Canada.

**National**

**2017 Nov 2**  
**Invited Speaker.** Respiratory Mechanics during Mechanical Ventilation. Research Rounds, Critical Care Department Medicine, Hospital for Sick Children, Toronto, Ontario, Canada.

**2017 Oct 12**  
**Invited Speaker.** Asking the right question. Terry Hickson Research in Practice Challenge. Critical Care Department Medicine, Hospital for Sick Children, Toronto, Ontario, Canada.

**2017 Oct 1 - 4**  
**Invited Speaker.** Esophageal Manometry; Transpulmonary Pressure; Best Sbt - Physiologic Meta-Analysis.

**Moderator.** Physiology and Mechanical Ventilation with Takeshi Y; Minimizing Impact of Ventilation with Niall F.

**Chair.** Optiflow TM Nasal High Flow Across the care continuum c/o Fisher&Paykel) with Brian K.

**Panelist.** Extra Corporeal CO2 Removal (ECCO2) c/o Baxter Corporation

Critical Care Canada Forum. Toronto, Ontario, Canada.
2017 June 16  **Invited Speaker.** Biomaterials, Tissue Injury and Repair (BTR). Institute for Biomedical Engineering, Science and Technology (iBEST). Toronto, Ontario, Canada.


2017 Apr 26 - 28  **Course Director & Invited Speaker.** Physiology Principles - Equation of motion: pressures, volumes and flow; 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 ventilation; Monitoring (IV): Patient-ventilator dyssynchrony; Diseases, Syndromes, and Clinical Recommendations - Interactive case presentation: COPD. Presenter(s): with Del Sorbo, L. Mechanical Ventilation Course with CCCF. Toronto, Ontario, Canada.


**Local**

2017 Dec 18  **Invited Speaker.** Centre of Excellence in Mechanical Ventilation Retreat. Our Journey – CoEMV. St. Michael's Hospital, Department of Medicine. Toronto, Ontario, Canada.


2017 Nov 24  **Invited Speaker.** Supernova in SMH and beyond. SMH Critical Care Medicine Department Rounds. Toronto, Ontario, Canada.

2017 Feb 24  **Invited Speaker.** ARDS: What to do with the spontaneously breathing patient?. SMH Critical Care Medicine Department Rounds. Toronto, Ontario, Canada.


2017 Jan 24  **Invited Speaker.** Are we using oxygen wisely? SMH RT Education Day, Toronto, Ontario, Canada.

**Honours and Awards**

2017  Canadian Academy of Health Sciences Fellow Award. Ottawa, Ontario, Canada. (Distinction).
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 - 2021  **Co-Investigator.** CYCLE: An international, multi-centre, randomized clinical trial of early in-bed cycling for mechanically ventilated patients. CIHR. 1,980,584.00 CAD. [Grants]

2017 - 2021  **Co-Investigator.** The SuDDICU study- A study of the impact of preventative and therapeutic antibiotics on antibiotic resistance and outcome in the critically ill in intensive care. SPOR Innovative Clinical Trials. CIHR. 3,995,000 CAD. [Grants]

2017 - 2021  **Co-Investigator.** CIHR Understanding Decision-Making in Organ Donation. A national study. CIHR. 669,375.00 CAD. [Grants]

Presentations and Special Lectures

International

2017 Sept 13  **Invited Speaker.** Screening and Identifying SBT Candidates. European Respiratory Society. Milan, Italy.

Provincial

2017 June 14  **Invited Speaker.** The FAST Trial. CCCTG Meeting. Mount St Alexis. Quebec, Canada.

2017 Jan 24 - 25  **Invited Speaker.** Variation in Research Ethics Board Contracts and Approval Processes; Screening Frequency Trials: Update of Completed Trials. CCCTG. Lake Louise, Alberta, Canada.

National


Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Publications

Journal Articles

Publications


Presentations and Special Lectures

International

2017 May 21 Invited Speaker. The ratio of measured to predicted compliance: A new parameter for assessing impairment in mechanics and prognosis in acute respiratory distress syndrome; Determinants of depressive symptoms at one year after intensive care unit (ICU) discharge in survivors of ≥ seven days of mechanical ventilation: Results from the RECOVER Program. American Thoracic Society, Washington, District of Columbia, United States.

National


Invited Speaker. Critical Illness and Homelessness.

Critical Care Canada Forum. Toronto, Ontario, Canada.


Provincial


Local

Peer-Reviewed Publications

Multimedia


Principal Author

Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International


2017 Jun 26 - 29 Invited Speaker. Panel on Cardiac Arrest and Resus Care; Plenary on Self-compassion; Hardcore ICU Workshop on Neuroprognostication Post Cardiac Arrest. SMACC Berlin. Berlin, Germany.


Provincial


National


2017 Sep 14  Visiting Professor. Failing Better Grand Rounds. Queens University. Kingston, Ontario, Canada


2017 May 3  Invited Speaker. 5 Mistakes to Avoid When Ventilating your ED Patient. Emergency Medicine Update. Toronto, Ontario, Canada.


Local

Peer-Reviewed Publications

Journal Articles


Presentations and Special Lectures

International


National

2017 Jun Invited Speaker. Ontario Medical Student Association Leadership Symposium. OMA. Toronto, Ontario, Canada.

Peer-Reviewed Publications

Journal Articles


Laffey JG, Pham T, Bellani G. Continued under recognition of ARDS after the Berlin Definition: what is the solution? Curr Opin Critical Care. 2017 Feb;23(1):10-17. **Principal Author**

Curley GF, Jerkic M, Dixon S, Hogan G, O'Toole D, Devaney J, Laffey JG. Cryopreserved, xeno-free human umbilical cord mesenchymal stromal cells reduce lung injury severity and bacterial burden in rodent E. coli induced Acute Respiratory Distress Syndrome. Critical Care Med. 2017 Feb;45(2):e202-e212. **Senior Responsible Author**

Peer-Reviewed Grants

Funded

2017 Jan - 2019 Dec **Collaborator.** Development of a fuzzy logic-based depth of anesthesia decision support system [ANESTH_DSS]. Enterprise Ireland. Commercialization Grant Award. PI(s): O’Laighin, G. 364,759.53 EUR. [Grants]
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 Sep - 2018 Aug Principal Applicant. Lung ultrasound for the targeted delivery of drugs and genes to the lung. Ontario Center of Excellence (OCE) VIP1. 65,800 CAD. [Grants]


Presentations and Special Lectures

International

2017 Invited Speaker. LDL transcytosis is distinct from endocytic degradation and selective lipid uptake but requires JNK. (poster). Gordon Conference on Athersclerosis. Newry, Maine, United States.

2017 Invited Speaker. The contribution of endothelial activation and permeability to mortality in severe viral infections. 17 Congress of the European Shock Society, Institut Pasteur, Paris, France.

National

2017 Apr 18 Invited Speaker. From Virchow to Brown and Goldstein - the contribution of endothelial permeability to the pathogenesis of disease. CCIR SEMINAR SERIES. Western University. London, Ontario, Canada.

2017 Jan 28 Invited Speaker. Plugging a hole as a novel therapeutic strategy – the contribution of leaky blood vessels to death. CALAS. Toronto, Ontario, Canada.
2017 **Invited Speaker.** A barrier that is not meant to be broken- new insights into the role of the lung endothelium in lung injury (keynote speaker). IMS SCIENTIFIC DAY. Toronto, Ontario, Canada.

2017 **Invited Speaker.** Pro-Con Debate: Be it resolved that Clinical Research is more important than Basic Science research at driving clinical practice. Ontario Thoracic Society. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Wong HR, Marshall JC. Leveraging Transcriptomics to Disentangle Sepsis Heterogeneity. Am J Respir Crit Care Med. 2017 Aug 1;196(3):258-260. Coauthor or Collaborator


Peer-Reviewed Grants

Funded

2017 Jun - 2018 Jun  **Co-Investigator.** Determining the mechanisms by which active deresuscitation in stable critically ill patients may modulate clinical outcomes. British Journal of Anaesthesia / Royal College of Anaesthetists. PI(s): Silversides J. Collaborator(s): McAuley D, Blackwood B. 49,731 GBP. [Grants]

2017 May - 2018 Mar  **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. CIHR SPOR Competition on Innovative Clinical Trial Designs. PI(s): Cuthbertson B. 100,000 CAD. [Grants]

2017 May - 2018 Oct  **Principal Investigator.** The Antimicrobial Resistance in Intensive Care (AMRIC) Network: A global surveillance network to monitor the role of the ICU environment in the emergence of AMR; Phase I. 75,000 CAD. [Grants]

2017 May - 2018 Mar  **Co-Investigator.** Permissive hypotension to reduce organ injury - The OVATION-65 trial. Canadian Institutes of Health Research. PI(s): Lamontagne F. 15,000 CAD. [Grants]

2017 Apr - 2021 Feb  **Co-Investigator.** Core Outcome Set Development for Effectiveness Trials of Interventions to Prevent or Treat Delirium (Del-COrS). Canadian Institutes of Health Research. PI(s): Rose, L. 271,576 CAD. [Grants]


2017 Apr - 2021 Feb  **Co-Investigator.** REVISE: Re-Evaluating the Inhibition of Stress Erosions in the ICU. Canadian Institutes of Health Research. PI(s): Gordon G. $1,935,832. [Grants]

2017 Apr - 2018 Mar  **Co-Investigator.** Cellular Immunotherapy for Septic Shock (CISS): A Phase II Trial. Canadian Institutes of Health Research. PI(s): McIntyre L. 100,000 CAD. [Grants]

2017 - 2022  **Co-Investigator.** Role of XAF1 and MAP kinase-activated protein kinase-2 in necrosome signaling. Canadian Institutes of Health Research. PI(s): Sad S. 835,570 CAD. [Grants]

2017 – 2021  **Co-Investigator.** Developing a framework for the ethical design and conduct of pragmatic trials to improve the quality and value of health care systems and practices Canadian Institutes of Health Research. PI(s): Taljaard M. 780,300 CAD. [Grants]

Presentations and Special Lectures

International


2017 Sep 7 - 8  Invited Speaker. The gut as a target to modulate inflammation; Identifying responders to treatment. Sepsis Update 2017. Weimar Germany.


