



McMaster Education Research, Innovation & Theory

---

2019  
**ANNUAL** REPORT





# Table of Contents

<b>Welcome from the Assistant Dean</b>	3
<b>Year in Review</b>	
A Few Places We've Presented	5
MERIT Active Grants	7
Awards & Honours	8
MERIT Membership	10
MERIT Visiting Scholar	11
<b>Our Community</b>	
Scientists	12
Adjunct Scientists	17
Scholars	21
Members	23
Post-Doctoral Fellow	28
<b>Our Events</b>	
MERIT Rounds	29
MERIT thinkTank	30
Sibley Awards	31
Health Professions Educator Award	32
Education Innovation Fund	33
<b>Papers &amp; Publications</b>	34



## MESSAGE FROM THE ASSISTANT DEAN

---



**Jonathan Sherbino**

The past year has been exciting. Our community has undergone a number of changes. Of course, we stand on more than **40 years of internationally recognized health professions education research**, dating back to our origins as the Program for Educational Development.

Our mission statement speaks to the two inter-related goals of MERIT. Conducting **world-renowned health professions education scholarship** is a core goal of MERIT. Within this report you will read the stories and scroll through the citations that provide more depth to the type and influence of our scholarship. Our areas of expertise are captured in our research themes.

The second goal of MERIT speaks to **growing a community of practice**. Our aim is to engage faculty from across Health Sciences who are involved in education scholarship. In the past year our membership has grown to **ten scientists** (including four adjunct, one emeritus), **seven scholars** and **25 members**. In addition, we have welcomed two post-doctoral fellow positions, included one in conjunction with the McMaster Institute for Research on Aging (MIRA).

Our community has facilitated conversations, debates, peer review, internal support and collaboration across projects. Through monthly live-streamed **MERIT Rounds**, our open **thinkTank consultation** service, **journal club**, **visiting professor** consultations and presentations, membership events, **travel bursaries**, local **research conference**, and our **annual retreat**, we have joined as a community to advance best practices for health professions education. Our collaborations with the Health Sciences Education graduate studies program, AFC Clinician Educator program, Centre for Simulation-based Learning, and DFM Medical Education Research Meeting have also encouraged the growth of our community.



**MISSION:**  
*Growing a community of clinicians and scientists to advance health professions education through research and applied science.*

In March MERIT hosted and chaired a conference on gender equity in academic health professions. Members of our community presented their scholarship at national and international meetings, including the Canadian Conference on Medical Education, the Association of Medical Educators of Europe, the International Conference on Residency Education and the Association of American Medical Colleges, among others.

Watch for these events in 2020:

- Release of our **video channel** that archives MERIT Rounds and visiting professor presentations
- A two-day conference on **academic mentoring: March 26 & 27**
- Sibley Lecture on **health professions** and the **influence of shame: April 29**
- Norman Education **Research Day: June 3**

You can discover more about us at our website: [merit.mcmaster.ca](http://merit.mcmaster.ca) Follow us on Twitter [@MERIT\\_McMaster](https://twitter.com/MERIT_McMaster). You can reach out directly at: [merit@mcmaster.ca](mailto:merit@mcmaster.ca).

Best wishes for 2020!

**At MERIT, we produce evidence to develop health professional expertise.**

**We do this by advancing:**

**RESEARCH**

Research on education in clinical, digital and simulated learning environments

**INNOVATION**

Innovative education designs and policies

**THEORY**

Theories of social, professional, and cognitive skill development for high quality healthcare



# A FEW PLACES WE'VE PRESENTED

---

**Dr. Ranil Sonnadara**

Annual Meeting of the Association for Surgical Education. Chicago, Illinois

**Dr. Lawrence Grierson**

Canadian Conference on Medical Education. Niagara Falls, Ontario

**Dr. Sandra Monteiro**

Association of Medical Educators of Europe. Vienna, Austria

**Dr. Meredith Vanstone**

Family Medicine Forum. Vancouver, British Columbia

**Dr. Jonathan Sherbino**

International Conference on Residency Education. Ottawa, Ontario

**Dr. Teresa Chan**

FeminEM Revive Conference. Scottsdale, Arizona

**Dr. Lara Varpio**

Military Health System Research Symposium. Kissimmee, Florida

**Dr. Matthew Sibbald**

Medical Education Forum. Krakow, Poland



## A FEW PLACES WE'VE PRESENTED

---

2018 Montreal General Hospital Day. **Montreal, Quebec**

2019 Vector Institute Postgraduate Affiliate Welcome Event. **Toronto, Ontario**

11th Annual Conference on the Scientific Dissemination and Implementation. **Washington, DC**

