

MESSAGE FROM THE DIVISION DIRECTOR



Laurent Brochard, MD

Dear colleagues, supporters and friends,

Another impressive productive and successful year for the Division of Critical Care Medicine, the Faculty of Medicine and the University of Toronto.

The world is continuously moving around us, dispersing new viruses or mutants in the air we breathe, creating natural catastrophes and displaying terrible consequences of climate changes, on top of part of the human behavior leading to hatred, racism and war. We, as an organization but also as a human collectivity, we need to continue to follow our path, managing very sick patients, delivering training, and producing knowledge with the goal to improve the care delivered to our fellow patients. It is important to show our strength and our stability in these uncertain, difficult times. It is a time to worry and question ourselves about the well-being of our community and our ability to generate equity and diversity which is essential for being efficient together. So, let's try to be happy first!

The pandemic has offered a real life demonstration of the efficiency of our "interdepartmental" collaborations, with a fantastic collegial support from each department, including an even stronger clinical collaboration between the adult and pediatric critical care worlds.

Education is the core of our mission and to offer a very strong top-level education program, we must rely on production of knowledge through all types of research. Often, our research is embedded in the clinical care of the patient and there is a tri-directional interaction between what we generate, what we teach and the quality of the care we deliver. Our program has been led by a highly committed and smart group of educators. We are extremely grateful for the work provided by David Hall and the Education Committee, including Dominique Piquette and others for changing the face of our program. We will look for a new Program Director in 2023 as well as other changes in key roles in education.

Our Division continues to grow, increasing our Faculty members because of expanded clinical needs and our programs needs to follow the rapidly changing knowledge and delivery of care, creating continuous new challenges for our training program.

This report offers a summary of some of the major events and promotions which took place in 2022 at each site, adult and pediatric, a summary of the activities of the Program presented by both our Adult and Pediatric Program Directors as well as a summary of IDCCM research activities organized by our Research Executive Committee.

As usual, the quantification of scientific publication gives a very impressive result: IDCCM members published more than 550 publications this year with a high impact factor. This latter index went a bit “crazy” this last year because of the effect of the pandemic on publications and citations, illustrating the incredible thirst for new knowledge through recent publications. We indicate the main journals where these publications take place, even if not exhaustive (full list available on demand) it gives a good view of the variety of our scientific production. Our research executive committee is working continuously to facilitate the active participation of all members in research activities, with a special focus on young Faculty members. This includes substantially more financial support (IDCCM Scholar Awards, trainee awards for fellows and clinical associates, H B Fairley young researcher awards). I am impressed but also really grateful for the crucial work generated, which is essential for our Division, both internally and for our international visibility.

We cannot cite all activities in our annual report, the life of the Division being so rich, diverse and highly collaborative and you will find more information in our Newsletter. IDCCM is a lively, dynamic, vibrant, productive and diverse group generating multiple interactions.

I am very proud for being the leader of this academic group after another fantastic year. Thank you for everything you do!

Enjoy reading this report!

Laurent Brochard, MD
Division Director, Interdepartmental Division of Critical Care Medicine
Department of Medicine, University of Toronto

MEMBERS OF THE EXECUTIVE COMMITTEE

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Dr. Laurent Brochard, St. Michael's Hospital

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Dr. Andrew Baker, St. Michael's Hospital

Dr. Niall Ferguson, University Health Network and Sinai Health System

Dr. Damon Scales, Sunnybrook Hospital

Dr. Steven Schwartz, The Hospital for Sick Children

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Dr. Briseida Mema (pediatric)

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Dr. Margaret Herridge

Dr. Hannah Wunsch

Wellness and Mentorship

Dr. Shelly Dev

Department of Critical Care Medicine, St. Michael's Hospital



Andrew Baker, MD

While year 2021 – 2022 continued to be a challenging year due to the COVID-19 pandemic, our Department of Critical Care at The Unity Health Toronto-St. Michael's Hospital tried to continue to strive for success in areas of education, research, clinical activity, quality and performance. The successes of our faculty members have been recognized in many ways including the awards and appointments they have received this year.

Appointments and Promotions:

Dr. Simon Abrahamson was promoted to full professor at the University of Toronto this year in recognition of his sustained excellence in teaching. He continues to mentor learners in critical care and anesthesia and is widely appreciated for his dedication and excellence. He has been awarded numerous teaching awards over many years, as well as developing many innovative teaching programs. There are many graduates who gratefully acknowledge the pivotal role of Dr. Abrahamson in their education and their career trajectory.

Dr. Claudia Dos Santos continues to be the Robert and Dorothy Pitts Chair in Acute Care and Emergency Medicine, a Hospital-University endowed Chair at University of Toronto.

Dr. David Klein was promoted to Associate Professor at the University of Toronto.

Dr. Andrea Rigamonti was promoted to Associate Professor, based on Excellence in Creative Professional Activity, recognized at the national level.

As a national leader in Neuro-anesthesia and Neurocritical care, Dr. Rigamonti has developed numerous innovative approaches to improving the care of patients suffering from neurotrauma and neurological disease. As Medical Director, Trauma-Neurosurgical Intensive Care Unit, and Neuro-Anesthesia Lead, Department of Anesthesia, St. Michael's Hospital, he has promoted the clinical excellence in neurotrauma and trauma management in the TNICU.

Dr. Andrea Rigamonti was also awarded the Neurocritical Care Society Credential Professional Award (Fellow of the Neurocritical Care Society (FNCS)). The FNCS designation identifies individuals with a long history of dedicated program development, scholarship, leadership, and professionalism within the field of neurocritical care.

The Department welcomed **Dr Michael Sklar** as member of its faculty.

Awards and Recognitions:

Congratulations to all our faculty for all the awards and recognitions below!

Dr. Ahmad Alli is the award winner of the William Noble Fellowship Teaching Award presented at the St Michael's Annual Medical Education Achievement Day.

Dr. Karen Burns is the recipient of this year's Assembly on Critical Care (CC) Mid-Career Achievement Award of the Critical Care Assembly and the ATS. This award is to recognize individuals with a clear commitment to the Critical Care Assembly and the ATS, with demonstrated significant and meaningful contributions to the CCA in the areas of research, clinical care, quality improvement, teaching, mentoring, promoting diversity, advocacy and/or service.

Dr. Alberto Goffi was awarded the John Granton Award

Dr. David Hall received the recipient of the Dr. Michael Freeman award

Dr. Michael Sklar Clinical Excellence Award at St Michael's, recognized among his colleagues as an outstanding clinician within the anesthesia community

Dr. Bijan Teja – received the Site Teaching Award

Dr. Natalie Wong was one of the winners of the Dr. Robert Sargeant Postgraduate Education Award

Education:

Dr. Simon Abrahamson continues to be coordinator of the International Fellow Program in Critical Care for the St Michael's site.

Dr. Alberto Goffi Alberto Goffi has been appointed as the U of T CCM Program resident ('fellow') coordinator for the SMH site. He also continues his role as the Residency Education Director at Unity Health Toronto – St Michael's Hospital.

Research:

Dr. Andrew Baker

1. Canadian Institutes of Health Research (CIHR). Understanding the effects of hospital capacity strain on quality of hospital care for patients admitted to medical and ICU wards during the pandemic and evaluating interventions to mitigate hospital capacity strain. (499,576) 2022/03 – 2023/04. Co-Investigator.
2. Canadian Institutes of Health Research (CIHR). A mixed-methods study to develop a jurisdiction-level resource allocation framework to guide the use of triage and triage-avoidant strategies during an overwhelming surge in demand for critical and acute care. (499,944) 2022-02 – 2024/03. Knowledge user.
3. Canadian Institutes of Health Research (CIHR). Investigating variation in the inpatient allocation of scarce COVID-19 therapeutics: Equity and clinical outcomes. (400,000) 2022-2023. Co-Investigator.

4. Canadian Institutes of Health Research (CIHR). Cumulative effects of contact sport participation: a multi-parameter brain imaging investigation. (967, 725) 2021/04 – 2026/05. Co-Investigator
5. Ontario Brain Institute. Concussion Ontario Network for the project, “Neuroinformatics to Enhance Clinical-care and Translation (CONNECT). RECOVER Study. (\$303,868) 2022/04 – 2023/03. Principal Investigator

Dr. Laurent Brochard

1. St Michael's Hospital Association AFP Fund Innovation. (198,000) 2022/1 – 2022/12. Principal Investigator
2. Frequency domain diffuse optical spectroscopy and diffuse correlation spectroscopy for assessing inspiratory muscle metabolism in mechanically ventilated patients. National Institutes of Health (NIH) (USA). (415,480 USD) 2021/9 – 2024/8. Collaborator
3. Driving Pressure-Limited Ventilation in Hypoxemic Respiratory Failure: the DRIVE RCT. Canadian Institutes of Health Research (CIHR). (100,000) CAD 2021/6 – 2023/7. Co-Investigator
4. Real time high-resolution imaging and cell sorting for studying multi-organ repair and regeneration after lung injury. Canada Foundation for Innovation (CFI) (508,323) 2021/6 – 2023/7. Co-Investigator
5. High-Flow Nasal Oxygen with or without Helmet Non-invasive Ventilation for Oxygenation Support in Acute Respiratory Failure (HONOUR) Pilot RCT. Canadian Institutes of Health Research (CIHR). (531,676) 2021/7 – 2023/6. Co-Applicant
6. A Strategy to Improve Diagnosis and Management of Sleep Abnormalities in Patients with Chronic Obstructive Pulmonary Disease Exacerbations: The SIMPLIFY Project. Ontario Thoracic Foundation. (50,000) 2022/3-2023/2. Principal Investigator
7. Transcutaneous phrenic nerve stimulation to prevent diaphragm dysfunction under mechanical ventilation (STIMIT®): Randomized controlled experimental study. (84,500) 2022/1 – 2022/22. Principal Investigator

Dr. Karen Burns

1. Liberation from mechanical ventilation using Extubation Advisor Decision Support: The multicentre (LEADS) Pilot Trial. 2022 Mar - 2024 Feb. \$455,175. Co-Principal Investigator
2. A mixed-methods study to develop a jurisdiction-level resource allocation framework to guide the use of triage and triage-avoidant strategies during an overwhelming surge in demand for critical and acute care. CIHR Addressing the Wider Health Impacts of COVID-19. 2022 Mar – 2024 Feb. \$499,944. Co-Investigator
3. Hamilton Academy of Health Sciences Organization. Creating a Novel Critical Care Outcome: Patient Important Bleeding in the ICU. 2022 – 2024. \$51,965. Co-Investigator.