2017 May 25  Invited Speaker. From Hippocrates to Sepsis 3.0. Westmead Hospital, Sydney, Australia.


2017 May 11 - 13  Invited Speaker. Global collaboration in acute care research; Should we deresuscitate?; Abdominal trauma: Observer or operate?; Endotoxemia in critical illness: Harmful or beneficial?; InFACT: Current activities. 15th XV International Symposium of Medical Emergency and Critical Care Patient. Santiago, Chile.


2017 Apr 27 - 28  Invited Speaker. Global collaboration in critical care research; Reducing antibiotic exposure: The role of source control; Abdominal trauma: Observe or operate?; Should we deresuscitate?; Nosocomial infection: The role of the hospital environment. 14th Critical Care Symposium. Manchester, UK.

**2017 Jan 21 - 25**  
**Invited Speaker.** Plenary Lecture: Global collaboration in acute care research: Opportunities, challenges, and prospects; Putting the personal in personalized medicine: Understanding capabilities and potential benefits. Society of Critical Care Medicine 46th Annual Congress. Honolulu, Hawaii.

**National**

**2017 Oct 27**  
**Invited Speaker.** The caspase-8 survivalsome: Linking activation and cell death in the neutrophil. Symposium on Inflammation in Health and Disease, Ottawa Center for Infection, Immunity, and Inflammation. Ottawa, Canada.

**2017 Oct 14**  
**Invited Speaker.** From Hippocrates to Sepsis 3.0. Acute Care Update. St. Joseph’s Hospital. Toronto, Ontario, Canada.

**2017 Oct 2 - 4**  

**2017 Oct 1**  
**Invited Speaker.** 20 years of sepsis research. Critical Care Canada Forum, Residents’ Day. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Levin DN, Dulberg Z, Chan AW, Hare GM, Mazer CD, Hong A. A randomized-controlled trial of nabilone for the prevention of acute postoperative nausea and vomiting in elective surgery. Can J Anaesth. 2017 Apr;64(4):385-95. Coauthor or Collaborator


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International

2017 Nov 18 Invited Speaker. Transfusion Thresholds: Critically Ill versus Elective Surgical Patients; How To Strike The Balance Between Transfusion and Anemia. Joint Meeting of the Asian Society of Cardiothoracic Anesthesiologists, Hong Kong College of Anaesthesiologists, and the Society of Anesthetists of Hong Kong, Hong Kong, China.

2017 Nov 17 Invited Speaker. Transfusion Triggers in Cardiac Surgery Trial Outcome Data. 27th Annual Congress of the Association of Thoracic and Cardiovascular Surgeons of Asia, Melbourne Australia.

2017 Nov 12  Invited Speaker. TRICS III - an International Multicenter Randomized Trial of Transfusion Triggers in Cardiac Surgery. Scientific Sessions of the American Heart Association Meeting. Anaheim, California, United States.


2017 Oct 4 - 6 Invited Speaker. Goal-Directed Therapy: Liberal or Restrictive transfusion; Age of Red Cells: Does Younger Age Really Matter?; New Oral Anticoagulants and Antiplatelet Drugs in Cardiac Surgery. 16th International Congress of Cardiothoracic and Vascular Anesthesia, Rio de Janeiro, Brazil.

2017 Sept 26 Invited Speaker. Transfusion Management for Perioperative High Risk Patients; Liberal or Restrictive Transfusion in Perioperative ICU. 30th Annual Congress of the European Society of Intensive Care Medicine, Vienna, Austria.

2017 Jun 08 Invited Speaker. Progress and interim results of the TRICS-III trial. 4th Collaborative Clinical Trials in Anaesthesia, Monash University Prato Centre, Prato, Italy.

2017 Mar 30 Invited Speaker. Transfusion Controversies in Cardiac Surgery. Department of Cardiothoracic Surgery, Changzheng Hospital, Second Military Medical University, Shanghai, China.


2017 Mar 28 Invited Speaker. Current Issues in Cardiac Anesthesia and Cardiac Surgery. Department of Cardiac Surgery, Renji Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China.

Peer-Reviewed Publications

Journal Articles


**Peer-Reviewed Grants**

**Funded**

2017 - 2018 **Co-Investigator.** Remote ischemic conditioning as a treatment for traumatic brain injury: a prospective randomized controlled trial. CIMVHR

**Presentations and Special Lectures**

**International**
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<th>Date</th>
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<tbody>
<tr>
<td>2017 Oct 5</td>
<td>Invited Speaker. What is new in the management and physiopathology of the coagulopathy of trauma; complications in managing the open abdomen; managing quality improvement programs in trauma centres. Paulista Congress of Trauma Surgery of the SBAIT-SP. Sao Paulo, Brazil.</td>
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<tr>
<td>2017 Sept 15</td>
<td>Invited Speaker. Valproic acid treatment changes the transcriptome of the injured brain to enhance neuronal protection. AAST 76th Annual Meeting, Baltimore, USA.</td>
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<tr>
<td>2017 July 28</td>
<td>Invited Speaker. Resuscitation in trauma: indicators and goals for a service of excellence; Case discussion: pelvic trauma; Case discussion: blood transfusion. III International Symposium of Trauma. Sao Paulo, Brazil.</td>
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**National**

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<tbody>
<tr>
<td>2017 Apr 21</td>
<td>Invited Speaker. Coagulopathy of Trauma. Plenary Opening Session of the Joint Chair. Telemedicine and Trauma Team Training Session Meeting Australasian Trauma Society and Trauma Association of Canada. Trauma 2017. Melbourne, Australia.</td>
</tr>
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Peer-Reviewed Publications

Journal Articles


Presentations and Special Lectures

International

2017 Jun 2 Invited Speaker. The Future of Mechanical Ventilation. VU University Medical Center, Amsterdam, Netherlands.

Provincial

2017 Sept 22 Invited Speaker. New technology in neutrally controlled ventilation. PALISI Network. First meeting of the international consortium on mechanical ventilation in children. Montreal, Quebec

National

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]
### International

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<th>Date</th>
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<tr>
<td>2017 Dec 15 - 16</td>
<td><strong>Invited Speaker.</strong> Future of Lung Protection; How to write a scientific paper. Visiting Professor: Guangzhou University, Guangzhou, China.</td>
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<td>2017 Nov 3 - 4</td>
<td><strong>Invited Speaker.</strong> Neuromuscular blocking agents: How might they attenuate VILI. 6th International Marburger ARDS/ECMO Symposium, Marburg, Germany.</td>
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<td>2017 Sep 25 - 28</td>
<td><strong>Invited Speaker.</strong> Extracorporeal respiratory support: Some words of caution...; Driving pressure really adds something to our current practice: PRO. ESICM LIVES 2017, Vienna, Austria.</td>
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<tr>
<td>2017 Jun 27 - 30</td>
<td><strong>Invited Speaker.</strong> Designing future trials on ECMO/ECCO2R in ARDS: How can enrichment strategies help?; How to identify the patients most likely to respond to ECCO2R? TCS-ECMO: International Congress, Paris, France.</td>
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<tr>
<td>2017 May 22 - 24</td>
<td><strong>Invited Speaker.</strong> A Half Century of ARDS: Progress and Setbacks. ATS Meeting, Washington, DC.</td>
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<tr>
<td>2017 Mar 21 - 24</td>
<td><strong>Invited Speaker.</strong> The future of lung protective ventilation; Ventilation with zero tidal volume is the answer; High frequency ventilation: what did we do wrong?; Zero tidal volume ventilation is the answer. 37th International Symposium on Intensive Care and Emergency Medicine, Brussels.</td>
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<tr>
<td>2017 Mar 19</td>
<td><strong>Invited Speaker.</strong> A predictive enrichment strategy for ECCO2R studies: How do we pick the right patients? Round Table on ECLS, Brussels, Belgium.</td>
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<td>2017 May 12</td>
<td><strong>Invited Speaker.</strong> Why are recruitment maneuvers relevant? By Respiratory mechanics and gas exchange; Award Lecture: Reflections on a career in critical care medicine. SMART Meeting, Milan, Italy.</td>
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<tr>
<td>2017 Jan 17</td>
<td><strong>Invited Speaker.</strong> Link between Mechanical Ventilation and Multiple Organ Dysfunction. A Celebration of Cardiopulmonary Physiology from the Novel Prize to the Modern Era - NYU Langone Medical Center. New York, United States.</td>
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<tr>
<td>2017 Jan 13</td>
<td><strong>Invited Speaker.</strong> Why did HFOV (open lung plus very low tidal volume) fail? Rethinking Respiratory Intensive Care. SMART Meeting, Frankfurt, Germany.</td>
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### Provincial

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**Honours and Awards**

2017 May  Outstanding Achievements in Intensive Care Medicine Award, Smart Meeting Anesthesia Resuscitation Intensive Care. Milan, Italy.

2017  Distinguished Lecturer in Respiratory Sciences Award, Canadian Institutes of Health Research (CIHR) Institute of Circulatory and Respiratory Health (ICRH) and the Canadian Thoracic Society (CTS).
Peer-Reviewed Publications

Journal Articles


Presentations and Special Lectures

National


Honours and Awards

2017 June IDCCM Award for Teaching Excellence, St. Michael’s Hospital.
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 Jan - 2019 Dec Zhuijiang Oversea Talent Project, Respiratory Medicine, Ministry of Science and Technology, Government of Guangdong, China.