29th Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. **Waterloo, Ontario**

A Practical Course in Emergency Medicine. McGill University. **Montreal, Quebec**

American Academy of Neurology. **Philadelphia, Pennsylvania**

American Education Research Association (AERA). **Toronto, Ontario**

American Society of Hematology 2018. **San Diego, California**

Association of Pediatric Program Directors. **New Orleans, Louisiana**

Canadian Conference on Medical Education. **Niagara Falls, Ontario**

Canadian Critical Care Forum. **Toronto, Ontario**

Children's Hospital of Pennsylvania (CHOP). **Philadelphia, Pennsylvania**

Council of Residency Directors of Emergency Medicine. **Seattle, Washington**

Deep Dive Discussion (3D). University of California, San Francisco. **San Francisco, California**

Department of Pediatrics Residency Program Retreat. McMaster University. **Hamilton, Ontario**

Diagnostic Errors in Medicine 11th International Conference. **Washington, DC**

Emergency Department Administration Conference. **Toronto, Ontario**

Family Medicine Forum. **Vancouver, British Columbia**

Health Leadership Academy: Collaboratorium Speaker Series. **Burlington, Ontario**

Hi Fi Sci: Kinesiology Perspectives on Medical Education. **Toronto, Ontario**

International Conference on Residency Education. **Ottawa, Ontario**

National Association of EMS Physicians. **Austin, Texas**

National Kidney Foundation. **Boston, Massachusetts**

Norman Education Research Day. McMaster University. **Hamilton, Ontario**

North American Primary Care Research Conference. **Toronto, Ontario**

PSI Foundation Visiting Scholars Conference. **Hamilton, Ontario**

Racialized Maternal Health Conference. **Toronto, Ontario**

Research in Healthcare Simulation: Motor Control to Medical Education. **North Bay, Ontario**

Society for Critical Care Medicine's Critical Care Congress. **San Diego, California**

Society for Pediatric and Perinatal Epidemiologic Research (SPER) Annual Meeting. **Minneapolis, Minnesota**

Society of Academic Emergency Medicine. **Las Vegas, Nevada**

Toronto Health Economics and Technology Assessment Collaborative. **Toronto, Ontario**

Touchstone Institute Annual Symposium. **Toronto, Ontario**

Tremblant Interventional Cardiology National Meeting. **Tremblant, Quebec**

University of Manitoba Health Professions Education Research Day. **Winnipeg, Manitoba**

University of Pennsylvania Medical Education Master's Program Research Block. **Philadelphia, Pennsylvania**

**TOTAL  
GRANTS:  
\$5.1 million**

## MERIT ACTIVE GRANTS

Academic Family Medicine Associates Research Grant Competition	Medical Council of Canada, Education Research
Canadian College of Family Physicians	MIRA Catalyst Grant <b>x2</b>
Canadian Institutes of Health Research	Royal College Medical Education Research Grant <b>x4</b>
Central Group on Educational Affairs	Ontario Ministry of Health and Long-Term Care Health System Research Fund
CDRP, Chang Gung, Taiwan	Physican Services Incorporated Starter Fund
Continuing Health Science Education Program Research and Innovation Fund <b>x2</b>	Program Objective Memorandum (POM funding), US Department of Defense
Fonds de recherche du Québec - Société et culture (FRQSC)	Public Health Agency of Canada
Fulbright Scholarship	Society of Academic Medicine Grant
Intramural Research Grant, Uniformed Services University	Society of Directors of Research in Medical Education
Mayo School of Medicine Innovation Grant	University of Ottawa Medical Education Research Grant
McMaster Surgical Associates Education Research Grant <b>x2</b>	