4. Very elderly patients' treatment preferences, and participation in shared decision making in the event of acute life-threatening illness. The Western Norway Regional Health Authority (Helse Vest RHF) 2022 Jan – 2024 Jan . \$993,000. Co-applicant
5. Role of mentorship in promoting wellness and inclusion among racialized women physicians in academic medicine – a qualitative study. Royal College of Physicians and Surgeons -Medical Education Research Grant. 2021 Sept – 2022 Aug. \$25,000. Co-investigator

Dr. Claudia dos Santos

1. Robert and Dorothy Pitt Research Chair in Acute and Emergency Medicine, Research Chair. University of Toronto Research Chair. (700,000 CAD) for 2021/07 – 2026/06
2. Canadian Institutes of Health Research (CIHR). Emerging COVID-19 Research Gaps & Priorities. (270,000 CAD) 2021/07 – 2022/06.
3. University of Toronto Centre for Research and Applications in Fluidic Technologies (CRAFT) and NRC for her project, “Automating SARS-CoV-2 Diagnostics for Decentralized Screening in the Community” (203,000 CAD) 2021/5 - 2023/4. Principal Investigator
4. National Research Council Canada (NRC) NRC Pandemic Response Challenge Program. Pandemic Preparedness (500,000 CAD) 2021/4 - 2022/4

Dr. David Klein

1. Artery Alert - Revolutionizing the Diagnosis of Peripheral Arterial Disease. CIHR. 2021 – present. 450,000 CAD. Co-Principal Investigator.

Dr. Warren Lee is a recipient of a renewed Tier 2 Canada Research Chair in Mechanisms of Endothelial Permeability.

Dr. John Marshall continues his role as the Critical Care Department Research Director

Dr. David Mazer

1. The United Kingdom Arm of the Transfusion Requirements in Younger Patients Undergoing Cardiac Surgery (TRICS IV) Trial: An international, multi-centre, randomized trial to assess the clinical and cost-effectiveness of liberal transfusion thresholds in younger patients undergoing cardiac surgery. National Institutes for Health and Care Research (NIHR), Health Technology Assessment (HTA) Programme NIHR150600. 2022 May – 2023. Co-Investigator.
2. A mixed methods study to evaluate functional recovery, care needs, and caregiver needs in older adults undergoing surgery: The Frail sub-study of the Fit After Surgery study. Canadian Institutes of Health Research (CIHR) Project Grant. 2021 Apr – 2025 Jan. \$424,575 CAD. Co-Investigator.
3. Improving Outcomes through Clinical Trials Research, University of Toronto Department of Anesthesia Merit Award (Research Competition) \$120,000. 2021 – 2023. Principal Investigator

Dr. Andrea Rigamonti

1. Anesthesia induced Brain Cancer Survival (ABC Survival): A randomized feasibility study. Adam Coules Research Grant, Patient & Family Advisory Committee. The Gerry & Nancy Pencer Brain Tumor Centre, Princess Margaret Cancer Centre. \$49,991. Site Investigator

Dr. Michael Sklar

1. Understanding the Mechanism of Reverse Triggering in Mechanically Ventilated Adults: The Brain or the Diaphragm St. Michael's Hospital Association Innovation Grants. Co-Principal Investigator. 2022 Mar – 2024 Mar. \$40,000 CAD.
2. William S. Fenwick Research Fellowship Postgraduate Medical Education, University of Toronto. 2021 Jan – 2022 Jan. \$3,000 CAD. Principal Investigator

Dr. Bijan Teja

1. Understanding the Mechanism of Reverse Triggering in Mechanically Ventilated Adults: The Brain or the Diaphragm. Operating Grant. St. Michael's Hospital Association Innovation Grants. 2021 \$40,000 CAD. Co-Principal Investigator
2. Vasopressors Selection and Administration in Septic Shock. Canadian Institutes for Health Research (CIHR). Doctoral Award – Frederick Banting and Charles Best Canada Graduate Scholarships. 2021 May – 2024 April. \$105,000 CAD. Principal Investigator.
3. Improving Access to Regional Anesthesia for Traumatic Injuries: Time for the A-TEAM. Hospital Medical Services Association Innovation Fund (SMH 21-019). 2021-2022. 66,390 CAD. Co-Investigator
4. Maximum Dosing of Vasopressors. Sunnybrook Health Sciences Centre, Alternative Funding Program Innovation Grant. 2021 - 2022 \$100,000 CAD. Co-Investigator

Critical Care Clinical Research Unit (CCCRU)

Over the past 12 months, we conducted 24 academic trials and 1 industry trial in the Intensive Care Units (ICUs). Some pre-existing trials were paused and restarted while others continued throughout each wave; meanwhile, four COVID-specific trials continued to recruit. Patients and families remained receptive to trials that could inform care of future patients, some of which offered COVID-19-specific therapies to which they would not otherwise have had access. Consent rates varied; lower rates for COVID-19 trials may reflect fear-induced decision paralysis, intervention uncertainty or preference, and minimal bedside family presence. Co-enrollment increased over time and was significantly greater for patients with COVID-19.

The CCCRU supported the conduct of mechanical ventilation trials in the ICU in collaboration with the Toronto Centre of Excellence in Mechanical Ventilation (CoEMV). Dr. Laurent Brochard and team lead these trials in advancing personalized and evidence-based mechanical ventilation.

The CCCRU continues to support investigator-initiated trials affiliated with the Critical Care Trials Group (CCCTG). We have diversified our research portfolio to engage patients and their families as key stakeholders in research and knowledge translation. Within the REMAP-CAP Trial of which St. Michael's Hospital is the Canadian Regional Coordinating Center, and with our patient partners and in collaboration

with McMaster University, we have developed an infographic to support the informed consent process, and are currently piloting its use in a three center pilot study. The CCCRU fully supports the implementation of equity, diversity and inclusivity in our research best practices.

The CCCRU has expanded its repertoire of research activities well beyond clinical trials to include large multi-center observational studies and knowledge translation activities. With increased staffing capacity, we will continue to be “research ready” and poised to continue our record of practice-changing investigations.

Department of Critical Care Medicine, Sunnybrook Hospital



Damon Scales, MD

Sunnybrook is Canada's largest trauma and burn hospital and admits approximately 4,500 intensive care patients every year. The Department of Critical Care Medicine (DOCCM) oversees the care of a broad variety of critically ill patients including patients following life-threatening traumas and burns, neurosurgical and neurovascular emergencies, cardiovascular surgery, oncological disorders, and general medical and surgical illnesses. The Department also has a vibrant academic program, contributing to numerous high-impact research, education, and quality improvement initiatives.

Dr. Damon Scales is the Chief of the Department and Dr. Andre Amaral is the Deputy Chief. The resident education program is led by Drs. Alya Kamani and Shelly Dev and the large international fellowship program is led by Drs. Shelly Dev and Cameron Guest. Dr. Neill Adhikari is the Department's Research Director overseeing clinical trials with Nicole Marinoff (Research Manager) and her team. Dr. Martin Chapman is the Rapid Response Lead and also Lead of the Neurocritical Care Team. Dr. Robert Fowler continues his role as the Chief of Sunnybrook's Tory Trauma Program and Dr. Neill Adhikari is the Tory Trauma Program Research Director. Dr. Dominique Piquette continued her role as the Associate Director, Education Research & Scholar Development for the Interdepartmental Division of Critical Care Medicine (IDCCM) and Dr. Hannah Wunsch continued as the Associate Research Director for the IDCCM.

Achievements by individual members:

The DOCCM supports participation in primarily academic studies, including those developed by Canadian Critical Care Trials Group (CCCTG) investigators. Researchers in the DOCCM have expertise spanning observational studies and health services research, qualitative research, randomized controlled trials, economic evaluations, and educational research. DOCCM investigators achieved many important accomplishments in 2021-2022 including several large grants and high-impact publications. During the 2021-2022 calendar year, DOCCM researchers published 137 articles in peer-reviewed journals. The Department also has a very active educational program and a vibrant international fellowship program that attracts talented trainees from around the world. DOCCM physicians also lead and/or participate in many regional, provincial, and national quality improvement activities.

Dr. Neill Adhikari was promoted to Associate Professor. He was the senior most responsible author of a high impact randomized controlled trial of vitamin C for patients with sepsis that was published in the New England Journal of Medicine. He received a new grant from CIHR as co-Principal Investigator (with Dr. Robert Fowler) to establish the feasibility of providing critical care treatments to patients with Ebola in a simulated treatment centre.

Dr. Federico Angriman (Junior Attending) continued his PhD studies in Clinical Epidemiology at the Institute for Health Policy, Management and Evaluation (IHPME) from the Dalla Lana School of Public Health. His research focuses on measuring long term cardiovascular outcomes in adult sepsis survivors. He received funding from the Sepsis Canada Network and was the recipient of the 2022 Claire Bombardier Award from IHPME for being the most promising PhD student in Clinical Epidemiology & Health Care Research.

Dr. Andre Amaral continued his role as the Deputy Chief of the Department. He also serves as Quality Lead for the Department and Medical Director, Respiratory Therapy for the hospital. He continues to lead multiple quality improvement initiatives locally and regionally. He also leads (with Dr. Eddy Fan) the i-CORE quality and research registry.

Dr. Tom Bodley (Clinical Associate) continued his Master's in Clinical Epidemiology (IHPME) focusing on quality of care measurements and use of prone positioning in mechanically ventilated patients. He was awarded the 2022 Claire Bombardier Award by IHPME for being the most promising Master's student in the Epidemiology program. He also led the Code Blue Debrief rounds at Sunnybrook, which is a joint venture between the Internal Medicine and Critical Care program to enhance the quality of Code Blue responses in the hospital. He was awarded the Choosing Wisely Champion award by the American Society of Hematology in 2021 for his work to reduce unnecessary lab testing at St. Michael's Hospital; this project was also selected for oral presentation at Art Slutsky Day.

Dr. Martin Chapman continued to conduct research and quality initiatives focusing on improving neurocritical Care. He has been actively involved in the SAHARA, Hemotion and NeuroO2 studies, which seek to explore the influence of transfusion thresholds on TBI and SAH patients. He is also involved in development work on transcranial ultrasound and a multicenter study of the use of volatile agents in ICU sedation. He continued to participate in the undergraduate training program, with Case Based Learning tutoring, and postgraduate training. He holds various administrative positions, including the co-chair of the Sunnybrook's Resuscitation Committee and the Medical Lead for the Critical Care Response Team.

Dr. Brian Cuthbertson continued to lead the large SAVE ICU trial (with co-leads Angela Jerath and Marat Slessarev) to evaluate the use of volatile anesthetics in critically ill patients and the SuDDICU randomized controlled trial to evaluate clinical and unit-level outcomes of selective decontamination of the digestive tract for critically ill patients. He continues to be the Vice Chair for Research in the University of Toronto Department of Anaesthesiology and Pain Medicine. He also runs the Pragmatic Issues in Conduct of Controlled Trials course for IHPME.

Dr. Shelly Dev was promoted to Associate Professor as a Clinician Educator. She continued to lecture widely on resilience, burnout, and mental health, giving more than 300 talks on these topics in the last 5 years. Her writing continues to be published in the wider media, most recently an essay on racism in the Globe and Mail. Dr. Dev also continued teaching undergraduate and postgraduate learners and was nominated for the Peters-Boyd Academy Faculty Award of Merit for the 2021-2022 academic year.

Dr. Rob Fowler has been proud and privileged to be the H. Barrie Fairley Professor of Critical Care Medicine for the IDCCM, and in turn, has supported the inaugural three early career Fairley Scholars – Laveena Munshi, Lorenzo del Sorbo and Victoria McCredie. He has continued as Sunnybrook Tory Trauma chief, chair of the Canadian Critical Care Trials Group, and chair of the COVID-19 Network of Clinical Trials Networks. He is the co-principal investigator of the BALANCE trial of antibiotic duration for patients with bacteremia (now at over 3000 patients of a 3600 patient sample size) and the CATCO trial of treatments for COVID-19. He co-chaired WHO committees for Ebola therapeutics guidelines and COVID-19 global observational research. Dr. Fowler was recognized with the University of Toronto

Department of Medicine Eaton Scholar Researcher of the Year Award and the Canadian Critical Care Trials Group Deborah J Cook Mentorship Award.