2016 Jan - 2018 Dec Zhuijiang Oversea Talent Project, Respiratory Medicine, Ministry of Science and Technology, Government of Guangdong, China.

Presentations and Special Lectures

International


2017 Apr 24 - 25  Invited Speaker. Visiting professorship. Department of Critical Care Medicine, Universitair Ziekenhuis Brussel Vrije Universiteit Brussel, Belgium.


2017 Feb 7 - 9  Invited Speaker. Visiting Professorship, Department of Critical Care Medicine, Southeast University, Nanjing, China.

Local

Peer-Reviewed Publications

Journal Articles


Book Chapters


Editorials


Letters to Editors


Peer-Reviewed Grants

Funded


### Presentations and Special Lectures

#### International

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<tr>
<th>Date</th>
<th>Title</th>
<th>Location</th>
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<tr>
<td>2017 May 18</td>
<td><strong>Invited Speaker.</strong> Challenges and opportunities for sepsis research in resource-limited settings. University of Maryland Critical Care Project. Baltimore, Maryland, United States.</td>
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#### Provincial

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<tr>
<td>2017 Feb 27</td>
<td><strong>Invited Speaker.</strong> BASIC Research Program. InFACT winter meeting. Whistler, British Columbia, Canada.</td>
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#### National

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<tr>
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Peer Reviewed Publications

Journal Articles

D’Empaire PP, Amaral AC. What every intensivist should know about handovers in the intensive care unit. Rev Bras Ter Intensiva. 2017 Apr 1;29(2):121-123. Senior Responsible Author


Letters to Editor


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

International

2017 Nov 8 - 11 Invited Speaker. Using Rapid Response Teams to Identify Targets for Quality Improvement; Handovers: Friend or foe; How to reduce the burnout?; Communications: the secret to success; Can the team mental model improve the workplace? The XIII World Congress of Intensive and Critical Care Medicine and the XXII Brazilian Congress of Intensive Care Medicine. Rio de Janeiro, Brazil.

National

2017 Nov 14  Invited Speaker. Families as Part of the Team to Improve Quality of Care. Trillium Health Partners. Mississauga, Ontario, Canada.

Peer-Reviewed Publication

Journal Articles


Peer Reviewed Grants

Funded


Presentations and Special Lectures

National

Peer-Reviewed Publications

Journal Articles

**Cuthbertson BH**, Goddard S. Benefits and harms of early rehabilitation. Intensive Care Med. 2017 Dec;43(12):1878-1880. **Principal Author**


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. Neurocrit Care. 2017 Feb;26(1):14-25. **Coauthor or Collaborator**


Peer-Reviewed Grants

Funded

- **Principal Investigator**. The SuDDICU study – A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research. SPOR Innovative Clinical Trial Multi-year Grants. Collaborator(s): Murthy S, Garber GE, Misak C, Rose L et al.. $100,000.00 CAD. [Operating Grants]

- **Principal Investigator**. The SuDDICU study – A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research. Collaborator(s): Murthy S, Garber GE, Misak C, Rose L et al. 100,000 CAD. [Grants]

- **Chief International Investigator**. SuDDICU study. Health Research Council of New Zealand. PI(s): Young, Paul. Collaborator(s): MacArthur C, Seaton H. 1,200,000 NZD. [Grants]


Zealand College of Anaesthetists. PI(s): Myles P. Collaborator(s): Pearse R, Shulman M, Wallace S, Wijeysundera, D. 130,420 AUD. [Grants]


Presentations and Special Lectures

International


Monash University. Victoria, Australia.

Provincial


National

2017 Oct 1-3 Invited Speaker. Improving Long-Term Outcomes: Early Rehabilitation - All Good?; Plenary: End of Life Care and Immigration Status in Ontario; Session 8 - Two Decades of Big Lessons.

Moderator. We Will Improve Outcome in Sepsis If We…

Critical Care Canada Forum. Toronto, Ontario, Canada.

Peer-Reviewed Publications

Journal Articles

Saun TJ, Odorizzi S, Yeung C, Johnson M, Bandiera G, Dev S. A Peer-Reviewed Instructional Video is as Effective as a Standard Recorded Didactic Lecture in Medical Trainees Performing Chest Tube Insertion: A Randomized Controlled Trial. Journal of Surgical Education. 2017 May;74(3):437-442. Senior Responsible Author


Essay


Magazine interview


Interviewee

Peer Reviewed Grants

Funded


Presentations and Special Lectures

National

2017 Nov 13 Keynote Speaker. Professionalism and Wellness in Residency. Faculty Development Day, Department of Anaesthesiology, University of Toronto. Toronto, Ontario, Canada.


2017 Oct 3 Invited Speaker. Rapid Response is Stuck in the Elevator: Managing Your Critically Ill Patient on the Ward. Postgraduate Year 2 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.


2017 Aug 30 Invited Speaker. Little Brother is Watching: Role Models, Professionalism and The Hidden Curriculum. Postgraduate Year 3 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.

2017 Jul 27 Invited Speaker. The Shock Doctrine: A Physiologic Journey. Postgraduate Year 1 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.


2017 May 30 Developer/Facilitator. The Teaching Dossier: An Educator's Tale. Education Scholar's Program, Centre for Faculty Development. Toronto, Ontario, Canada. Presenter(s): Mema B.


2017 May 2 Invited Speaker. Story Slam: “Straight from the Mouths of Babes”. Department of Medicine, University of Toronto. Toronto, Ontario, Canada.

2017 Mar 14 Invited Speaker. Medicine and the Pursuit of Wellness. Interdepartmental Division of Critical Care Medicine, University of Toronto. Toronto, Ontario, Canada.

2017 Mar 8 Invited Speaker. Making Learning Stick. Students As Teachers, University of Toronto Faculty of Medicine. Toronto, Ontario, Canada.

2017 Jan 10 Invited Speaker. Unforgettable: Making Learning Stick. Toronto East General Hospital, Department of Continuing Medical Education. Toronto, Ontario, Canada.
Local

Peer-Reviewed Publications

Journals


Letters


Peer-Reviewed Grants

Funded


2016 - 2018 **Co-Investigator** BALANCE of the microbiome. Physicians’ Services Ontario. PI(s): Daneman N. 165,500 CAD. [Grants]

2016 - 2018 **Supervisor.** Level of training and end-of-life predictions: a prospective study of resident and attending physicians prognosis agreement and accuracy. Resident: Yarnell C. Physicians’ Services Incorporated Resident Research Award (Ontario). 19,000 CAD. [Grants]


2009 - present  **Co-Principal Investigator.** Improving Continuity of Care for Critically-Ill and At-Risk Patients. AFP Innovation Fund Ontario. Collaborator(s): Scales, D. 60,200 CAD. [Grants]

**Presentations and Special Lectures**

**International**


2017 Oct 15 - 16  **Invited Speaker.** The BALANCE TRIAL. King Faisal Specialist Hospital and Research Centre; King Abdulaziz Medical City, Ministry of National Guard, Health Affairs. Jeddah, Saudi Arabia.


2017 Jan 4  **Invited Speaker.** Intensive Care Medicine: Caring for Critically Ill Patients When There is No ICU. University of Pittsburgh Medical Centre Department of Critical Care Medicine Grand Rounds. Pittsburgh, USA.

**Provincial**

2017 June 12  **Invited Speaker.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE) Trial Start-up Meeting. Presenter(s): Rishu A, Daneman N. Lac a l’eau Claire, Quebec.


**National**

2017 Oct 5  **Invited Speaker.** Fire-side Chat with faculty from various disciplines. University of Toronto Department of Medicine Post Graduate Year 1 Scholarly Talk. Presenter(s): Wong B, Ginsburg S. Toronto, Ontario, Canada.
2017 Oct 2 - 4  **Invite Speaker.** Bayesian Analyses: exploiting your bias; End of Life Care and Immigration Status in Ontario. Critical Care Canada Forum. Toronto, Ontario, Canada.

2017 June 20  **Invited Speaker.** Critical Care Sans Frontieres. Interdepartmental Division of Critical Care Medicine Research Day. University of Toronto. Toronto, Ontario, Canada.


2017 Apr 12  **Moderator.** Nuts and Bolts of Research. Li Ka Shing Knowledge Institute. Toronto, Ontario, Canada.

2017 Apr 7  **Invited Speaker.** Too much of a good thing. Department of Critical Care Medicine Grand Rounds. St. Michael’s Hospital. Toronto, Ontario, Canada.

2017 Feb 2017  **Invited Speaker.** Caring for Patients When there is No ICU. University of Toronto Medicine Global Health Elective Series. Toronto, Ontario, Canada.

**Local**

2017 May 31  **Invite Speaker.** Where you are born, where you die. Department of Critical Care Medicine Grand Rounds. Sunnybrook Hospital. Toronto, Ontario, Canada.

**Honours and Awards**

2017  Mentorship Award, Sunnybrook Health Sciences Centre Department of Medicine

2017  Mid-Career Achievement Award, American Thoracic Society

2017  Teasdale-Corti Humanitarian Award, Royal College of Physicians and Surgeons of Canada
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2016 - 2017 Principal Investigator. The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients. CIHR. 92,500 CAD. [Grants]

Presentations and Special Lectures

National


Local

Peer-Reviewed Grants

Funded


2016 Jun - 2017 Jun **Principal Investigator.** Overnight Hospital Supervision of Housestaff In Training in Intensive Care Units. Collaborator(s): Katz D, Detsky M. MSH Innovation in Education Grant. 5000 CAD. [Grants]


Presentations and Special Lectures

International

2017 Aug 29 **Invited Speaker.** From Apprenticeship to CBME: Four epidemics, one remedy? Association of Medical Education in Europe (AMEE) 2017. Helsinki, Finland.
Provincial


National

2017 Dec 7  Invited Speaker. Do residents learn during a 4-week ICU rotation? Sickkids Critical Care Research Rounds. Toronto, Ontario, Canada.