# AWARDS & HONOURS

---



## **Dr. Teresa Chan**

- Promotion to Associate Professor
- Appointment of Assistant Dean, Program for Faculty Development
- McMaster University Emergency Medicine 2019 Excellence in Teaching Award



## **Dr. Lawrence Grierson**

- U21 Health Sciences Teaching Excellence Award (U21 Health Sciences Group)



## **Dr. Sandra Monteiro**

- Promotion to Associate Professor (effective July 1, 2020)



## **Dr. Jonathan Sherbino**

- Excellence in Clinical Teaching (nominee), Division of Emergency Medicine, McMaster University



## **Dr. Matthew Sibbald**

- Cardiology Residency Program, Ernest Fallen Excellence in Teaching Award



## **Dr. Ranil Sonnadara**

- McMaster Surgical Associates Showcase Award, Most Innovative Project



## **Dr. Meredith Vanstone**

- Editor for Perspectives on Medical Education (PME) journal



## **Dr. Lara Varpio**

- Karolinska Prize in Medical Education Fellowship Program (KIPRIME)

MERIT would like to recognize the following individuals who have received prestigious national awards from the Canadian Association for Medical Education.

This is a unique achievement to receive simultaneous recognition in all three categories. We would like to acknowledge our faculty who make immense contributions to medical education and continue to engage and collaborate with health professions scholarship.

## Congratulations!



**Dr. Teresa Chan**  
Meridith Marks New Educator Award



**Dr. Lawrence Grierson**  
Certificate of Merit



**Dr. Meredith Vanstone**  
Early Career Medical Educator Champion Award

# MERIT MEMBERSHIP

---

The MERIT program is dedicated to building a community of practice around health professions education. There are two levels of membership: **Member and Scholar.**



## MEMBER

### **Benefits:**

- MERIT affiliation
- Profile in MERIT communications
- Opportunity for project consultation with one of our scholars or scientists

### **Responsibilities:**

- Regular attendance at our monthly MERIT Rounds
- Presentation at MERIT rounds

---



## SCHOLAR

### **Benefits:**

- Eligibility to compete for conference funding, limited research assistance support
- Access to Internal peer review of applications and publications and academic mentorship
- Access to tele- or video-conferencing for project communication
- Profile in MERIT communications
- Opportunity for project consultation with one of our scholars or scientists

### **Responsibilities:**

- Peer consultations with Scientists
- Scholarly paper review
- Membership on HSEd thesis committee(s)
- Regular attendance at our monthly MERIT meetings
- Regular attendance at our monthly MERIT Rounds
- Presentation at MERIT rounds

# MERIT VISITING SCHOLAR

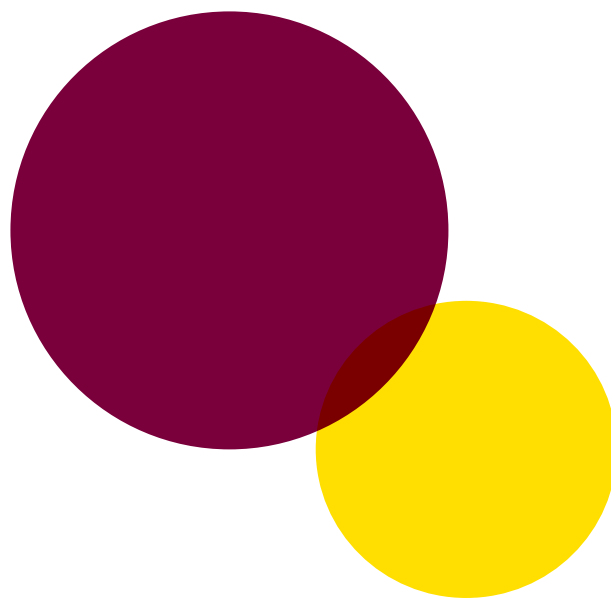
---

## Coming in 2020!

The MERIT Visiting Scholar program gives opportunity to a chosen visiting scholar to engage with membership and participate in activities at MERIT. The visiting scholar has a general interest in health professions education research and has a project or series of activities that benefits from an extended MERIT visit. Terms are one to four months.