Dr. Cameron Guest continued in his role as Business manager and co-Director of the Fellowship Program for the DOCCM. Dr. Guest continues to recruit a large and very impressive and talented group of international fellows that contribute greatly to the overall clinical and academic mission of the Department.

Dr. Barbara Haas continued to conduct important health services research and supervise several graduate students. She received a grant as Principal Investigator from the Sunnybrook AFP Innovation Fund to study the role of primary care in long-term health outcomes following severe injury. She served as the Chair of the Annual Assembly of General Surgeons Planning Committee and was the Trauma Education Lead for Sunnybrook and the University of Toronto. Dr. Haas was awarded the Peters-Boyd Academy Teaching Award, Sunnybrook Health Sciences Centre, University of Toronto in 2021 in recognition of her outstanding teaching contributions. She also became the Tory Trauma program co-lead of Program Education at Sunnybrook in 2022.

Dr. Alya Kamani is a Staff Intensivist at Sunnybrook Health Sciences Centre and Staff Medical Toxicologist at the Ontario Poison Centre at The Hospital for Sick Children. Her academic interests are in medical education with a focus on simulation education, procedural skills training and toxicology. She continued to lead (with Dr. Shelly Dev) the resident education program for the DOCCM.

Dr. Dominique Piquette continued to lead several educational research and scholarly projects, including as co-PI (with Dr. Chris Parshuram) for the INCURS trial, a CIHR-funded, national, cluster randomized crossover trial studying the effects of resident schedule on patient mortality and safety, and on resident learning and wellbeing. She also continued to conduct the I-SHARE Study, a research project looking at handover training and practices in the ICU environment. She was awarded \$2.4 million from the CIHR (with Drs. Patricia Fonela and Denise Jaworsky) to develop the Life-Threatening Illness National Group (LifTING) Research Training Platform to train multidisciplinary researchers, patient and family partners, and community citizens on research methods, knowledge, skills, and attitudes related to critical illness. She was the Curriculum and Scholarly Lead for the UofT Adult CCM Residency and Fellowship Programs in 2021-2022.

Dr. Gordon Rubinfeld continued as the associate editor at JAMA-NO and at Critical Care. He also continued to lead a NIH Phase 3 trial of CMV primary prophylaxis in immune competent ICU patients.

Dr. Damon Scales continued his work on several CIHR-funded trials: the PROTEST RCT (co-PI Farhad Pirouzmand), which compares the safety and effectiveness of early versus delayed thromboembolic prophylaxis using anticoagulants in patients with traumatic brain injury; the DOSE-VF trial (with Sheldon Cheskes), which compares alternative defibrillation strategies for ventricular fibrillation; the PITSTOP RCT, which evaluates the impact on mortality of prompt antibiotic and/or intravenous fluid administration by paramedics to patients with sepsis; and the HONOUR RCT (co-PI Niall Ferguson), which compares oxygen delivery using high flow nasal oxygen with or without helmet non-invasive ventilation for patients with acute hypoxemic respiratory failure.

Dr. Bourke Tillmann (Clinical Associate) continued his PhD studies with IHMPE. He also continued to work as a Trauma Team Leader at Sunnybrook. He helped to design the Trauma Team Video Review program which teaches crisis resource management using footage from resuscitations in the trauma bay. He continued as a regular invited guest to EMCases podcast, recording 6 episodes with a total of over 200,000 individual downloads.

Dr. Hannah Wunsch was awarded a grant from the US Department of Defense to examine choice of opioids in the ICU and outcomes for patients in Canada and the US. She continued to supervise several graduate students and published numerous peer-reviewed studies. She finished a book on the Copenhagen polio epidemic of 1952 and the birth of mechanical ventilation and intensive care; “The Autumn Ghost: How the battle against a polio epidemic revolutionized modern medical care” will be published by Greystone books in May 2023.

In addition to these physicians, we are fortunate to attract dozens of highly impressive clinical fellows to our international fellowship program each year, who work with the University of Toronto residents in the RCPSC Critical Care Medicine training program to provide world-class care to our patients. The Department benefits enormously from the leadership of our operational leaders, including our Operations Director (Patricia Mazzotta), patient care managers (Garshia Ferdinand-Flament, Chantal Webber Kangudie, Nicky Holmes, and Ramona Hackett), and respiratory therapy leads (Linda Rawe and Julia Zampieron). Critical care at Sunnybrook is delivered by hundreds of talented and highly skilled nurses, respiratory therapists, physiotherapists, dieticians, pharmacists, occupational therapists, and chaplains working across multiple ICUs and also providing excellent continuity of care along the trajectory of illness for our critically ill patients. We continue to be inspired by our incredible multidisciplinary team.

Department of Critical Care Medicine, The Hospital for Sick Children



Steven Schwartz, MD

As we come to the end of this academic year, we reflect on the strength and perseverance of our amazing team that continues to deliver high-quality safe care to our critically ill children while navigating challenges with staffing shortages and pandemic fatigue, and look forward to brighter times ahead.

This summer, PICU helped spearhead the launch of a joint neonatal-paediatric virtual critical care consulting network with six community hospitals, with Health Sciences North in Sudbury as the first centre to virtually connect with SickKids.

Faculty Milestones

This past year we welcomed two people back to our Critical Care family, previous Fellowship program graduates Dr. Oshri Zaulan who joined the Cardiac CCU faculty in July 2021 and Dr. Melany Gaetani who joined the Pediatric ICU faculty in March 2022.

In December, I took on the permanent Department Chief role in Critical Care Medicine, necessitating my stepping down from my position for the past 16 years as Head of the Division of Cardiac Critical Care. I was pleased to announce the appointment of Dr. Roxanne Kirsch as Interim Division Head in Cardiac Critical Care in January 2022. An international search to fill the Cardiac Critical Care Division Head position will begin later in the fall.

This spring, PICU faculty Dr. Haifa Mtaweh was congratulated on successfully defending her PhD thesis in Clinical Epidemiology. Dr. Seth Gray was accepted to OCAD (Ontario College of Art & Design) University, undertaking a healthcare design Master's program. Dr. Michael-Alice Moga completed a Global Executive MBA for Healthcare and the Life Sciences at Rotman School of Management, University of Toronto.

We celebrated the announcement that two of our Cardiac Critical Care faculty, Dr. Michael-Alice Moga and Dr. Alex Floh both received well-deserved promotions to the rank of Associate Professor in the Department of Paediatrics, Temerty Faculty of Medicine at the University of Toronto, effective July 1st.

Education

Our SickKids Paediatric Critical Care Training program has continued to develop and grow under the expert leadership of Dr. Briseida Mema and a stellar team including Melanie Hamilton and Nella Perri. The program attracts high calibre candidates from all over the globe, as evidenced by the skill and

resilience of our trainees during this past year. Special recognition goes to Dr. Cammy Halgren and Dr. Colm Breatnach, Chief Fellows for 2021-22 for their dedicated leadership during a challenging year.

Research

Under the sure leadership of Dr. Anne-Marie Guerguerian, our Critical Care Research program has continued to maintain impressive levels of productivity while navigating shifting policies and procedures during the pandemic. A separate report outlining the detailed research activity undertaken this past year by our faculty, fellows, nurses and other interprofessional staff has been included separately by Dr. Guerguerian

Department of Critical Care Medicine University Health Network and Sinai Health System



Niall Ferguson, MD

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 faculty 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. This year a formal organizational review of critical care at UHN was undertaken – resulting in the creation of the Interdepartmental Centre for Critical Care (ICCC) at UHN. This brought critical care out of the former Surgical Services and Critical Care Program, with the Head of the ICCC reporting directly to the Chief Medical Officer, and working with the Surgeon-in-Chief, Physician-in-Chief, and Anaesthetist-in-Chief for recruitment and academic affairs. 2022 represented a reprieve from large waves of critically-ill patients with COVID-19, but instead was characterized by ongoing HHR challenges as clinical recovery across Ontario struggled in the face of the effects of staffing shortages.

Personnel

Over the course of 2022 several important personnel changes occurred within our group.

New Faculty: Dr. Martin Urner – Clinician Scientist, TGH

We are excited to welcome our new team member and look forward to their future successes. Additional recruitments are planned in 2023. Other important transitions included Dr. Jeff Singh finishing his term as Medical Director of the MSNICU at Toronto Western, having completed more than 13 years in the position and staying on past his end-of-term date during the COVID crisis. We thank Dr. Singh for his dedicated service and welcome Dr. Andrew Steel who has assumed the role of Interim Medical Director at TW MSNICU as of December 1, 2022. In January 2022, Dr. Mika Hamilton took over the role of International Fellowship Program Director and we added the role of Deputy-Director for the Fellowship and thank Dr. Maria Jogova for filling this role.

Research

We maintained our devolved model of research infrastructure in 2022 – with each geographic site managing research coordinator resources and a local research lead for each site – Dr. Elizabeth Wilcox at TWH, Dr. Lorenzo Del Sorbo at TGH and Dr. Michael Detsky at Sinai.

2022 was another excellent year for our research group, with lots of activity. Our MSICU group of investigators lead and collaborated in significant numbers of high-impact publications. Our grant capture was also strong, including success in the CIHR special call for clinical trial projects (see individual

reports). Key research programmatic themes arising from within our group include: Acute hypoxemic respiratory failure treatments and novel trial design; 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 and Dr. Jenna Spring at Sinai, and Dr. Ian Randall they continue to do a phenomenal job of invigorating the educational experience for trainees of all levels at these sites. In addition to working with Royal College Residents, they work closely with Drs. Hamilton and Jogova in administering our International Fellowship programme, which has now grown to employ over 25 fellows across the 3 sites.

University of Toronto Critical Care Training Programs (Adult), 2019-2020



David Hall, MD

IDCCM Education Program 2021-2022

The University of Toronto is a premier centre for sub-specialty training in Critical Care Medicine. With more than 80 registered trainees, it continues to be the largest Adult Critical Care training program in Canada.

We have continued to attract Clinical Fellows from around the world to our Hospital Based Critical Care Medicine Fellowships. These trainees bring a wealth of knowledge and continue to enrich our program with their diverse backgrounds and training.

Our Royal College (RC) Adult Critical Care Medicine training program has 16 trainees from various backgrounds including Internal Medicine, Neurosurgery, General Surgery, and Anesthesia.

COVID has continued to impact our training program although we have slowly and carefully reinitiated some in person teaching and social activities. Our Academic Half Day (AHD) remains virtual but we plan to introduce a hybrid model of both virtual and in-person sessions over the next academic year. Dr. Shelly Dev, our Mentorship and Wellness lead, has continued to play a key role in supporting our residents and fellows through regular one-on-one meetings.