2017 Dec 1  Invited Speaker. Virtual Reality simulators for skills training: Using them to the max; Is there a valid tool in simulation or do I need to develop one to assess competency of my trainee?. Workshop at the Sim-One Expo. Toronto, Ontario, Canada.


Local

Peer-Reviewed Publications

Journal Articles

Dale C, King J, Nonoyama M, Mckim D, Road J. Rose L. Transitions during home mechanical ventilation: The experiences of Canadian ventilator assisted adults and their family caregivers. ATS Annals. 28 Dec 2017. Senior Responsible Author


Rose L, Adhikari NKJ, Leasa D, Fergusson DA, McKim D. Cough augmentation techniques for extubation and weaning of critically ill patients. Cochrane Database of Systematic Reviews 11 Jan 2017; 1:CD011833. Principal Author

Rose L, Agar M, Burry L, Campbell N, Clarke M, Lee J, Siddiqi N, Page, V. Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-COrS): Study protocol. BMJ Open. 2017; 7(9):e01637. Principal Author


Tume L, Blackwood B, Kneyber M, Rose L. Mechanical ventilation, weaning practices and decision-making in European paediatric intensive care units. Pediatric Critical Care Medicine. 2017;18(4):e182-e188. Senior Responsible Author


Peer-Reviewed Grants

Funded


2017 **Co-Investigator.** Preventing emergency department visits using tablet technology to identify people with unrecognized dementia. Collaborator(s): Lee J, Tierney M, Chignell M. Canadian Centre for Aging & Brain Health Innovation (CC-ABHI) Spark Fund. 49,997.58 CAD. [Grants]

**Presentations and Special Lectures**

**International**


2017 June 16 **Invited Speaker.** Update on UK airway clearance survey and lessons from Canada. UK Home Mechanical Ventilation meeting. London, England, United Kingdom.

2017 Apr 20 - 22 **Invited Speaker.** Strategies to Enable Communication for Critically Ill Patients; Promoting cough in the critically ill 10\textsuperscript{th} International Congress of the Croatian Nurses Society of Anaesthesia, Reanimation, Intensive Care and Transfusion. Sibenik, Croatia.

2017 Mar 31 - Apr 1 **Invited Speaker.** Strategies to Enable Communication for Critically Ill Patients; Cough Augmentation Techniques in the Critically Ill. Congress of the Icelandic Critical Care Society. Reykjavik, Iceland.
2017 Feb 15 -18  **Invited Speaker.** Promoting cough in the critically ill; Feasibility of the electrolarynx for communication in the critically ill. 7th European Federation of Critical Care Nurses Association. Belfast, Northern Ireland.

2017 Feb 1  **Invited Speaker.** In 2030 nurses will be in charge of the ICU. IC-Gelre Symposium. Apeldoorn, Netherlands.

**Local**

2017  **Invited Speaker.** Non-invasive oxygen strategies for adults with hypoxemic respiratory failure. SPARC Annual meeting. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Senior Responsible Author


Coauthor or Collaborator


Pham T, Rubenfeld GD. Fifty Years of Research in ARDS. The Epidemiology of ARDS: A Fiftieth Birthday Review. Am J Respir Crit Care Med. 2017 Feb 3. Senior Responsible Author


Journal Articles, Multicenter Study


Journal Articles, Review

Editorials

Shankar-Hari M, Rubenfeld GD. The use of enrichment to reduce statistically indeterminate or negative trials in critical care. Anaesthesia. 2017 May 1;72(5):560-565. Senior Responsible Author

Peer-Reviewed Grants

Funded


Non-Peer Reviewed Grants

Funded


Presentations and Special Lectures

International


2017 May 20 - 24 **Invited Speaker.** Changing Definitions: Progress?; Evaluation of a Web Based Intervention to Improve Adherence to Lung Protective Ventilation: The Lung Injury Knowledge Network (LINK); My Mistakes in Trying to Implement and How to Avoid Repeating Them.


2017 Mar 21 - 22  **Moderator.** Standard presentation - For a better ICU team. Presenter(s): Jean-Paul Mira (France).

**Invited Speaker.** ‘PRO’: Do we really need to limit tidal volume in everyone?; Improving mechanical ventilation: do we know enough to benchmark?

**Facilitator.** Poster discussions and Poster awards - ICU organization-outcomes scores-ethics.


**National**

2017 Aug 1  **Invited Speaker.** Why we agree on the evidence but disagree on the medicine: the role of priors, values, costs, and risks in guideline development. University of Toronto, Critical Care Residency Program. Toronto, Ontario, Canada.


2017 Apr 28  **Invited Speaker.** ARDS: Evidence-based management of ARDS. University of Toronto, Mechanical Ventilation From physiology to clinical practice. Toronto, Ontario, Canada.

2017 Apr 12  **Invited Speaker.** Writing pearls and pitfalls. University of Toronto, IDCCM Research - NABOR Symposium. Toronto, Ontario, Canada.


**Local**

2017 Jun 8  **Invited Speaker.** Conflicts in end of life care: are nurses the solution? M2 Critical Care Conference, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Seymour CW, Kahn JM, Martin-Gill C, Callaway CW, Yealy DM, Scales D, Angus DC. Delays From First Medical Contact to Antibiotic Administration for Sepsis. Crit Care Med. 2017 Feb 23. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28234754. Coauthor or Collaborator

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. Neurocrit Care. 2017 Feb 1;26(1):14-25. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 27601069. Coauthor or Collaborator


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(s): Mushahwar V, Emmons K. Collaborator(s): Dukelow S, Ferguson N, McCabe C, Tsuyuki R, Zygun D. 100,000. [Grants]


**Presentations and Special Lectures**

**International**


2017 Jan 11  **Visiting Professor.** Therapeutic Hypothermia after Cardiac Arrest. Cleveland Clinic. Ohio, United States.

**Provincial**


**National**

2017 Oct 19  **Invited Speaker.** What are CIHR, PSI, and TVN and what types of grants go to each? IDCCM, NABOR. Toronto, Ontario, Canada.

2017 Sep 12  **Invited Speaker.** Moving critical care upstream: studying time-sensitive treatments. ICES, Evaluative Clinical Sciences Rounds. Toronto, Ontario, Canada.

2017 Apr  **Invited Speaker.** Strategic approaches to grant submission at CIHR (and beyond). Nuts And Bolts Of Research (NABOR), Interdepartmental Division of Critical Care Medicine. Toronto, Ontario, Canada.

2017 Mar 22  **Visiting Professor.** Neurological Prognostication after Cardiac Arrest. Windsor Regional Hospital, Medical Grand Rounds, Metropolitan (Hotel-Dieu) Campus.

**Visiting Professor.** Neurological Prognostication after Cardiac Arrest. Windsor Regional Hospital, Medical Grand Rounds, Ouellette Campus.

Windsor, Ontario, Canada.


Local

2017  Invited Speaker. Debate: Temperature management after cardiac arrest: To cool, not to cool, or just too cool? Critical Care Challenges Conference - Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada. Presenter(s): Adhikari N.

Honours and Awards

2017 Mar 2017 CERN-RCRSP EMS Research Mentorship Award. Canadian EMS Research Network - Reseau Canadien de Recherche en Soins Prehospitaliers (CERN-RCRSP), Canada. (Distinction)
Peer-Reviewed Publications

Journal Articles


Letters to Editor


Peer-Reviewed Grants

Funded


Presentations and Special Lectures

Local

2017 Oct Invited Speaker. Optiflow vs NIV. Department of Critical Care Medicine, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Commentaries


Presentations and Special Lectures

National

Peer-Reviewed Grants

Funded

2017 Jan - present  **Principal Investigator.** Prevalence of Risky Driving Behaviors on Popular TV Series. Sunnybrook General Surgery AEF Grant. Collaborator(s): Tien A, Chu P. 6,500 CAD. [Grants]

Presentations and Special Lectures

Local


Honours and Awards

Peer-Reviewed Publications

Journal Articles


Hua M, Gong MN, Miltiades A, Wunsch H. Outcomes after Rehospitalization at the Same Hospital or a Different Hospital Following Critical Illness. Am J Respir Crit Care Med. 2017; 195:1486-1493. Coauthor or Collaborator


Editorials, Letters, and Review Chapters


Peer-Reviewed Grants

Funded

2017 - 2021 Principal Investigator. Acute Pain Management and Long-term Opioid Use after Surgery. NIH/NIDA. PI(s): Newman M. 2,100,000 million CAD.

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


Presentations and Special Lectures

International

2017 Sep Invited Speaker. Understanding who will benefit from intensive care; Perioperative ICU admission - risk stratification. European Society of Intensive Care Medicine Annual Meeting. Vienna, Austria


2017 Mar Invited Speaker. A higher mortality rate can be a sign of quality; Epidemiology of vasopressor use in the United States; How many doctors do we need?; Who will be readmitted?; Association between norepinephrine shortage and mortality among patients with septic shock. International Society of Intensive Care and Emergency Medicine. Brussels, Belgium


2017 Jan Invited Speaker. What happens after the ICU, particularly for the chronically critically ill? Society of Critical Care Medicine Annual Meeting. Honolulu, Hawaii, USA.
National


2017 Oct  Invited Speaker. Getting it wrong with large datasets; Critical Care: Learning from Natural Experiments. Critical Care Canada Forum, Toronto, Canada

Honours and Awards

2017  Star Research Achievement Award, Society of Critical Care Medicine

2017  Presidential Citation, Society of Critical Care Medicine
Peer-Reviewed Publications

Journal Articles


Letters to Editor

**Book Chapters**


**Presentations and Special Lectures**

**International**


2017 Feb 16  **Invited Speaker.** Strategies of weaning from veno-venous extra-corporeal life support trial. 3rd Annual International ECMONet Scientific Meeting. Barcelona, Spain.