### **Benefits:**

- MERIT will facilitate meetings with McMaster faculty at the direction of the visiting scholar
- Shared office space with computer access
- Library access
- Opportunity to present at MERIT events
- Opportunity for project consultation with one of our scholars or scientists



**Dr. Lawrence Grierson, PhD**  
Associate Professor, Family Medicine



Dr. Lawrence Grierson is Associate Professor with the Department of Family Medicine at McMaster University and an Education Scientist with the McMaster Faculty of Health Sciences' Program for Educational Research, Innovation, and Theory (MERIT), the Program for Community and Rural Education (Mac-CARE), and the Undergraduate MD Program at McMaster University; appointments through which he leads a variety of research pertaining to Health Professions Education. He obtained his PhD in Kinesiology at McMaster University before completing concurrent postdoctoral fellowships with the Toronto Rehabilitation Institute, Sick Kids Learning Institute, Lawrence S. Bloomberg School of Nursing, and The Department of Occupational Therapy and Occupational Science at the University of Toronto. Lawrence serves as Assistant Dean of McMaster's Health Sciences Education Graduate Program and on the CFPC's Program Evaluation Advisory Group for the Triple-C Curriculum.

Among Lawrence's most relevant scholarship is new research that has established the foundation for big education data platforms for the longitudinal appraisal of medical education metrics collated across physicians' learning trajectory; from medical school into practice. This work began with examinations of the factors that influence the policy intervention of matriculating International Medical Graduates (physicians trained abroad) into Canadian residency programs with the ultimate goal of improving physician distribution in Canada, and continues with provincial collaborative work aimed at determining the admissions and training factors associated with trainee performance on the national licensure examinations. Given his leadership of this work, Dr. Grierson is regularly invited to give presentations on the process and potential of this research and to encourage other relevant organizations to participate in the endeavour. In this regard, over the last year, Lawrence has been formally engaged on the topic of inter-institutional partnerships for data-driven education research with the Postgraduate, Undergraduate, and Medical Admissions Councils of the Ontario Faculties of Medicine; Ministry of Health and Long-Term Care; Association of Faculties of Medicine in Canada; Medical Council of Canada; College of Family Physicians of Canada; Royal College of Physicians and Surgeons of Canada; and the Ontario Physician Human Resource Data Centre Steering Committee.

As a member of the Department of Family Medicine, Dr. Grierson is also active in research that considers the way in which medical training and credentialing influences the delivery of continuous, comprehensive, and community-adaptive care across the country. At the forefront of this research is a CFPC-sponsored, multiple-case study of the impact that the Certificates of Added Competence program is having on the delivery of family medicine in Canada. This project will describe the factors that interact with the Certificates to influence patients and practitioners, the training decisions of medical residents, and the way in which Family Physicians with enhanced skills training are perceived by the community. This work-in-progress was presented at the 2019 Family Medicine Forum and the 2019 North American Primary Care Research Group meeting.

When time permits, Lawrence still enjoys research on control and acquisition of precision skills and, over the last year, has contributed to a pair of new studies that support a multiple process model of sensory-motor information processing as well as two book chapters and a study that applies theoretical kinesiology to applications in simulation-based medical education.

# SCIENTISTS

---



**Dr. Sandra Monteiro, PhD**  
Assistant Professor, Health Research  
Methods, Evidence and Impact

Dr. Sandra Monteiro is a Faculty of Health Sciences MERIT Scientist appointed to the Departments of Health Research Methods Evidence and Impact, Anesthesiology and Radiology. She has a second appointment to the Centre for Simulation Based Learning as the Assistant Director of Simulation Scholarship. Finally, Dr. Monteiro seconded to Touchstone Institute as the Director of Research and Analysis where she oversees the psychometric analyses of high stakes competency assessments for internationally educated health professionals seeking entry to practice in Canada. With her team at Touchstone Institute, Dr. Monteiro develops research initiatives to understand best practices for assessment and standard setting.

Dr. Monteiro received a PhD in Psychology from McMaster University in 2013 and her primary research investigates theoretical models of cognitive processes behind clinical reasoning with application for education and assessment. In particular, she is interested in factors that influence the detection and correction of errors in judgment.