Dr. Dominique Piquette has continued to act as our curriculum lead and has ensured a robust Academic Half Day that meets the needs of our trainees while aligning with the training objectives of the Royal College. Sadly, Dr Piquette will be stepping down as Curriculum lead and a search for a new lead is underway. In the interim Dr Piquette has continued to support the program. She will continue to act as our lead for the scholarly project that all CCM residents are required to complete. We held a full day Curriculum Retreat this year where we reviewed evaluations, heard from rotation leads/supervisors, and reviewed our AHD curriculum. This provided valuable insights and will inform future curriculum planning.

Dr Christie Lee continues on as our Assessment Lead and Chair of the Competence Committee (CC). Her expertise and hard work has been instrumental to our successful transition to Competency Based Medical Education (CBME). COVID posed challenges for some of our normal assessment activities. Dr Maria Jogova took on the task of delivering an OSCE in a virtual format. The OSCE's have gone off flawlessly and provide valuable information to trainees as well as the program. Dr. Jogova has done an outstanding job during challenging times. Dr Jogova has also been hard at work developing a new communication curriculum that will be delivered during our AHD.

A committee was struck this year to look at Equity, Diversity and Inclusivity (EDI) as it applies to our CaRMS selection process. We were able to add an EDI statement to our program information, propose changes to our file review process, and invite trainees to share information in their personal letters that we hope will improve our ability to ensure EDI in our selection process. The committee will continue to meet and review our selection process as well as look for ways to recruit a diverse group of applicants to our training program.

Our Program

As of July 2019 our Royal College training program has fully transitioned to CBME. Formative workplace assessments have been introduced, in addition to In-Training Assessment Reports (ITARs), as well as more tailored educational plans structured to meet Critical Care Medicine **Entrustable Professional Activities** (EPAs). All RC adult trainees have an academic advisor to help coach them through the process of CBME as well as to help them develop individualized learning plans. The EPAs allow for direct feedback on key competencies as the trainees progress through the four stages of training; Transition to Discipline, Foundation of Discipline, Core of Discipline, and Transition to Practice

A special thank you to our portfolio leads in continuing to head the specific initiatives within **Competency Based Medical Education**:

Curriculum Development & Evaluation – **Dr. Dominique Piquette**

Scholarly Activity – **Dr. Dominique Piquette**

Trainee Assessment – **Dr. Christie Lee**

Mentorship & Wellness – **Dr. Shelly Dev**

Art Slutsky Day 2022

This year's Art Slutsky day was a tremendous success and was offered in a virtual format led by **Dr. Margaret Herridge**.

The residents and clinical fellows awarded the *John Granton Award*, for outstanding contribution to Critical Care Education, to **Dr. Alberto Goffi** in recognition of his support and significant contribution to the Interdepartmental Division of Critical Care Medicine Education Program.

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

The *John Laffey Award* for achievement and contribution to Critical Care Research was awarded to, **Dr. Catherine Proulx** for her exemplary work in Critical Care research.

The site-specific winners for excellence in teaching were: **Dr. Christina Maratta** (Hospital for Sick Children), **Dr. Laveena Munshi and Dr Chrstitie Lee** (Sinai Health System), **Dr Alberto Goffi** (St. Michael's Hospital), **Dr. Bourke Tillman** (Sunnybrook Health Science Centre), **Dr. Ewan Goligher** (Toronto General Hospital), and **Dr. Jeff Singh** (Toronto Western Hospital), **Dr. Vatsal Trivedi** and **Dr Anna Geagea** (Community Sites).

We concluded the year graduating **Dr. Abhinay Sathya, Dr. Alyssa Louis, Dr. Amanda Formosa, Dr. Ann Zalucky, Dr. Cameron Landry, Dr Laith Ishaq** and **Dr. Maha Al-Mandhari** from the Critical Care

Residency Program. We look forward to following them in their continued career development and success!

Canadian Resident Matching System (CaRMS 2021)

I am pleased to announce that the following physicians have joined in the Adult Critical Care Medicine Residency Program:

- **Ryan Adessky**-General Surgery
- **Robert Jackson**- Internal Medicine
- **Jesse May**- Anesthesia
- **Jacob Michie**-Internal Medicine
- **Joshua Mehta**- Internal Medicine
- **Rochelle Melvin**-Internal Medicine
- **Shahmir Sohail**-Internal Medicine
- **Abdullah Alalaiyan** Internal Medicine

Chief Fellows & Residents

I would like to thank our Chief Resident **Dr. Cam Landry**, as well as our Critical Care Chief Fellow, **Dr. Stephan von Doring**. They continue to demonstrate excellent leadership in representing our trainees and are wonderful ambassadors for the IDCCM Resident and Fellowship programs.

We would also like to welcome our new Chief Resident, **Dr. Varuna Prakash** and Chief Fellow, **Dr. Andres Guzman** for the upcoming 2021-2022 year!

The Future

We hope to return to a new normal this year and resume some in person activities while retaining some of the new opportunities learned from our experiences in the pandemic. We look forward to seeing everyone soon!

University of Toronto Critical Care Training Programs (Paediatric) 2019-2020



Briseida Mema, MD

PCCM EDUCATION PROGRAM 2021-2022

The Paediatric Critical Care Medicine (PCCM) Program aims to develop clinically excellent physicians in the field of paediatric critical care. Each year, we accept trainees who are excellent clinicians, learners, and teammates. This year's program saw 26 trainees from all over the world. We recognize the numerous challenges our staff physicians and trainees faced throughout the 2021-2022 academic year. Despite the ongoing pandemic, we saw a strong sense of collegiality and comradery amongst our team, as they worked together to make a positive impact in paediatric critical care medicine.



Some of our 2021 incoming trainees: Drs. Constanza Velasco, Tanya Haj-Hassan, John Glazebrook, Sabine Nabecker, David Zorko, Luca Marchetto, and Fahad Abu Azzah

CURRICULA

TACTICS

For the second year in a row, TACTICS (**T**Training **A**ssessment of **C**linicians in **T**eams in **I**ntensive **C**are through **S**imulation) took place online. Over 30 PCCM trainee participants virtually joined our simulation assessment day led by various education faculty across Canada. We ran eight virtual sessions:

1. ECMO
2. CRRT
3. Transport Call
4. Mechanical Ventilation in Asthma
5. Communication
6. Neuro Critical Care
7. Pulmonary Hemorrhage
8. Cardiac

Medical Humanities

Faculty and trainees had another wonderfully full year of collaboration through the arts. The group was the recipient of the Medical Humanities Education Grant for 3 years in a row with their project “Our own history, reviewing the past, understanding the present and shaping the future”. Faculty and trainees met and co-constructed art, meaning on experiences and a sense of connection and community.



Ontario Wide Academic Half Day Series

Paediatric Neuro Critical Care

This year, we ran two Ontario Wide Academic Half Days in collaboration with London Health Sciences Centre, CHEO, and McMaster Children’s Hospital. The theme for November was Neurocritical Care,

with sessions by Drs. Rishi Ganesan, Matt Kirschen, and Nicole McKinnon. Participants learned about the principles of cerebral physiology, neuromonitoring in the PICU, and management of paediatric TBI.

Paediatric Mechanical Ventilation

On March 15th we held our second Ontario Wide AHD on Paediatric Mechanical Ventilation. What started out as a session for Ontario PCCM programs, turned into a worldwide event! We had 129 participants join virtually from 26 different countries, including:

Algeria	Denmark	Kenya	Peru	Sri Lanka
Australia	Germany	Kuwait	Qatar	Sudan
Belgium	India	Mexico	Saudi Arabia	Switzerland
Canada	Italy	Oman	Singapore	United Kingdom
Colombia	Japan	Panama	South Africa	United States

Sessions included lung and diaphragm protective ventilation, prone positioning, and mechanical ventilation in cardiac patients. Thank you to our moderator, Dr. Desmond Bohn, and our speakers, Drs. Robinder Khemani, Bhushan Katira, and Luciana Rodriguez-Guerineau for facilitating such a large event.

**ONTARIO-WIDE ACADEMIC HALF DAY
PAEDIATRIC CRITICAL CARE MEDICINE
THEME: NEUROCRITICAL CARE**

November 30, 2021 | Time: 13:00 to 16:00 EST

SPEAKERS

Dr. Rishi Ganesan
CHWO - LHSC, London

Dr. Matt Kirschen
CHOP, Philadelphia

Dr. Nicole McKinnon
SickKids, Toronto

Please register for this meeting using this link: <https://bit.ly/3qbmKRI>

Academic Half Day Program

13:00 to 14:00 - Principles of Cerebral Physiology - Dr. Rishi Ganesan
14:00 to 15:00 - Overview of Neuromonitoring in PICU - Dr. Matt Kirschen
15:00 to 16:00 - Management of Pediatric TBI - Dr. Nicole McKinnon

Children's Hospital London Health Sciences Centre | CHEO | SickKids THE HOSPITAL FOR SICK CHILDREN | McMaster Children's Hospital HAMILTON HEALTH SCIENCES

ONTARIO-WIDE ACADEMIC HALF DAY

Paediatric Mechanical Ventilation

MARCH 15, 2022 | 1400-1700 EST

SPEAKERS



DR. DESMOND
BOHN
SickKids, Toronto



DR. ROBINDER
KHEMANI
Children's Hospital of
Los Angeles



DR. BHUSHAN
KATIRA
Washington University
in St. Louis



DR. LUCIANA
RODRIGUEZ
GUERINEAU
SickKids, Toronto

Please join the meeting here: <https://zoom.us/j/98264830362?pwd=SKOUUikVINrOTVTR1hTQnV4SGwrdz09>

Academic Half Day Schedule

Introduction: Dr. Desmond Bohn

1400 - 1500: Lung and Diaphragm Protective Ventilation in Children

- Dr. Robinder Khemani

1500 - 1600: Prone Positioning

- Dr. Bhushan Katira

1600 - 1700: Mechanical Ventilation in Cardiac Patients

- Dr. Luciana Rodriguez Guerineau



Wellness

In January, Dr. Seth Gray took over the role of Wellness Director for the PCCM Program. Dr. Gray is very committed to wellness and has a strong rapport with our trainees, so we are excited to see what he has in store for the program. We would like to thank Dr. Roxanne Kirsch for everything she has done as Wellness Director for the past three years. We are lucky to have faculty who are so dedicated to trainee wellness!

Both Dr. Kirsch and Dr. Gray led various wellness debrief sessions throughout the year. In addition to these sessions, fellows participate in regular town halls, facilitated by our co-Chief Fellows. Here, they are given a chance to speak about any questions or concerns they may have with the program.

We also ensured there were many opportunities for social activities. However, as the pandemic continued on throughout the 2021-2022 year, in-person events were put on hold during the winter and spring months. During this time, we had to revert back to virtual activities, which included staff vs. fellow jeopardy, a Halloween costume contest, an ugly Christmas sweater contest, and a trivia night in February.

By June, we were lucky enough to have some in-person events once social gatherings were permitted. We had a small barbeque at Ashbridges Bay to celebrate the end of a wonderful year.