**National**


Peer Reviewed Publications

Journal Articles


Downar J, Francescutti LH. Medical assistance in dying: time for physicians to step up to protect themselves and patients. CMAJ. 2017 Jun 26;189(25):E849-E850. Principal Author


Non-Peer Reviewed Publications

Journal Articles
Downar J, Bakker J. The authors reply. Crit Care Med. 2017 Jun 1;45(6):e627. Principal Author

Comment, Letters to Editor

Downar J, Goldman R, Pinto R, Englesakis M, Adhikari N. The authors respond to “The utility and value of the ‘surprise question’ for patients with serious illness”. CMAJ. 2017 Aug 21;189(33):E1074. Principal Author


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 (KA), O’Neill B (KA), Robertson D (KA), Wickson P (KA), Zygun D (KA), Allatt P (CA), Au S (CA), Berg B(CA), Cohen R(CA), Coyle D (CA), Day A (CA), Ely W (CA), Fiess K (CA), Gralimich L (CA), Grant C (CA), Harries B (CA), Hartwick M (CA), Holroyd-Leduc J (CA), Jenkins J (CA), Kyreremanteng K (CA), Mortzakis 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

2017 Jun 16  
**Invited Lecturer.** Lisbon Series on Palliative Care- Congestive Heart Failure. Catholic University of Portugal, Lisbon, Lisboa, Portugal.

Provincial

2017 Dec 7  
**Visiting Professor.** Soins palliatifs pour les maladies non-cancéreuses; Lavale University- Department of Medicine, Quebec, Quebec, Canada.

2017 Dec 6  
**Visiting Professor.** Soins palliatifs dans l’unite de soins intensifs. Lavale University- Division of Critical Care, Quebec, Quebec, Canada.

2017 Oct 26 - 27  
**Invited Lecturer.** Who can benefit from Palliative Care; Palliative Care in the ICU; Medical Aid in Dying: the First Year. St. John Regional Hospice Annual Conference. St. John, New Brunswick, Canada

2017 Sep 14  
**Keynote Speaker.** Palliative Care and its Relationship with Medical Aid in Dying (with Onwuteaka-Philipsen J, Chambaere K, Wasylenko E).

**Keynote Speaker.** End of Life Care in Canada.

**Invited Speaker.** Rasouli vs. Carter: Why was one wrong and the other right?

2017 May 9  
**Visiting Professor.** Palliative Care for Non-Cancer Illness. University of Victoria, Victoria, British Columbia, Canada.

2017 May 9  
**Visiting Professor.** Identifying patients who may benefit from Palliative Care. BC Cancer Agency, Vancouver, British Columbia, Canada.

2017 May 8  
**Visiting Professor.** Palliative Care and Bereavement Support in the Critically Ill. University of Victoria, Victoria, British Columbia, Canada.

2017 May 5  
**Invited Lecturer.** Medical Aid in Dying: the First Year. College of Physicians and Surgeons of Newfoundland and Labrador, St. John’s, Newfoundland and Labrador, Canada.

2017 Feb 28  

2017 Feb 25  
**Invited Speaker.** Medico-Legal Challenges in Modern Spinal Practice (with Blackmer J, MacNeil P). Canadian Spine Society Annual Scientific Conference, Montreal, Quebec, Canada.

National

2017 Nov 4  
**Presenter.** Advance Consent for Medical Aid in Dying- Pro-Con Debate (with Gokool S).
Presenter. Palliative Care for the Frail Elderly.

9th Annual Canadian Conference on Dementia. Toronto, Ontario, Canada.

2017 Nov 3

Presenter. Palliative Care for the General Internist.

Presenter. Medical Aid in Dying in Canada (with Ailon J).

Canadian Society of Internal Medicine. Toronto, Ontario, Canada.

2017 Nov 1


2017 Oct 2


2017 Sep 27

Presenter. Canadian Medical Association Webinar on Medical Aid in Dying. Joule, Inc. Canada. A series of webinars given by the Canadian Medical Association to teach providers how to perform Medical Aid in Dying. Covered the topics of assessing competence and technical considerations. (Total of 8 x 1.5h seminars - Sep 27, Oct 5, 18, 24, Nov 14, 21, 22, 30).

2017 Sep 27

Presenter. Canadian Medical Association Webinar on Medical Aid in Dying. Joule, Inc. Canada. A series of face-to-face workshops given by the Canadian Medical Association to teach providers how to perform Medical Aid in Dying. Covered the topics of assessing competence and technical considerations. (Total of 3 x 8h seminars - Oct 13 (London), Nov 20 (Ottawa), Dec 5 (Toronto)).

2017 Sep 26


2017 Sep 21


2017 Oct 19


2017 Oct 12

Invited Speaker. End of Life Care in the ICU. William Osler Health Centre. Brampton, Ontario, Canada.

2017 Jun 21


2017 Jun 20


2017 Jun 22


2017 May 24


2017 May 5  **Invited Lecturer.** Medical Aid in Dying: the First Year. Canadian Blood Services: Conference to Develop Guidelines for Organ Donation in the Conscious Competent Patients. Toronto, Ontario, Canada.

2017 Apr 30  **Invited Speaker.** Medical Aid in Dying. Canadian Islamic Bioethics Conference. Toronto, Ontario, Canada.


2017 Apr 22  **Invited Speaker.** Palliative Care in the ICU. Canadian Geriatrics Society. Toronto, Ontario, Canada.


2017 Apr 21  **Keynote Speaker.** Medical Aid in Dying: the first few months (with Bowman K). Canadian Geriatrics Society, Toronto, Ontario, Canada.

2017 Apr 5  **Invited Speaker.** Medical Aid in Dying: the first 6 months. University of Toronto. Department of Surgery. Toronto, Ontario, Canada.

2017 Mar 10  **Presenter.** mHOMR Automated Mortality Prediction Tool. iGAP National Research Meeting, Hamilton, Ontario, Canada.


2017 Feb 23  **Presenter.** National Webinar: Frailty and Palliative Care (with Moorhouse P). Canadian Hospice Palliative Care Association, Canada.

2017 Feb 3  **Invited Speaker.** Chronic Disease Management and Medical Assistance in Dying. Ontario Hospital Association. Toronto, Ontario, Canada.

**Media Appearances**

2017 Jul 14  **Invited Speaker.** Access to Medical Aid in Dying. Your Morning. CTV, Canada.


2017 Apr 17  **Presenter.** Conscientious objection to Medical Aid in Dying. Interviewer: Steve Paikin. The Agenda. TV Ontario, Ontario, Canada.


**Local**


**Honours and Awards**

2016 May Health Professional Award, World Federation of Right to Die Societies. (Distinction)
Peer Reviewed Publications

Journal Articles


deBacker J, Tamberg E, Munshi L, Burry L, Fan E, Mehta S. Sedation Practice in Extracorporeal Membrane Oxygenation-Treated Patients with Acute Respiratory Distress Syndrome: A Retrospective Study. ASAIO J. 2017 Oct 18. Coauthor or Collaborator


**Fan E, Brodie D, Slutsky AS.** Fifty Years of Research in ARDS. Mechanical Ventilation during Extracorporeal Support for Acute Respiratory Distress Syndrome. For Now, a Necessary Evil. Am J Respir Crit Care Med. 2017 May 1;195(9):1137-1139. **Principal Author**


**Pettenuzzo T, Fan E.** 2016 Year in Review: Mechanical Ventilation. Respir Care. 2017 May 1;62(5):629-635. **Senior Responsible Author**


**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. 2017 Feb 1;43(2):155-170. **Senior Responsible Author**


Editorials

Fan E, Rubenfeld GD. Driving Pressure-The Emperor’s New Clothes. Crit Care Med. 2017 May 1;45(5):919-920. Principal Author
Non-Peer Reviewed Publications

Journal Articles


Book Chapters


Peer-Reviewed Funding

Funded


Non-Peer Reviewed Funding

Funded

Invited Lectures and Presentations

**International**


2017 Oct 14  **Invited Speaker.** When I’m 65….; What Are the Right Outcomes? Lessons Learned from the Pediatric World; Oxygenation Comes With a Cost Asia-Pacific ELSO Meeting. Gold Coast, Australia.

2017 Sep 30  **Invited Speaker.** No Lungs? No Problem! We Can Support You. 30th Annual ELSO Conference. Baltimore, Maryland, United States.

2017 Aug 31  **Invited Speaker.** Outcomes in Caregivers of Critically Ill Patients; Liberation from Mechanical Ventilation: Clinical Practice Guidelines; The RECOVER Study. 27th Congresso Argentino de Terapia Intesiva. Cordoba, Argentina.


**Provincial**

2017 Feb 28  **Invited Speaker.** Ventilatory Management of ARDS: What Have We Learned in 50 Years?; Extracorporeal Support for Respiratory Failure – A to Z. Department of Critical Care Education Rounds. Interior Health, Kelowna, British Columbia, Canada.

**National**


2017 Jun 20  **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Toronto and Beyond. Art Slutsky Research Day, Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.
2017 Jun 2  **Invited Speaker.** Albumin: Good, Bad, or Ugly? University of Toronto Transfusion Bootcamp. Toronto, Ontario, Canada.

2017 Jun 1  **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Lung Transplantation and Artificial Lung Support. Division of Thoracic Surgery, University of Toronto, Toronto, Ontario, Canada.