"Two exciting research projects in 2018/19 looked at diagnostic reasoning from different perspectives. One project focused on primary care physicians' awareness and experiences of using intuition in detecting routine and rare medical diagnoses. The findings were summarized as the discovery of a 5-category typology of clinical intuition: Vanstone M, Monteiro S, Colvin E, Norman G, Sherbino J, Sibbald M, Dore K, Peters A. Experienced physician descriptions of intuition in clinical reasoning: a typology. *Diagnosis*. 2019 Mar 16.

The second project focused on exploring the sensitivity of primary care physicians in detecting abnormalities, indicative of disease, in radiographs and ECGs, within a time frame of 1second to 20seconds. The findings were summarized as demonstrating the ability to accurately discriminate ( $d'$  varied between 1 and 2) between normal and abnormal images in less than a second. Importantly, while diagnostic accuracy was low (~50%) after 20seconds of viewing, shorter viewing windows of 1 and 5 seconds allowed us to better discriminate between more expert and less experienced diagnosticians. These findings were discussed at the International Conference for Residency Education in Ottawa."



## SCIENTISTS

---

**Dr. Geoffrey Norman, PhD**  
Professor, Health Research Methods, Evidence  
and Impact



Geoff has been a MERIT Scientist since 1971. His primary faculty appointment is in Health Research Methods, Evidence, and Impact, and he also has an associate membership in Psychology, Neurosciences, and Behaviour.

His long-standing interest is in cognitive psychology, particularly as it applies to clinical reasoning, learning, and decision-making. Allied to this is a recent interest in the role of technical simulation in learning. He has particular expertise in statistics and measurement, and has authored several popular books in this area, with David Streiner. He has taught these subjects for years at undergraduate and postgraduate level.

Geoff has a PhD in Nuclear Physics from McMaster, in 1971, which was followed sometime later by a M.A. in Educational Psychology from Michigan State University. He has won numerous awards, including the Medical Council of Canada Outstanding Achievement Award, the Hubbard Award of the National Board of Medical Examiners, US, and the Karolinska Prize. He received an honorary degree from Erasmus University, Rotterdam in 2010. He has held a Canada Research Chair since 2001.

# SCIENTISTS

---



**Dr. Jonathan Sherbino, MD**  
Professor, Medicine

Jonathan is the assistant dean of MERIT. He is a professor in the Department of Medicine. Jonathan is the past chair of the Royal College Emergency Medicine Specialty Committee, the co-editor of CanMEDS 2015, and co-founder of the Royal College Area of Focused Competence – Clinician Educator. He is the co-host of the Key Literature in Medical Education (KeyLIME) podcast, which has an audience in 80 countries around the world. Jonathan's program of research is in diagnostic reasoning.

The VEGA Project (Violence Evidence Guidance Action: A public health response to family violence) is a multi-million dollar initiative funded by the Public Health Agency of Canada. Jonathan has supported the principle investigators (Harriett McMillan – McMaster, Nadine Wathen, Western) in building a competency framework and national curriculum for 22 different health and social service professionals based on learning science. This program aims to provide evidence-informed best practices for front line professionals treating patients and supporting clients experiencing or exposed to family violence. In the coming year a pan Canadian program evaluation of this initiative will be undertaken.

The collaborative research program in clinical reasoning (with Geoff Norman, MERIT; Sandra Monteiro, MERIT, Matt Sibbald, MERIT; Jon Ilgen, University of Washington; Laura Zwaan, Erasmus University) continues with a number of successful projects. A Royal College Medical Education Research Grant funded a successful randomized trial that investigated the influence of category priming on clinical diagnosis. With novices (but not expert) diagnosticians, exposure to a diagnosis within an appropriate differential diagnosis, increased diagnostic accuracy of a clinical case. A review article on the literature and controversy regarding diagnostic reasoning and bias, published in *Academic Medicine*, has become one of the most cited articles in the literature on this topic within a year of publication. And, a *JAMA* commentary re-framing the problem of diagnostic reasoning has led to invitations to present to various academic and institutional organizations, including the Canadian Medical Protective Association.

Finally, a collaborative project, funded by Physician Services Incorporated, was completed that evaluated a mastery learning design to teach rarely performed, lifesaving technical skills. This large multi-centre randomized trial also determined six month and one-year retention of skills. This study helps to show the feasibility, efficiency and generalizability of mastery learning approaches for technical skills, including the incorporation of chronometry.