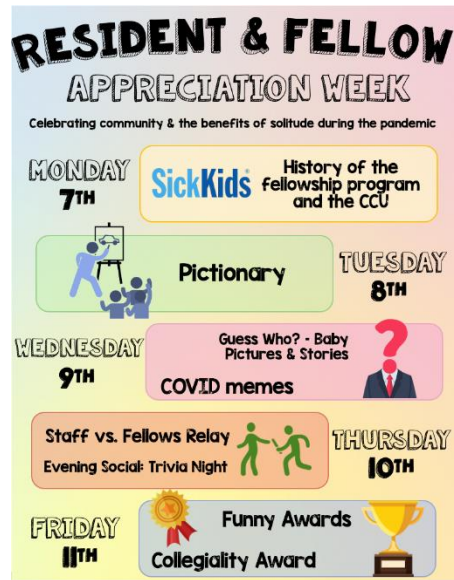


Staff physicians and trainees enjoying the end of year barbeque

EVENTS

Resident & Fellow Appreciation Week

This year's focus of Resident and Fellow Appreciation Week was "celebrating community and the benefits of solitude during a pandemic". The week started off with a presentation on the history of the CCM fellowship program, taking us all the way back to when we only had 10 trainees! Talking about life pre-pandemic showed us that although there are obvious differences between then and now (masks, distancing), there are still so many similarities in terms of community within the program.



We shared memes and baby pictures, played games, and participated in everyone's favourite Staff vs. Fellow relay, where we learned how competitive the CCM department can be.



Staff vs. Fellow relay participants with our referee for the event, Dr. Seth Gray

Our week of festivities culminated in an awards presentation which includes six trainee awards voted on by our department's Respiratory Therapists and Registered Nurses.

- The Most Agile Laryngoscopist for Elegant Intubations* – Dr. John Glazebrook
- The Most In-Depth Knowledge of Mechanical Ventilation* – Dr. Colm Breatnach
- The Most Calm Under Pressure* – Dr. Colm Breatnach
- Creating the Most Harmonious Working Relationships* – Dr. Cory Anderson
- The Most Timely Assessments of Patients* – Dr. Daniel Ehrmann & Dr. Fiona Perelini
- The Most Polished Proceduralist* – Dr. Véronique Masy

This year, *The Most Collegial* award – presented to a trainee who most successfully fosters a spirit of collegiality amongst their peers, had no winner. Too many of our trainees were voted most collegial, which showcases the strong sense of collegiality amongst this year's Department of Critical Care Medicine. What a perfect way to end a week whose theme focused so strongly on community.



Staff and trainees virtually joining our awards ceremony for Appreciation Week



Group photo after the Staff vs. Fellow relay competition

Scholarly Showcase

We held our annual Scholarly Showcase in May to highlight the research and scholarly activity that our trainees have worked on over this past academic year. A huge thank you to our organizers Dr. Briseida Mema, Program Director, PCCM and Dr. Anne-Marie Guerguerian, Research Director, PCCM, as well as our showcase co-chairs Dr. Camilla Halgren, 2021-2022 Chief Resident and Dr. Intikhab Zafurallah, Paediatric Intensivist and SickKids PCCM alumni.

Presentations were judged by program faculty, Dr. Anne-Marie Guerguerian, Dr. Alejandro Floh, and Dr. Melany Gaetani, as well as interprofessional Critical Care Medicine team members, Winnie Seto, and Karen Dryden-Palmer.



Showcase Award Winners

The Excellence Award – Dr. Olugbenga Akinkugbe

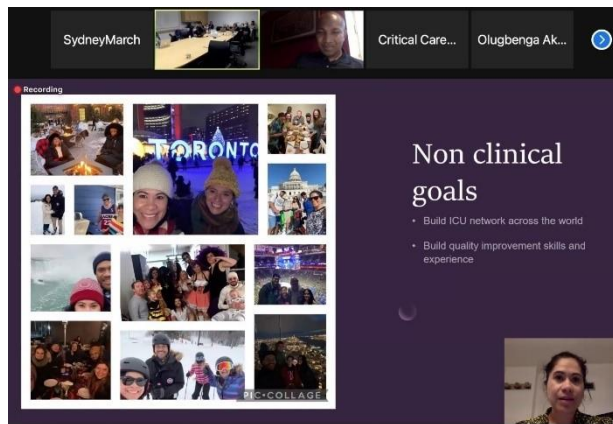
“Vascular complications following button battery ingestion: a systematic review.”

The Innovation Award – Dr. Catherine Proulx

“Exploring and supporting the process of professional identity formation of critical care”

The Most Promising Scholarly Project Award – Dr. Tanya Haj-Hassan

“Global Resource Needs in Paediatric Emergency and Critical Care: An International Survey”



Screen capture of Dr. Fiona Perelini’s presentation in the conference room



Some staff & trainees watching in the

AWARDS

Resident & Fellow Awards

The John Edmonds Award – Dr. Colm Breatnach & Dr. Tanya Haj-Hassan

The John Laffey Award – Dr. Catherine Proulx

The Simon Abrahamson Award – Dr. Colm Breatnach

Art Slutsky 1st Place Overall Best Abstract – Dr. David Zorko

Faculty Awards

Pediatric Critical Care Staff Teaching Award – Dr. Christina Maratta

RESIDENT & FELLOW PUBLICATIONS

1. Barcelo AL, Buckley L, **Anderson C**, Aravind P, Kay Min KS, Mema B. [Apologia pro vita Sua](#). *Academic medicine: journal of the Association of American Medical Colleges*. 2022;97(1):76. (Jan 1 2022)
2. Bosch A, **Watad S**, Willmott S, McKinnon NK, Malcolmson C, Kirby M. [Identifying and Treating Severe Bone Marrow Necrosis and Fat Embolism Syndrome in Pediatric Patients With Sickle Cell Disease: A Case Report](#). *Journal of Pediatrics Hematology/Oncology*. 2022. (Jan 26 2022)
3. Gaetani M, Min KS, **Proulx C**, Mema B. [Reflection, refraction, resilience: the transformative potential of art](#). *Canadian Journal of Anaesthesia*. 2022;69(5):568-571. (May 2022)
4. **Glazebrook J**, Annich G. The March of the Normoxics: [Hyperoxemia and Hemolysis During Cardiopulmonary Bypass](#). *Pediatric Critical*. 2022;23(2):146-148. (Feb 1 2022)
5. Kay Min KS, **Proulx C**, **Masy V**, Mema B. [HERE, GOING, GONE, AND BACK](#). *Journal of Palliative Medicine*. 2022;25(1):165-166. (Jan 1 2022)
6. **Kazzaz YM**, Alharbi M, Noël KC, Quach C, Willson DF, Gilfoyle E, McNally JD, O'Donnell S, Papenburg J, Lacroix J, Fontela PS. [Evaluation of antibiotic treatment decisions in pediatric intensive care units in Saudi Arabia: A national survey](#). *J Infect Public Health*. 2021;14(9):1254-62. (Sept 1 2021)
7. Pereira M, **Akinkugbe O**, Buckley L, Gilfoyle E, Ibrahim S, McCradden M, Somerton S, Dryden-Palmer, K. Up to the Challenge: Adapting Pediatric Intensive Care during a Global Pandemic. *Front Pediatr*. 2022. *In Press*.
8. **Proulx C**, Floh A, Jeewa A, Pulcine E, Muthusami P, Brandao LR, Honjo O, Vargas C, Maurich A, Mazwi M. [Successful Pediatric Mechanical Thrombectomy for HeartMate 3-Related Intracranial Thromboembolism](#). *World Journal for Pediatric & Congenital Heart Surgery*. 2022;13(2):242-244. (March 2022)
9. **Proulx C**, Mema B, Helmers A. [Vulnerability and virtue](#). *Cmaj*. 2021;193(32):E1257-e8. (Aug 16 2021)
10. Min KK, **Proulx C**, Masy V, Mema B. [HERE, GOING, GONE, AND BACK](#). *J Palliat Med*. 2022 Jan;25(1):165-166.
11. **Shioji N**, Aoyama K, Englesakis M, Annich G, Maynes JT. [Multisystem inflammatory syndrome in children during the coronavirus disease pandemic of 2019: a review of clinical features and acute phase management](#). *J Anesth*. 2021;35(4):563-70 (Aug 1 2021)
12. Gaetani M, Min KS, **Proulx C**, Mema B. [Reflection, refraction, resilience: the transformative potential of art](#). *Can J Anaesth*. 2022 May;69(5):568-571.
13. **Proulx C**, Min K, Mema B. [Being and becoming a critical care clinician: role of narrative](#). *Ped Crit Care Med*. Accepted for publication.

14. **Proulx C**, Floh A, Jeewa A, Pulcine E, Muthusami P, Brandão LR, Honjo O, Vargas C, Maurich A, Mazwi M. Successful Pediatric Mechanical Thrombectomy for HeartMate 3-Related Intracranial Thromboembolism. *World J Pediatr Congenit Heart Surg.* 2022 Mar;13(2):242-244.
15. Trbovich PL, **Tomasi JN**, **Kolodzey L**, Pinkney SJ, Guerguerian AM, Hubbert J, Kirsch R, Laussen PC. [Human Factors Analysis of Latent Safety Threats in a Pediatric Critical Care Unit.](#) *Pediatric Critical Care Medicine.* 2022;23(3):151-159. (Mar 1 2022)

THANK YOU

A huge thank you to this year's Chief Fellow, Colm Breatnach and Chief Resident, Cammy Halgren for making the 2021-2022 academic year a success!

We'd also like to thank the staff physicians for all the guidance, knowledge, and support they provided our trainees.