**Local**

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Funding

Funded


2013 Jul - 2018 Jun **Collaborator.** Linking Ventilator-Induced Diaphragm Dysfunction and Weaning Failure due to Diaphragm Inactivity During Mechanical Ventilation. Canadian Institutes of Health Research (CIHR). CIHR Postdoctoral Fellowship. PI(s): Goligher EC. Collaborator(s): Kavanagh BP. 275,000 CAD. [Grants]

**Invited Lectures and Presentations**

**International**

2017 Oct 13 - 14 **Invited Speaker.** ECMO at the Front Door – You Must Be Kidding; Monitoring the Diaphragm During ECMO; To Rest or Recruit During V-V ECMO. Asia-Pacific Extra-Corporeal Life Support Organization Conference, Gold Coast, Australia.


2017 Jul 15 **Invited Speaker.** Do We Still Need ARDS? Yes!; Monitoring and Improving Diaphragm Function with Ultrasound During Mechanical Ventilation. 20th International Forum on Critical Care Medicine, Mexico City, Mexico.

2017 Jun 29 **Invited Speaker.** How to Recruit the Lung in ARDS. TCS-ECMO International Conference, Paris, France.

2017 May 25 – 26 **Invited Speaker.** How, When and in Whom to Recruit the Lung; Clinical Challenges in Mechanical Ventilation. 11th National Congress of the Colombian Society of Intensive Care Medicine. Medellín, Colombia.


**Provincial**

2017 Mar 2 **Invited Speaker.** How to Oxygenate and Ventilate…with ECLS. Canadian Critical Care Conference. Whistler, British Columbia, Canada.

**National**

2017 Oct 2 **Invited Speaker.** We Still Need ARDS. Critical Care Canada Forum 2017, Toronto, Ontario, Canada.

Peer-Reviewed Publications

Journal Articles


Baillie TJ, Granton JT. Lung Transplantation for Pulmonary Hypertension and Strategies to Bridge to Transplant. Semin Respir Crit Care Med. 2017 Oct 2017; 38(5):701-710. Senior Responsible Author


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


Provincial

2017 Jun 8 Distinguished Speaker. Getting the RV out of trouble. Inagural Dean Bell Memorial lecture. Winnipeg, Manitoba, Canada.

National


2017 Sep 25 Invited Speaker. Treat to close. ACHD. Toronto, Ontario, Canada.

2017 Jun 1 Invited Speaker. Transplantation for the intensivist. Toronto, Ontario, Canada.


Peer-Reviewed Publications

Journal Articles


Herridge MS. Fifty Years of Research in ARDS. Long-Term Follow-up after Acute Respiratory Distress Syndrome. Insights for Managing Medical Complexity after Critical Illness. Am J Respir Crit Care Med. 2017 Dec 1;196(11):1380-1384. Principal Author


Non Peer-Reviewed Publications

Peer-Reviewed Funding

Funded

2017 Jul - 2019 Jun **Co-Investigator.** Critical Care Outcomes in Hematology Malignancy and Stem Cell Transplant Leukemia and Lymphoma Society of Canada. PI: Munshi L, Mehta S. 199,742.5 CAD. [Clinical Trials].

2017 Jul - 2018 Jun **Co-Investigator.** CYCLE Vanguard: The Catalyst to an International Randomized Comparative Effectiveness Trial of Early in-Bed Cycling with Mechanically Ventilated Patients. CIHR. $100,000.00 CAD. [Grants]

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]


2014 Sep - 2019 Aug **Co-Investigator.** The Canadian Critical Care Trials Group. Canadian Institutes of Health Research. The Canadian Critical Care Trials Group, CD1 138094. PI(s): HerbertP. Collaborator(s): Burns K, Turgeon A, Sinuff T, Seeley A. 1,500,000 CAD. [Grants]

Invited Lectures and Presentations

International

2017 Nov **Invited Speaker.** Current Understanding of ICU Survivorship; The Future of ICU Survivorship. 5th European Conference on Weaning and Rehabilitation in Critically Ill Patients, London, United Kingdom.

2017 Sep **Invited Speaker.** ICM Year in Review: Nutrition; Chronic Critical Illness; Global Ageing: Selecting the right patient and supporting the survivors; Vitamin C: We Need Proper Evidence. European Society of Critical Care Medicine. Vienna, Austria.

2017 Jun **Invited Speaker.** Did Nietzsche Know Anything About Critical Illness Survivors?

**Member of Expert Panel Discussion.** Critical Illness...Heroes, Victims, Victors, Survivors?

Das Social Media and Critical Care. Berlin, Germany.


National

2017 Oct  **Invited Speaker.** Impact of the Caregiving Role During and After an episode of Critical Illness. CHEST. Toronto, Ontario, Canada.

2017 Oct  **Interviewer.** Toronto Star newspaper- print article on the RECOVER program. Toronto, Ontario, Canada. Discussion about patient and caregiver needs after an episode of critical illness. Available from: [https://www.thestar.com](https://www.thestar.com)


Honours and Awards


2017 Jun  Inaugural Excellence in Research Faculty Award. Division of Respiology. Department of Medicine. University of Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Pichette M, Goffi A. A 45-Year-Old Man with Severe Respiratory Failure after Cardiac Arrest. Chest. 2017 Jul. Senior Responsible Author


Letters to Editor


Peer-Reviewed Funding

Funded

2017 - present Co-Investigator. A study evaluating, in patients with severe ARDS supported with extracorporeal membrane oxygenation (ECMO), the impact of tidal ventilation and positive end-expiratory pressure (PEEP) on ventilator-induced lung injury (Strategies for Optimal Lung Ventilation in ECMO for ARDS: The SOLVE ARDS Study).

2017 - present Co-Investigator. A study evaluating the role of lung ultrasound in the follow-up of patients undergoing lung transplant.

2017 Sep - present **Co-Investigator.** Lung ultrasound and microbubbles for drug or gene delivery in ARDS. A study exploring feasibility of ultrasound-induced microbubble cavitation for drug or gene delivery targeted specifically to the injured lung. PI: Lee W.

2016 Aug - present **Site-Investigator.** PROSPECT (Probiotics: Prevention of Severe Pneumonia and Endotracheal Colonization) Trial - The study investigates whether orally ingested L. rhamnosus GG prevents VAP and other infections. Canadian Critical Care Trials Group (CCCTG).

2016 Aug - present **Co-Investigator.** Re-Evaluating the Inhibition of Stress Erosions (REVISE): Gastrointestinal Bleeding Prophylaxis In ICU - A Randomized Trial. The study will aim to determine, among mechanically ventilated patients, the effect of withholding vs administering daily pantoprazole on clinically important upper GI bleeding (primary outcome) and pneumonia, C. difficile infection, length of stay and mortality. REVISE will be conducted in collaboration with the Canadian, Australian, and New Zealand Critical Care Trials Groups, under the auspices of the International Forum for Acute Care Trialists.

2015 - present **Co-Investigator.** A study exploring how residents navigate learning opportunities for central venous catheter insertion skills. PI: Brydges R.

2015 - present **Co-Investigator.** InCURS Study. Exploring 1) the feasibility of assessing the competencies of subspecialty residents in 3 domains (cognitive reasoning, procedural skills, and communication skills) during an rotation, as well as their exposure to learning activities and the ICU learning climate; 2) the quality and relevance of specific assessment tools that could be used to measure resident competencies in the context of an ICU rotation. PI(s): Piquette D, Parshuram C. Canadian Institute for Health Research.

2012 - present **Principal Investigator.** A study exploring the role of self-directed simulation-assisted training (using video-lectures and an ultrasound simulator) for point-of-care focused cardiac and lung ultrasound. PI(s): Abrahamson S; Kim H.

2012 - present **Co-Principal Investigator.** A qualitative study evaluating the use of point of care ultrasound in critical care academic centers across Ontario.

2012 - present **Co-Lead.** The development of a longitudinal ultrasound curriculum and assessment of standards for point-of-care critical care ultrasound competency.


2009 - present **Co-Investigator.** An Italian multicenter study addressing accuracy and reproducibility of lung ultrasound in the emergency department (Chest 2015 – 148(1), 202–210).

2009 - present **Co-Investigator.** A study evaluating the role of lung ultrasound in monitoring lung recruitment of patients with severe ARDS during prone positioning (abstract presented during ESICM Annual Meeting - Milan, Italy - 2016).
2009 - present **Co-Investigator.** A randomized trial aimed at evaluating accuracy and usefulness, in patients presenting with acute dyspnea to the ED, of a diagnostic approach integrating LUS and clinical evaluation compared with the standard diagnostic workup for acute decompensated heart failure (clinical evaluation integrated with CXR and natriuretic peptides measurement) (submitted).

**Invited Lectures and Presentations**

**International**

2017 Aug 1 **Invited Speaker.** Advanced LV assessment hands-on; Diastology hands-on assessment; Clinical Cases. Advanced Critical Care Ultrasound Course. Society of Critical Care Medicine (SCCM). Chicago, Illinois, United States.

2017 Jul 30 **Invited Speaker.** Intravascular Volume Assessment; Subcostal view hands-on session; FAST hands-on session; Ask the expert hands-on session; Volume assessment session. Critical Care Ultrasound Course. Society of Critical Care Medicine (SCCM), Chicago, Illinois, United States.


**Provincial**

2017 Oct 13 **Invited Lecturer.** Online ultrasound training: do we still need supervision at the bedside? World Congress on Ultrasound in Medical Education. SUSME & WINFOCUS. Montreal, Quebec, Canada.

**National**

2017 Nov 1 **Instructor.** Point-of-Care Ultrasound for the Internist. Canadian Society of Internal Medicine (CSIM), Toronto, Ontario, Canada.