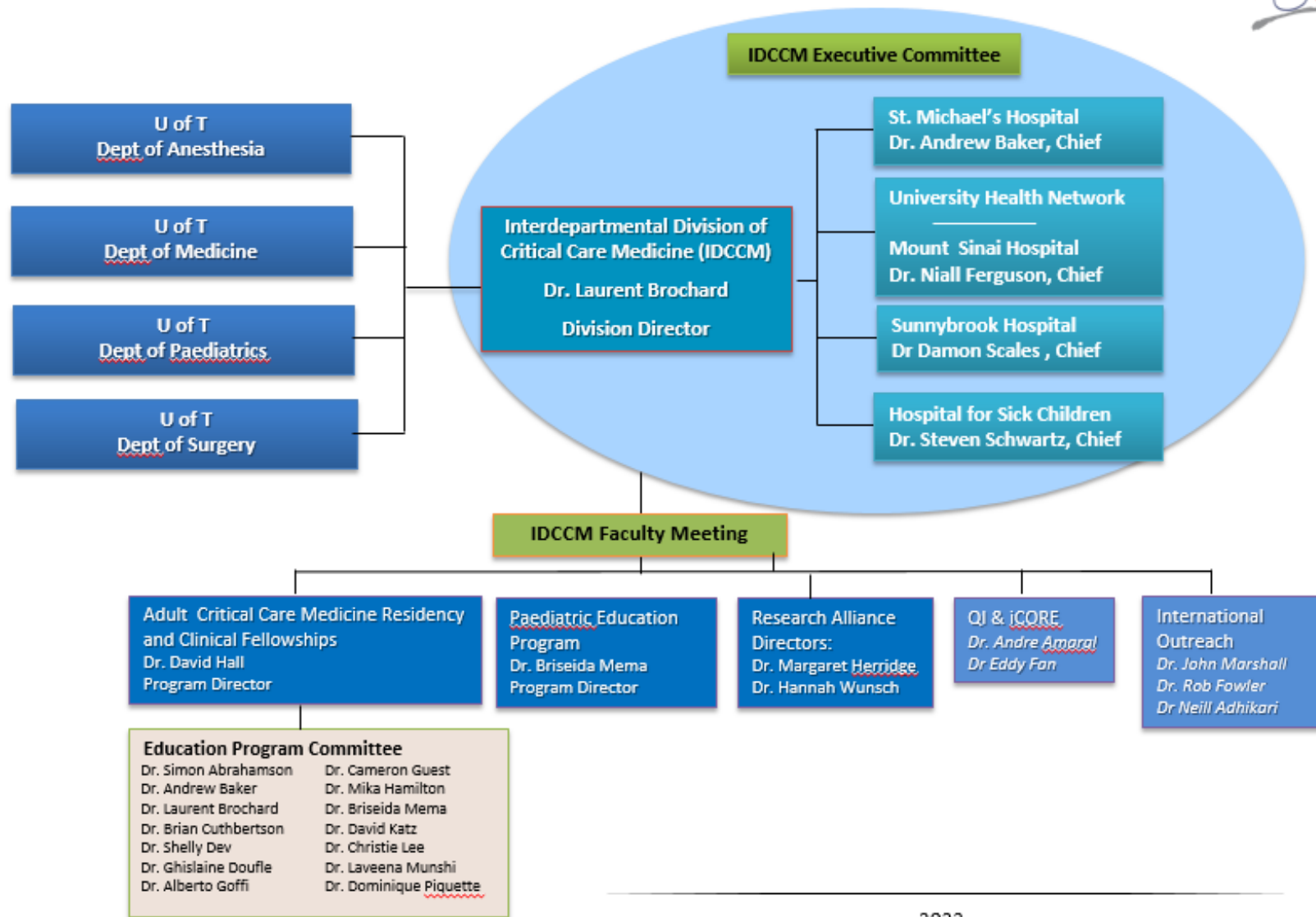


Annual PCCM group photo

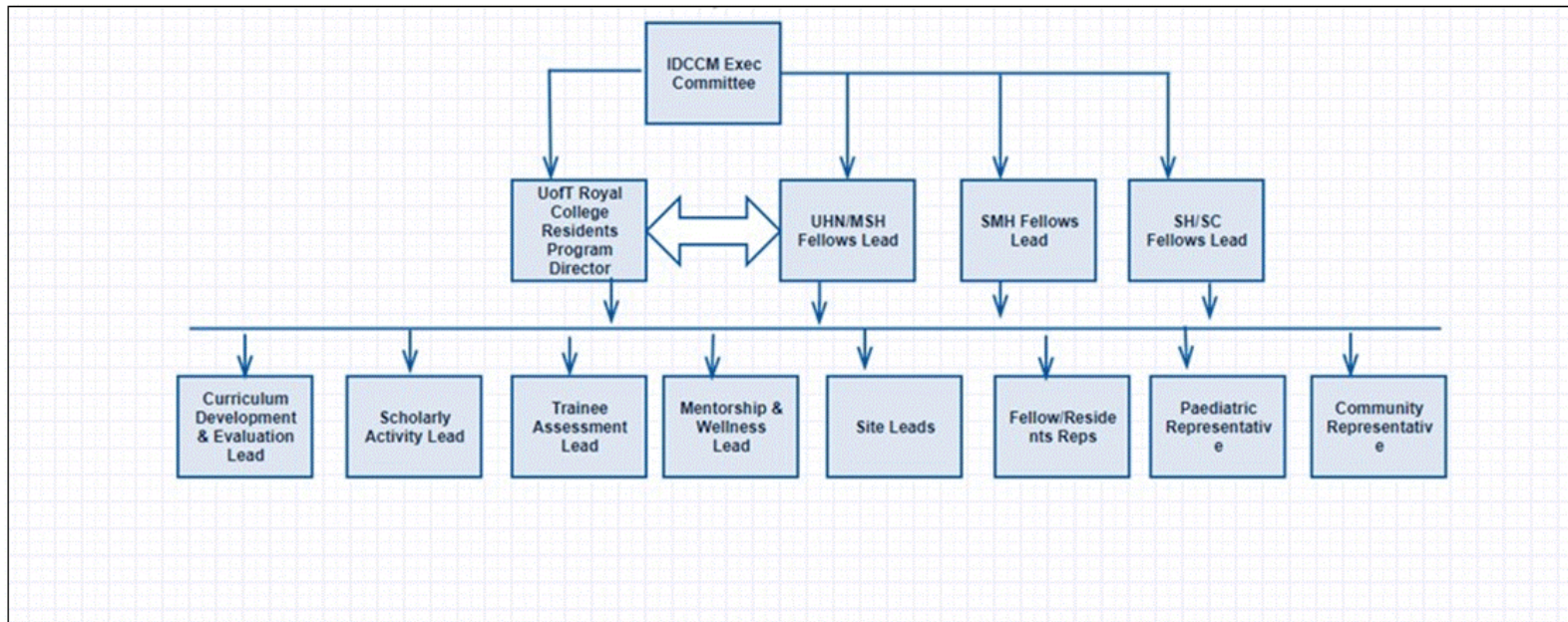
Congratulations to our graduating trainees! You will be missed, but we look forward to seeing what great things you do next. Wishing you all the best in your professional journey ahead.



U of T IDCCM Organization Chart



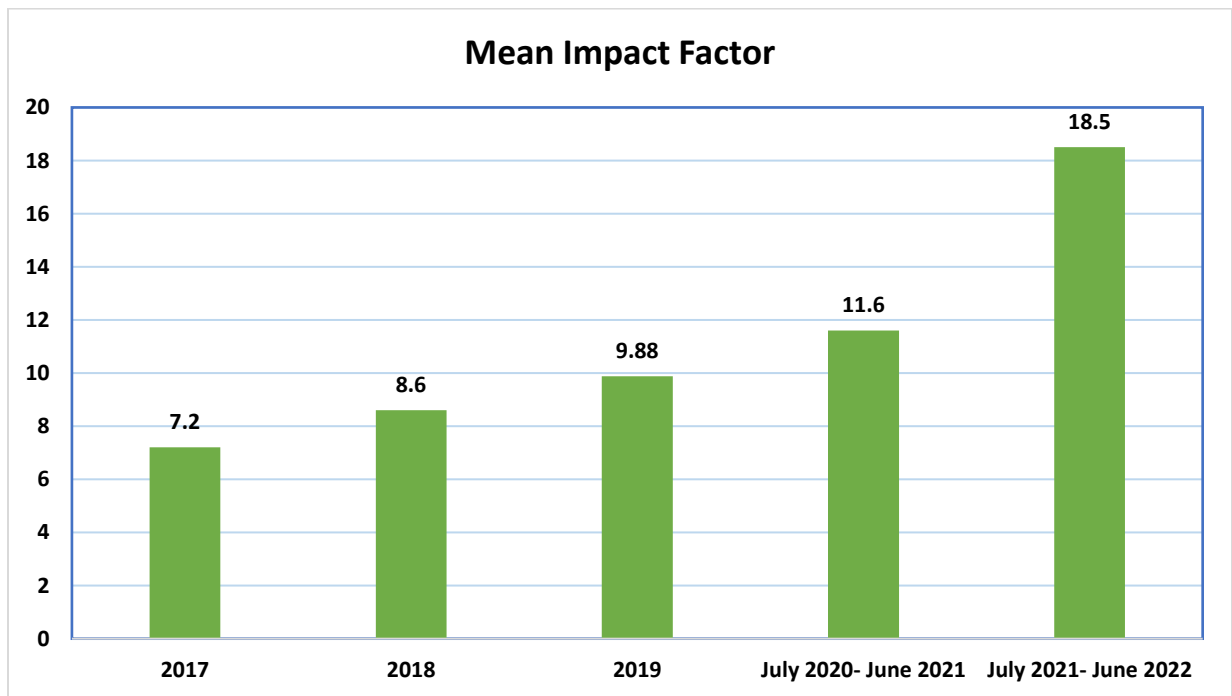
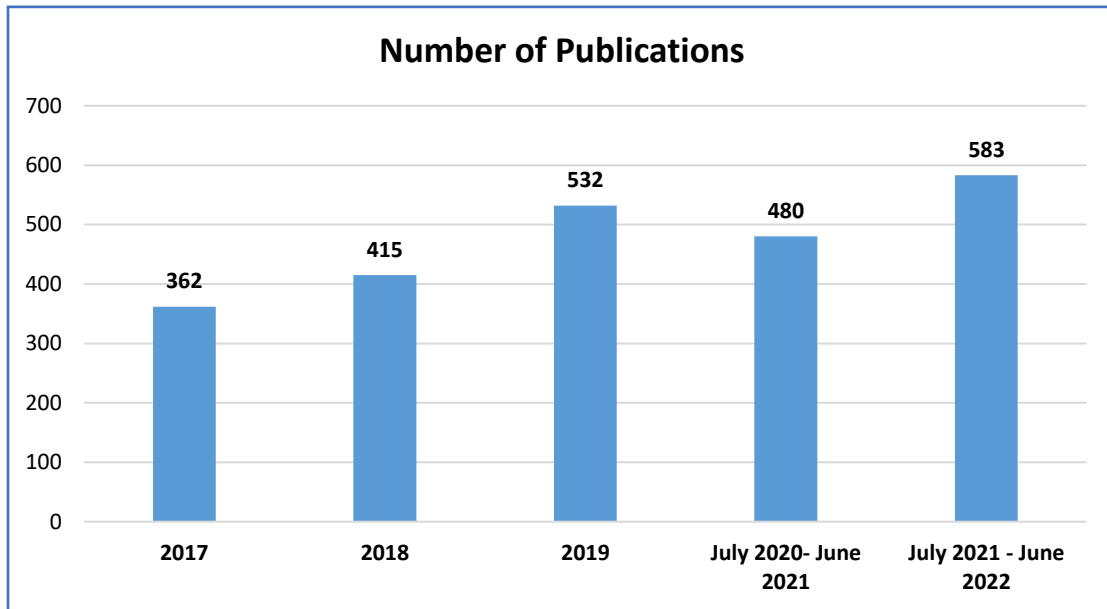
U of T IDCCM Education Committee organization chart



2021-2022

Publications Analysis

5 Years Impact Factor



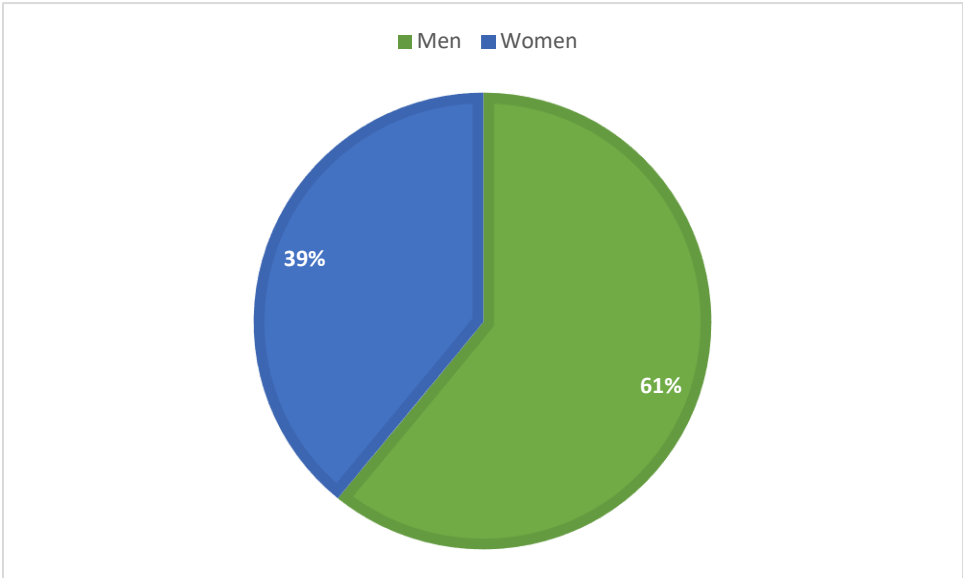
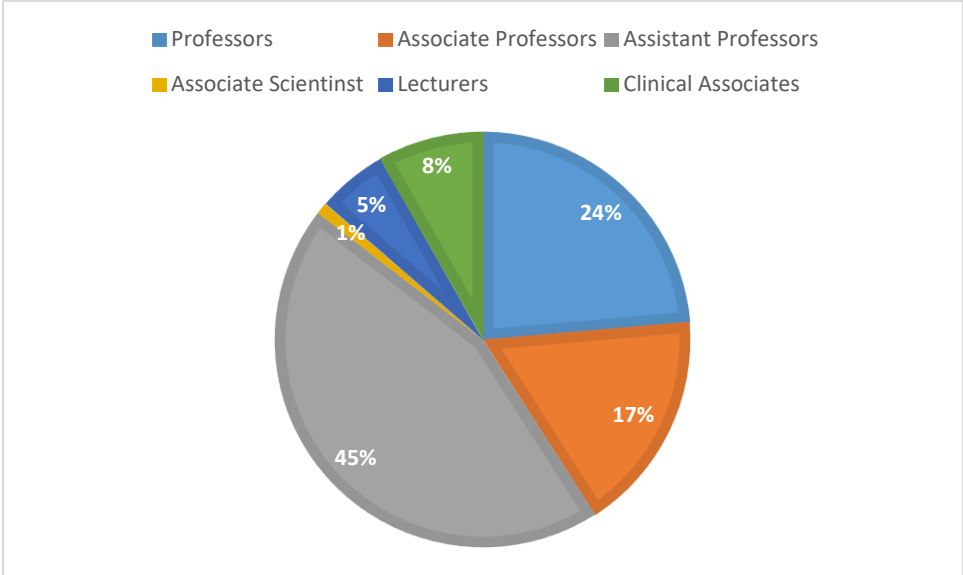
Total publications from IDCCM members July 2021 – June 2022, n= 583

Mean IF= 18.5

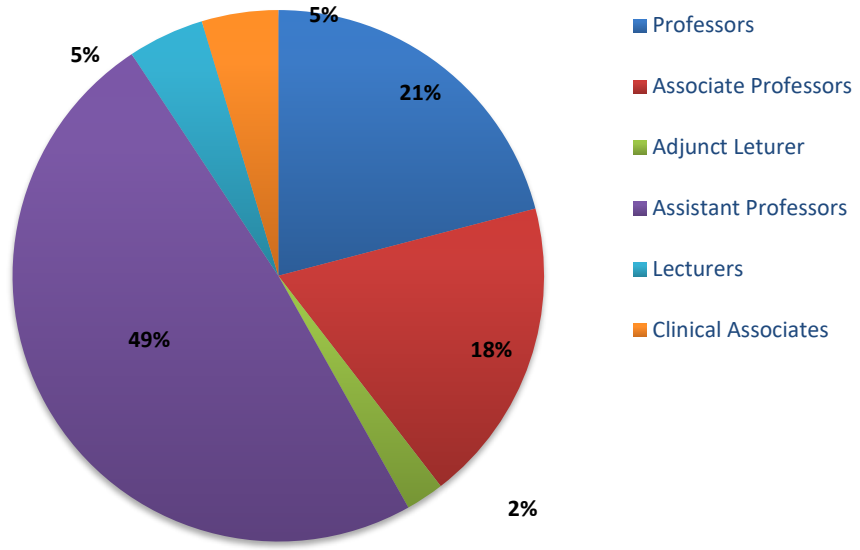
Journal	Impact Factor	n
Nat Med	87.224	3
N Engl J Med	176.082	6
Lancet	202.731	1
Lancet Digit Health	36.615	1
Lancet Haematol	30.153	1
Lancet HIV	16.07	1
Lancet Infect Dis	71.421	2
Lancet Respir Med	102.642	7
JAMA	157.375	9
JAMA Netw Open	13.36	10
Intensive Care Medicine	41.787	24
Am J Respir Crit Care Med	30.528	23
Eur Respir J	33.801	8
Sci Adv	14.98	2
JAMA Surg	16.685	2
Crit Care	19.334	23
Thorax	9.203	4
Chest	11.393	25
Crit Care Med	9.296	29
Ann Am Thorac Soc	5.113	14
J Crit Care	4.298	9
J Heart Lung Transplant	13.569	3
CMAJ	16.876	11
Can J Anaesth	6.713	16
Pediatr Crit Care Med	3.971	5
Resuscitation	6.251	6
J Thorac Cardiovasc Surg	6.438	3
J Neurotrauma	4.869	4