2017 Sep **Facilitator.** Workshop: Point of Care Ultrasound in Acute Care Medicine: Basic and Advanced Applications. Critical Care Canada Forum, Toronto, Ontario, Canada.

2017 Aug 16 **Invited Speaker.** 8th Annual Canadian Resuscitative Ultrasound Course 2017. Schulich Medicine & Dentistry, Western University, London, Ontario, Canada. Special Guest Faculty.

2017 Jul **Facilitator.** Point of Care Ultrasound Course. Royal College of Physicians and Surgeons of Canada/National Acute Critical Events Course, Toronto, Ontario, Canada.


2017 Jul **Invited Speaker.** Point-of-Care Ultrasound for the Internist. Etobicoke General Hospital, William Osler Health System, Brampton, Ontario, Canada.

2017 Apr 28 **Presenter.** Mechanical Ventilation Course - Difficult Weaning Cases; Diaphragmatic Ultrasound Workshop CCCF, University of Toronto Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.
2017 Apr 27 **Presenter.** Mechanical Ventilation Course -. CCCF, University of Toronto Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.

Local

2017 Nov 4 **Invited Speaker.** Transcranial Doppler and Optic Nerve Sheath Assessment. 15th Annual Toronto Perioperative TEE Symposium, Toronto General Hospital Anesthesia Department, Toronto, Ontario, Canada

2017 Feb 4 **Invited Lecturer.** Pulmonary Procedures for the Non-interventionalist - Lung Ultrasound. Division of Respirology, University of Toronto, Toronto, Ontario, Canada.

Honours and Awards

2016 Jul - 2017 Jun Award for Individual Teaching Excellence - Toronto Western Hospital, Critical Care Medicine, Dept of Medicine, Faculty of Medicine, University of Toronto.

2016 Jul - 2017 Jun Department of Medicine Excellence in Teaching Award - New Faculty, Dept of Medicine, Faculty of Medicine, Mount Sinai Hospital & University Health Network.
Peer Reviewed Publications

Journal Articles


Shamis J, **Hawryluck L,** Christian M Devine L. Stopping Resuscitation when family is present: teaching ethical and professional implications. Simulation in Healthcare. 2017;12(3):196-201. **Coauthor or Collaborator**

**Hawryluck L, Handelman M.** Standard of Care, Clinical Judgement and Issues of Unreasonableness: A reply to Young. Mc Gill Journal of Law and Health. 2017. **Principal Author**

**Hawryluck L, Brindley P.** Understanding how intensivist burnout can affect patients, family members and other clinicians. Intensive Care Medicine. 2017. **Principal Author**

**Hawryluck L, Kalocsai C, Colangelo J, Downar J.** Medicolegal advocacy and conflicts at the end of life: A qualitative study of what happens when advocacy and best interests collide. 2017. **Principal Author**

Clinical Care Guidelines


Commentaries

**Hawryluck L, Samworth P, Pairaudeau N, Ameis A.** Submissions on behalf of MLST to CPSO on Draft policy: Physicians Services in Disasters December 2017. 2017. **Principal Author**

Books

**Hawryluck L, Fraleigh M editors --- in press with Carswell.** Law of Acute Care Medicine. Hawryluck L, Fraleigh M, editor(s). (Canada): Carswell; 2017. **Principal Author**

Peer-Reviewed Funding

Funded

2016 May - present **Co-Principal Investigator.** Balancing the interests of patients, substitute decision-makers, family and health care providers in decision-making over the withdrawal and withholding of life-sustaining treatment. Law Reform Commission of Ontario. PI(s): Downar J. Collaborator(s): Gibson J, Sibbald R, Richards J, Brown S. [Grants]
Invited Lectures and Presentations

International

2017 Sep  Invited Speaker. Telemedicine and International Critical Care outreach. Global Intensive Care working group (Dr Mervyn Mer), Austria.

National

2017 Nov 14  Distinguished Speaker. 10 steps to improving advance directives and advance care planning: what estate lawyers and financial planners should know. Toronto, Ontario, Canada.


2017 Jun  Chair. CCRT Training and Simulation. Toronto, Ontario, Canada.

2017 May  Distinguished Speaker. MLST Award acceptance speech. Medico Legal Society of Toronto. Toronto, Ontario, Canada.

Honours and Awards

2017 Jun  IDCCM Humanitarian award, University of Toronto. (Distinction).

2017 May  Medico-Legal Society Award for contributions to law and medicine, Medico-Legal Society of Toronto. (Distinction).
Invited Lectures and Presentations

National

Peer Reviewed Publications

Journal Articles


Invited Lectures and Presentations

International

2017 May  Poster Oral Presentation. ATS and CTS. Washington DC, United States.

2017 May  Invited Lecturer. Precision medicine in ARDS. SOCCA . Washington DC, United States.

Honours and Awards

2017  U of Toronto Hollenberg Research Prize (2nd prize translational medicine category)

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


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

National

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


**Non Peer-Reviewed Grants**

**Funded**


2016 Sep - 2017 Sep  **Principal Site Investigator.** A Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of SAGE-547 Injection in the Treatment of Subjects With Super-Refractory Status Epilepticus. SAGE Therapeutics. [Clinical Trials]

**Invited Lectures and Presentations**

**National**

2017 Dec 6  **Invited Speaker.** Neuroprognostication; Ancillary Testing - Principles and Practice.

**Facilitator.** Small Group Learning - Difficult Cases in NDD.

Trillium Gift of Life Network - Joint Organ and Tissue Donation Coordinator Day. Toronto, Ontario, Canada.


2017 Apr 26  **Invited Speaker.** CCCF Mechanical Ventilation Course. Critical Care Canada Forum, Toronto, Ontario, Canada.

2017 May 30  **Chair.** Neurophysiology. U of T IDCCM Critical Care Physiology Rounds. Toronto, Ontario, Canada.


2017 Feb 1   **Invited Speaker.** Organ Donation. Credit Valley Hospital Division of Emergency Medicine. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 Dec - 2020 Dec **Principal Investigator.** 24: Circadian Rhythm and Delirium in the ICU. Interdepartment Division of Critical Care Medicine. Collaborator(s): Shankar-Hari M, Andrew Lim A. 60,000 CAD. [Grants].


2014 Dec - 2018 Jun  **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Canadian Institutes of Health Research. PI(s): Wald R, Bagshaw S. 1,177,472 CAD. [Clinical Trials]

**Invited Lectures and Presentations**

**International**


2017 Jan 22  **Invited Speaker.** ICU Aftercare Service Is a Crucial Part of the Spectrum of Care for ICU Survivors. Society of Critical Care Medicine. Honolulu, Hawaii, United States.

**National**

2017 Oct 3  **Moderator.** Improving Long-Term Outcomes; End of Life Care and Immigration Status in Ontario Critical Care Canada Forum, Toronto, Ontario, Canada.

**Honours and Awards**

2017  IDCCM Scholar. Research Award. Interdepartmental Division of Critical Care Medicine.

2017  Wrightman Barris Academy Teaching Award. Postgraduate Medicine, Dept of Medicine, Faculty of Medicine.
Cross-Appointed Faculty with IDCCM

DR. JANE BATT
ST. MICHAEL'S HOSPITAL

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


Invited Lectures and Presentations

National

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

Peer-Reviewed Publications

Journal Articles


**Burry L**, Rose L, Ricou B. Physical restraint: time to let go. Intensive Care Medicine 2017 Nov 23. **Principal Author**

Ball IM, **Burry L**, Dodek P, Hutchison, Leigh JP, McCredie V, Murthy S, Rochwerg, Cook D; Canadian Critical Care Trials Group and the Canadian Critical Care Translational Biology Group. The Young Investigator Retreat of the Canadian Critical Care Trials Group: mentorship and self-discovery. Can J Anaesth 2017;Nov 17. **Coauthor or Collaborator**

Rose L, Agar M, **Burry L**, Campbell N, Clarke M, Lee J, Sidiqi N, Page VJ; Del-COrS group. Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-COrS): study protocol. BMJ Open. 2017 Sep 18;7(9):e016371. **Coauthor or Collaborator**


deBacker J, Tamberg E, Munshi L, Fan E, **Coauthor or Collaborator**, Mehta S. Sedation practice in extracorporeal membrane oxygenation treated patients with acute respiratory distress syndrome: a retrospective study. 2017. **Coauthor or Collaborator**

Non-Peer Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 - 2021 **Co-Applicant.** Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-COrS). Canadian Institutes of Health Research (CIHR). PI(s): Rose L, Page VJ. Collaborator(s): Agar M, Burry LD, Campbell N, Clarke M, Lee J, Sidiqi N. 275,000 CAD. [Grants]

2017 - 2019 **Co-Applicant.** Managing Pain In Collaboration in the Intensive Care Unit (MPIC-ICU): A Stepped Wedge Cluster Randomized Trial. Canadian Institutes of Health Research (CIHR). Bridge Funds. PI(s): Gelinas C. Collaborator(s): Scales DC, Williamson D, Rose L, Wilcox ME. 100,000 CAD. [Grants]

2017 - 2018 **Co-Applicant.** Patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness. Co-applicant Ontario Respiratory Care Society. General Research Grant. PI(s): Rose L. Collaborator(s): Fan E, Amaral AC. 20,000 CAD. [Grants]


2015 - 2019 **Collaborator.** The paramedic initiated treatment of sepsis trial in out-of-hospital patients (PITSTOP). Canadian Institutes of Health Research (CIHR). Operating Grant. PI(s): Scales DC. Collaborator(s): Rubenfeld G, Fowler R, Morris AM, Morrison LR. 990,000 CAD. [Grants]

**Invited Lectures and Presentations**

**International**

2017 Sept **Invited Speaker.** Clonidine for adjunctive sedation in the ICU. European Society of Intensive Care Medicine (ESICM). Vienna, Austria.
Non-Peer-Reviewed Publications