Faculty

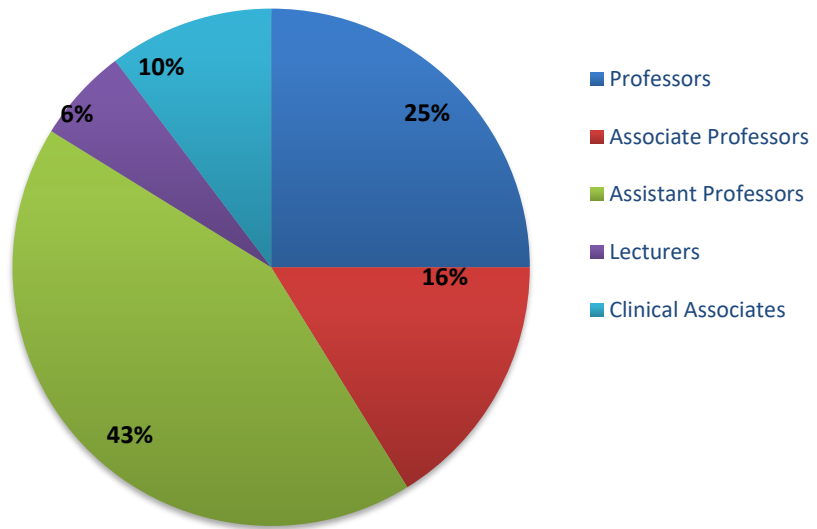
University Rank Full-Time Faculty



Percentage of Men /Women

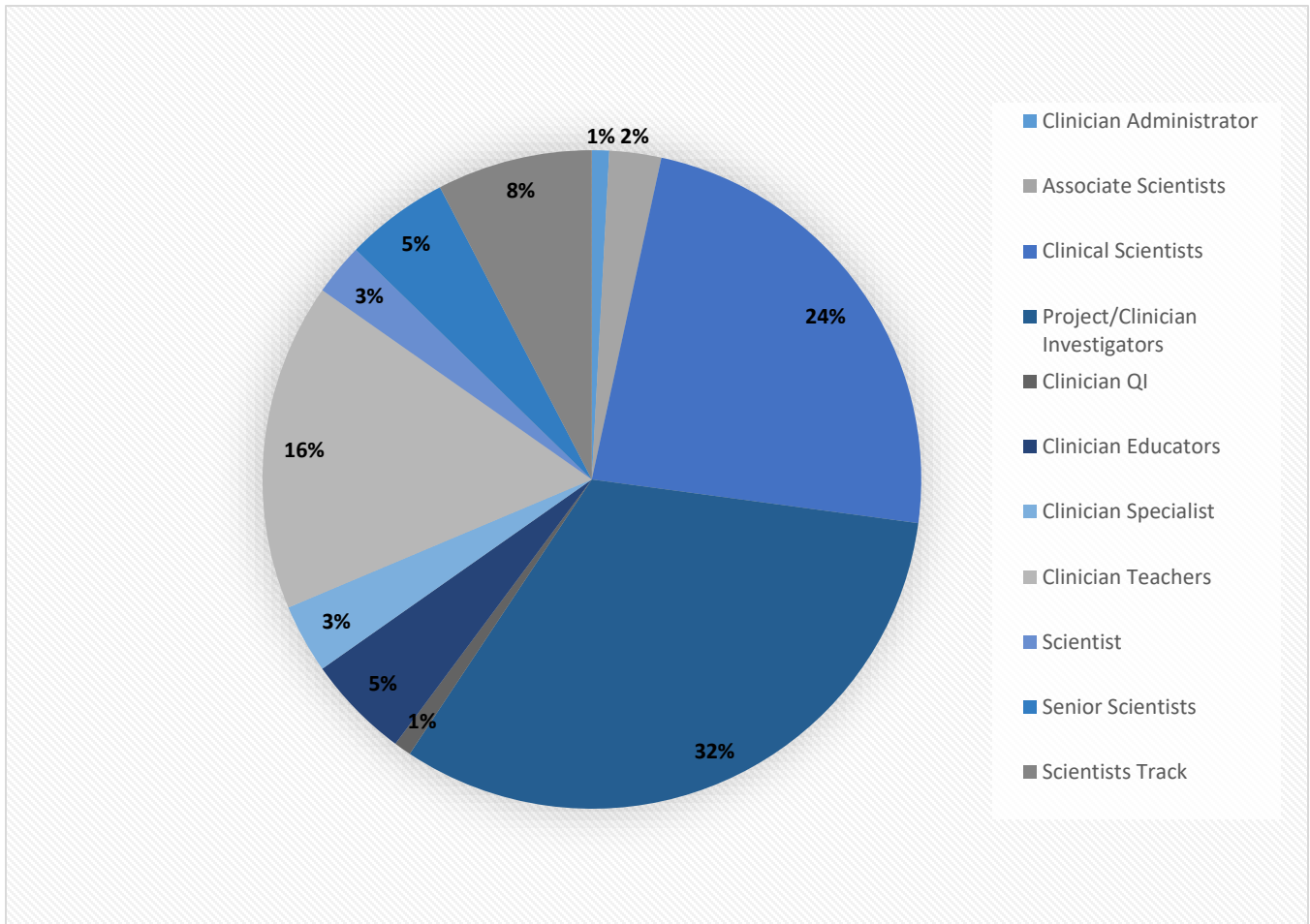


Women



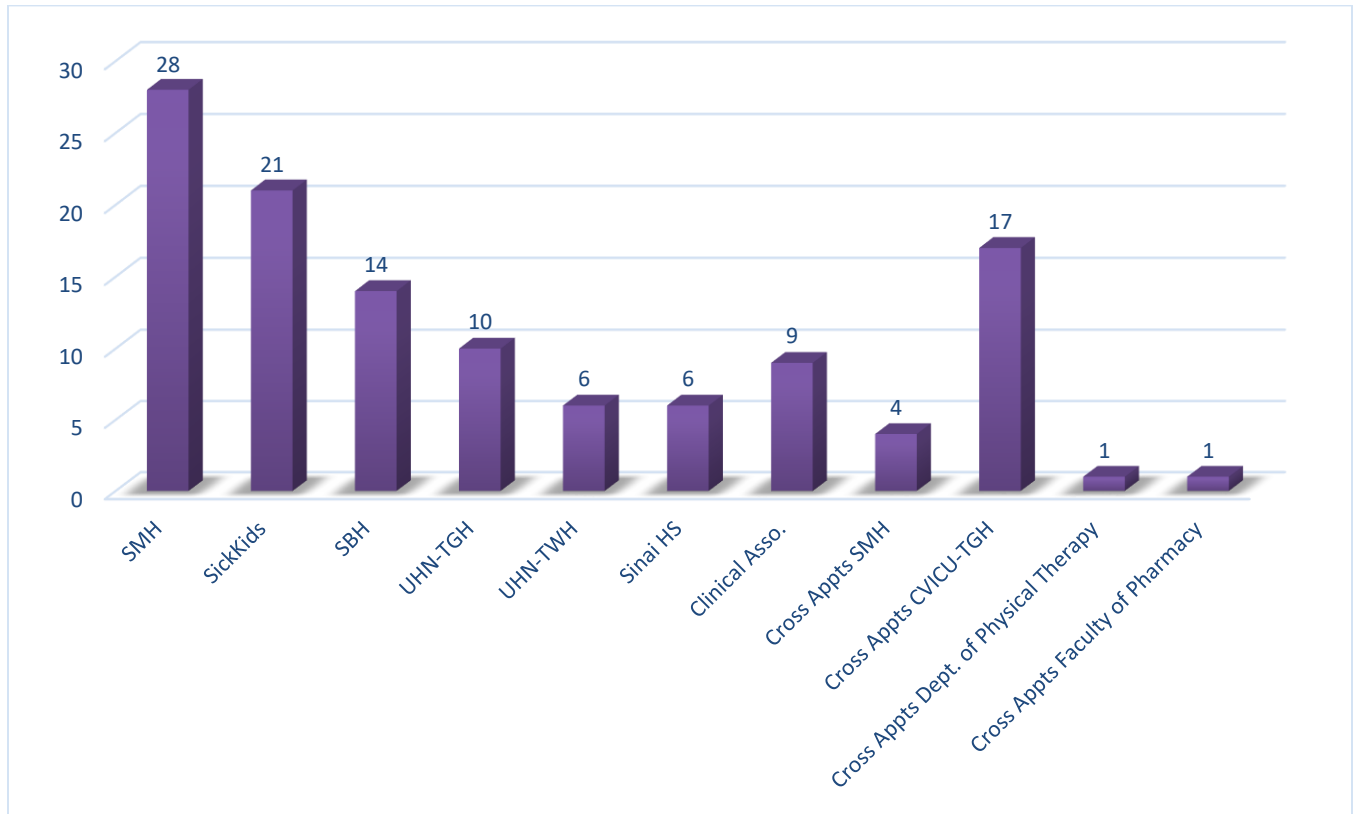
Men

Job Description Faculty



Overall Interdepartmental Summary

Our Interdepartmental Division of Critical Care consists of 108 faculty members and 9 clinical associates.



July 2021 – June 2022

APPENDIX

Faculty List

Hospital for Sick Children

Name	University Rank	Research Rank
Annich, Gail	Professor	Project Investigator
Christian, Haley	Assistant Professor	Project Investigator
Floh, Alejandro	Assistant Professor	Project Investigator
Gaetani, Melany	Assistant Professor	Project Investigator
Gilfoyle, Elaine	Assistant Professor	Associate Scientist
Gray, Seth	Assistant Professor	Project Investigator
Guerguerian, Anne-Marie	Associate Professor	Senior Scientist
Helmets, Andrew	Assistant Professor	Project Investigator
Huang, Lennox	Associate Professor	Project Investigator
Hutchison, Jamie	Professor	Senior Scientist
Kirsch, Roxanne	Assistant Professor	Project Investigator
Maratta, Christina	Lecturer	Project Investigator
Mazwi, Mjaye	Associate Professor	Project Investigator
McKinnon, Nicole	Assistant Professor	Scientist Track Investigator
Mema, Briseida	Associate Professor	Project Investigator
Moga, Michael-Alice	Assistant Professor	Project Investigator
Mtaweh, Haifa	Assistant Professor	Project Investigator
Parshuram, Christopher	Professor	Senior Scientist
Rodrigues-Guerineau, Luciana	Assistant Professor	Project Investigator
Schwartz, Steven	Professor	Senior Scientist
Zaulan, Oshri	Assistant Professor	-

St. Michael's Hospital

Name	University Rank	Research Rank
Abrahamson, Simon	Professor	Clinician Educator
Alli, Ahmad	Lecturer	Clinician Teacher
Baker, Andrew	Professor	Clinician Scientist
Brochard, Laurent	Professor	Clinician Scientist
Burns, Karen	Associate Professor	Clinician Scientist
Darraah, William	Assistant Professor	Clinician Teacher
Dos Santos, Claudia	Associate Professor	Clinician Scientist
Friedrich, Jan	Associate Professor	Clinician Scientist
Goffi, Alberto	Assistant Professor	Clinician Teacher
Gray, Sara	Assistant Professor	Clinician Teacher
Hall, David	Assistant Professor	Clinician Teacher
Houston, Patricia	Professor	Clinician Administrator
Kataoka, Mark	Assistant Professor	Clinician Teacher
Klein, David	Assistant Professor	Clinician Teacher
Lawless, Bernard	Associate Professor	Clinician Teacher
Lee, Warren	Assistant Professor	Clinician Scientist
Maham, Nava	Assistant Professor	Clinician Teacher
Marshall, John	Professor	Clinician Scientist
Mazer, David	Professor	Clinician Scientist
Pronovost, Antoine	Assistant Professor	Clinician Scientist
Rigamonti, Andrea	Assistant Professor	Clinician Scientist
Sinderby, Christer	Assistant Professor	Staff Scientist
Sklar, Michael	Assistant Professor	Clinician Scientist
Slutsky, Arthur	Professor	Staff Scientist
Teja, Bijan	Lecturer	Clinician Teacher
Tousignant, Claude	Assistant Professor	Clinician Educator
Wong, Natalie	Associate Professor	Clinician Teacher
Zhang, Haibo	Professor	Staff Scientist

Sunnybrook Hospital

Name	University Rank	Research Rank
Adhikari, Neill	Assistant Professor	Clinician Investigator
Amaral, Andre	Associate Professor	Clinician Quality & Innovation
Chapman, Martin	Associate Professor	Clinician Educator
Cuthbertson, Brian	Professor	Clinician Scientist
Dev, Shelly	Assistant Professor	Clinician Teacher
Fowler, Robert	Professor	Clinician Investigator
Guest, Cameron	Associate Professor	Clinician Teacher
Kamani, Alya	Lecturer	Clinician Teacher
Haas, Barbara	Assistant Professor	Clinician Scientist
Piquette, Dominique	Assistant Professor	Clinician Educator
Rubinfeld, Gordon	Professor	Clinician Scientist
Scales, Damon	Professor	Clinician Scientist
Smith, Terry	Assistant Professor	Clinician Teacher
Wunsch, Hannah	Associate Professor	Clinician Scientist

University Health Network

Sinai Health System

Name	University Rank	Research Rank
Detsky, Michael	Assistant Professor	Clinician Investigator
Lapinsky, Stephen	Professor	Clinician Investigator
Lee, Christie	Assistant Professor	Clinician Teacher
Mehta, Sangeeta	Professor	Clinician Scientist
Munshi, Laveena	Assistant Professor	Clinician Investigator
Spring, Jenna	Assistant Professor	Clinician Teacher

Toronto General Hospital

Name	University Rank	Research Rank
Del Sorbo, Lorenzo	Assistant Professor	Clinician Investigator
Doufl�, Ghislaine	Assistant Professor	Clinician Teache
Fan, Eddy	Associate Professor	Clinician Scientist
Ferguson, Niall	Professor	Clinician Scientist
Goligher, Ewan	Assistant Professor	Clinician Scientist
Granton, John	Professor	Clinician Investigator
Herridge, Margaret	Professor	Clinician Scientist
Lawler, Patrick	Assistant Professor	Clinician Scientist
Steel, Andrew	Assistant Professor	Clinician Educator
Urner, Martin	Assistant Professor	Clinician Scientist

Toronto Western Hospital

Name	University Rank	Research Rank
Dhar, Preeti	Assistant Professor	Clinician Quality
Hawryluck, Laura	Professor	Clinician Educator
McCredie, Victoria	Assistant Professor	Clinician Scientist
Randall, Ian	Assistant Professor	Clinician Teacher
Singh, Jeff	Associate Professor	Clinician Investigator
Wilcox, Elizabeth	Assistant Professor	Clinician Scientist

Clinical Associates

Name	Hospital
Barrett, Kali	Toronto General Hospital
Bodley, Thomas	Sunnybrook Hospital
Chaudhuri, Dipayan	St. Michael's Hospital
Filewod, Niall	St. Michael's Hospital
Jogova, Maria	Toronto Western Hospital
Park, Casey	Sinai Health System
Tillmann, Bourke	Sunnybrook Hospital
Taran, Shaurya	Toronto Western Hospital
Yarnell, Christopher	Sinai Health System

Cross-Appointed Faculty

St. Michael's Hospital

Name	University Rank	Research Rank
Batt, Jane	Associate Professor	Clinician Scientist
Beck, Jennifer	Assistant Professor	Associate Scientist
Morrison, Laurie	Professor	Clinician Scientist
Smith, Orla	Adjunct Lecturer	Associate Scientist

University Health Network - Toronto General Hospital

Department of Anesthesia, CVICU

Name	University Rank	Research Rank
Ansari, Bilal	Assistant Professor	Clinician Investigator
Bahrey, Lisa	Associate Professor	Clinician Investigator
Dattilo, Kathleen	Assistant Professor	Clinician Investigator
Heggie, Jane	Associate Professor	Clinician Investigator
Jarhani, Marjan	Assistant Professor	Clinician Investigator
Karkouti, Keyvan	Professor	Senior Scientist
Luksun, Warren	Lecturer	Clinician Investigator
Mashari, Azad	Lecturer	Clinician Investigator
Meineri, Massimiliano	Professor	Clinician Investigator
Moreno, Jacobo	Assistant Professor	Clinician Investigator
Murphy, Patricia	Professor	Clinician Investigator
Parotto, Matteo	Assistant Professor	Clinician Investigator
Randall, Ian	Assistant Professor	Clinician Investigator
Snyman, Adam	Assistant Professor	Clinician Investigator
Van Rensburg, Adriaan	Associate Professor	Clinician Investigator
Vegas, Annette	Professor	Clinician Investigator
Wasowicz, Marcin	Associate Professor	Clinician Investigator

University of Toronto – Department of Physical Therapy

Name	University Rank	Research Rank
Reid, Darlene	Professor	Senior Scientist

University of Toronto – Faculty of Pharmacy

Name	University Rank	Research Rank
Burry, Lisa	Assistant Professor	Clinician Scientist

Appendix II: Summary Activity Reports

Please click on the below link to access the activities reports of individual members:

[Summary activities Report July 2021-June 2022](#)

Thank you and Happy New Year!!