Book Chapters

Colman, J, Heggie J, Maxwell B, Schwermann, M. Chapter 27. Anesthesia in Adult Congenital Heart Disease, Including Anesthesia for Noncardiac Surgery in . Diagnosis and Management of Adult Congenital Heart Disease, 3rd edition. 2017. Elesvier. Coauthor or Collaborator

Invited Lectures and Presentations

International


National


Local

Peer-Reviewed Publications

Journal Articles


Karkouti K, Rao V, Chan CT, Wijeysundera DN, TACS Investigators. Early rise in postoperative creatinine for identification of acute kidney injury after cardiac surgery. Can J Anesth. 2017 May. (This article was accompanied by an editorial). Principal Author

Book


Book Chapters


Peer-Reviewed Grants

Funded


2016 - 2021 Associate Investigator. IV iron for Treatment of Anaemia before Cardiac Surgery (ITACS Trial). Australian National Health and Medical Research Council. Collaborator(s): Chief Investigators: Myles PS, Richards T, Smith J, Cooper DJ, Wood E, Carter R,


**Non Peer-Reviewed Grants**

**Funded**

2017 - 2018  **Principal Investigator.** Deep machine learning for improving perioperative care. Collaborator(s): Wijeysundera D. Merck & Co., Inc. $20,000 CAD. [Grants]


**Invited Lectures and Presentations**

**International**


2017  **Invited Lecturer.** Risk factors for perioperative transfusion: Can they be mitigated? American Heart Association Annual Meeting. Los Angeles, California, United States.

**Provincial**

2017  **Invited Lecturer.** Role of point of care hemostatic testing for management of perioperative coagulopathy; Management of the bleeding surgical patient. Blood and Beyond. Halifax, Nova Scotia, Canada.

**National**

2017  **Invited Lecturer.** Whom should I transfuse? Perioperative Care Congress, Toronto, Ontario, Canada.

2017  **Invited Lecturer.** Reducing blood product transfusions using point-of-care coagulation assays. Canadian Society of Transfusion Medicine, Ottawa, Ontario, Canada.

2017  **Invited Lecturer.** Should we use fibrinogen concentrate or cryoprecipitate in acute hypofibrinogenemia? Citywide Transfusion Rounds. Toronto, Ontario, Canada.
Local

2017 Invited Lecturer. Study: FIBRES-FIbrinogen REplenishment in Surgery Prospective, multi-center, randomized, active-control, non-inferiority study comparing fibrinogen concentrate with cryoprecipitate for the treatment of acquired hypofibrinogenemia in bleeding adult cardiac surgical patients and Study: Thrombin Generation during cardiopulmonary bypass with titrated versus conventional anticoagulation management. Department of Anesthesia and Pain Management Grand Rounds, Toronto General Hospital, Toronto, Ontario, Canada.

Honours and Awards

2016 - 2017 Dr. Earl Wynands Research Award in Cardiovascular Anesthesia, Canadian Anesthesiologists Society. (Research Award)
Peer-Reviewed Publications

Journal Articles

Chasman DI, Lawler PR. Understanding AAA Pathobiology: A GWAS Leads the Way. Circulation Research 2017; 120:259-261. Senior Responsible Author


Lawler PR, Morrow DA. Cardiovascular conditions in the ICU. Chapter in: Frendl G, Pocket ICU, Ed.2, 2017. Principal Author

Invited Lectures and Presentations

Local

2017 Apr Invited Speaker. Integrating Next-Generation Epidemiology and Clinical Trials: Deeper Phenotyping to Advance Precision Cardiovascular Care/Cardiovascular Grant Rounds. Department of Medicine. Toronto General Hospital. Toronto, Ontario, Canada.
## Peer-Reviewed Grants

### Funded

<table>
<thead>
<tr>
<th>Year</th>
<th>Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 - present</td>
<td><strong>Primary investigator</strong></td>
<td>Society of Thoracic Surgery Adult Cardiac Anesthesia Module, Toronto General Hospital, University Health Network.</td>
</tr>
<tr>
<td>2016 - present</td>
<td><strong>Primary investigator</strong></td>
<td>Online Ventricular Assist Device Simulator.</td>
</tr>
</tbody>
</table>
Peer-Reviewed Publications

Journal Articles


Moreno Garrijo J, Mashari M, Meineri M. Role of Transesophageal Echocardiography in General Anesthesia, Curr Anesthesiol Rep. 2017. 7:273 **Senior Responsible Author**
Peer-Reviewed Publications

Journal Articles


Comparative Effectiveness and Harms of Intraoperative Transesophageal Echocardiography in Non-Cardiac Surgery: A Systematic Review Semin in Cardiothor and Vasc Anesth. Coauthor or Collaborator


Invited Lectures and Presentations

International


Visiting Professor. Department of Anesthesia, University of Basel, Cardiovascular anesthesia round: TEE assessment of RV strain

University of Basel, Universitatspital Basel, Basel Switzerland.


2017 May 21 - 23 Invited Speaker. PBLD: Moderate Tricuspid Regurgitation; Right Side and Pulmonary Circulation; Tricuspid and Pulmonic Valve: imaging approach and assessment of pathology. Society for Cardio Vascular Anesthesia: Echo week. Atlanta, Georgia, United States.

2017 Apr 22 Invited Speaker. PBLD: moderate tricuspid regurgitation: fix it or leave it alone; Point of Care; Transthoracic Cardiac Ultrasound Workshop.

Chair. Lung Ultrasound Workshop.


2017 Mar 10 Invited Speaker. TEE for mechanical assist devices, Italian Association of Cardio Thoracic Anesthesiologists, Bologna, Italy
National

2017 Nov 4 - 5  Invited Speaker. PBLD: 3D assessment of Aortic Valve; Mitral valve regurgitation post repair: how much is too much?; PBLD: LV strain Toronto Perioperative Toronto Perioperative TEE Symposium. Toronto, Ontario, Canada


2017 June 23 - 25  Invited Speaker. Point of Care Ultrasound.  
Course Director. Second Canadian Perioperative Point-of-care.  
Ultrasound Course Canadian Anesthesiologists’ Society Meeting. Niagara Falls, Ontario, Canada.

2017 May 6 - 7  Invited Speaker. RV function; Lung US.  
Course Director.  
Department of Anesthesia, University of Toronto. Interdivision of Critical Care, University of Toronto. Winfocus: Winfocus basic echocardiography course. Toronto, Ontario, Canada.

Local

2017 Feb 7  Invited Speaker. Echocardiographic assessment of right ventricular function, University Health Network. Critical Care Rounds. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Journal Articles

Moreno J, Meineri M, Wijeysundera D. Pilot Study. Correlation between transhepatic and subcostal IVC views to predict fluid responsiveness. JCTVA. 2017. **Principal Author**

Invited Lectures and Presentations

International

Peer-Reviewed Publications

Journal Articles


Harris DR, Lang ES, Perry JJ, Morrison LJ. Treatment of Stroke in Canadian Emergency Departments: Time to be Leaders. CJEM. 2017 Jan 1;19(1):47-49. Senior Responsible Author

Peer-Reviewed Grants

Funded


2014 Oct - 2017 Sep  **Principal Investigator.** The Frontier Trial - Field Randomization of NA-1 Treatment In Early Responders. Brain Canada. MIRI-14-3326. 6,578,920 CAD. [Grants]

**Honours and Awards**

2017 Mar  Dickinson Richards Memorial Lecture Award, Cardiopulmonary, Critical Care, Perioperative and Resuscitation Council (3CPR) of the American Heart Association. (Research Award)
Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded

2017 Principal Investigator. Protective mechanical ventilation strategy in patients undergoing cardiac surgery. AMO AHSC AFP. 178,489 CAD [Grants]
Invited Lectures and Presentations

National


Local

Peer-Reviewed Publications

Journal Articles


Peer-Reviewed Grants

Funded


**Invited Lectures and Presentations**

**International**


2017 Sep  **Invited Speaker.** Pain interference with daily living and physical performance in people with COPD. European Respiratory Society Congress. Milan, Italy.

**National**


2017 Jan 21  **Invited Speaker.** Near infrared spectroscopy to monitor muscle oxygenation/deoxygenation. U of T Critical Care Physiology Rounds. Toronto, Ontario, Canada.
Peer-Reviewed Publications

Manuscripts


Peer-Reviewed Grants

Funded


2017 Apr Principal Investigator. ARISE: Achieving Resilience in Acute Care Nurses (ARISE): A randomized controlled trial of a multi-component intervention for nurses in critical care and trauma (Principal Investigator); Canadian Association of Critical Care Nurses Research Grant. 2500 CAD. [Grants]
Peer-Reviewed Publications

Books Edited


Peer-Reviewed Grants

Funded

**Peer-Reviewed Publications**

**Journal Articles**


Wąsowicz M, Yee KF. In response to: anaphylaxis during cardiac surgery for hyperthrophic cardiomyopathy: pathyphysiologic and therapeutic considerations. Anaesthesiol Intensive Ther. 2017; 49(1):81-82. **Principal Author**

Costescu F, Wąsowicz M. A kinked epidural needle tip-impeding placement of an epidural catheter. Anesthesia & Analgesia. 2017. **Senior Responsible Author**

Badenoch A, Srinivas C, Al-Adra N, Selzner M, Wąsowicz M. A case report of paradoxical air embolisms caused by intrapulmonary shunting during liver transplantation. Transplantation direct. 2017-01. **Senior Responsible Author**

**Peer-Reviewed Grants**

**Funded**

2015 Jul - 2017 Dec  Merit Award. Department of Anesthesia, University of Toronto, Toronto, Ontario, Canada.