The coming year has a number of exciting initiatives. The most interesting (and challenging) relates to the Competency-based Medical Education movement that is transforming postgraduate medical education in Canada. Building off previous scholarship in this area and a key note presentation at the Canadian Conference on Medical Education, two forthcoming publications that provide a framework for evaluating CBME and pilot data on early curriculum transformations, will help inform a systematic approach to understanding the intended and unintended outcomes of this change to Canadian medical education.

## SCIENTISTS

### **Dr. Meredith Vanstone, PhD** Associate Professor, Family Medicine



Meredith Vanstone is a MERIT Scientist appointed to the Department of Family Medicine, with formal affiliation to the Undergraduate MD program. Meredith is also a member of CHEPA, the Centre for Health Economics and Policy Analysis. Her training includes a PhD in Health Professions Education (Western University, 2012) and postdoctoral training in Health Policy at McMaster. Meredith's program of research examines the ethical implications of policies about health professional education and practice.

"Non-Invasive Prenatal Testing (NIPT) is a morally complex technology that provides genetic information about a fetus as early as 10 weeks into gestation, by analyzing samples of cell-free fetal DNA obtained from maternal blood. It is a rapidly developing technology which has important ethical and organizational implications for health policy, health professional education and patient education. I've worked with policymakers, patients, and clinicians to generate social and ethics evidence about this technology for 5 years. This work came to fruition in 2018 when I participated in a recommendation to the Ontario Ministry of Health and Long-Term Care about the public funding of NIPT in Ontario. My work in this area has been supported by funding from the Government of Ontario and the Canadian Institutes of Health Research. With this funding, I conducted primary research about NIPT in Ontario, publishing three papers (Vanstone et al 2015, Kibel & Vanstone, 2017; Vanstone et al 2018) with two additional papers in progress. I have actively engaged as an expert consultant with several decision-maker bodies including the Provincial Council of Maternal and Child Health, the Ontario Genetics Advisory Committee and the Ontario Health Technology Advisory Committee. My reputation as an expert in this area has been recognized by international collaborations which have culminated in two publications so far (Martin et al 2018; Haidar et al. 2018). Three additional manuscripts are currently under review."

"I'm very proud of the work I have done with students and trainees over the past several years, supervising 11 graduate and 2 undergraduate students as primary supervisor and serving on several more thesis committees. This commitment to mentorship has been recognized with a Canadian Association of Medical Educators (CAME) Early Career Medical Educator Champion Award and a Faculty of Health Sciences award for Excellence in Graduate Supervision. My trainees have been successful, publishing their work in journals such as *Social Science and Medicine*, *Qualitative Health Research*, and *Perspectives on Medical Education*. In 2019, my trainees received scholarship and research funds from SSHRC, CIHR, CAME, and PSI. They have made national and international presentations of research, and consulted with a variety of policy decision-making agencies. Several hold educational leadership positions within and beyond McMaster, putting their research evidence to use in practice."

As Co-PI with Dr. Julia Abelson (Department of Health Research Methods, Evidence & Impact), Meredith will lead a CIHR-funded project grant on the topic of patient engagement within health systems decision-making. With a team of co-investigators spanning coast-to-coast, this McMaster-led initiative will examine the health human resource of patient partners and advisors within health systems.

As Co-PI with Dr. Melissa Kimber (Department of Psychiatry, Neuroscience & Behaviour) and Dr. Donna Stewart (University of Toronto), Meredith will lead an evaluation and implementation of education materials designed to assist health and social service providers to recognize and respond to those who have experienced family violence. MERIT collaborators include Dr. Jonathan Sherbino (Department of Medicine) and Ms. Alice Cavanagh (MD/PhD student).

## ADJUNCT SCIENTISTS

---



**Dr. Teresa Chan, MD**  
Associate Professor, Emergency Medicine

Teresa Chan is an adjunct MERIT Scientist. Her primary appointment is as an associate professor within the Department of Medicine's Division of Emergency Medicine. She has also newly been appointed the Assistant Dean of Faculty Development for the Faculty of Health Sciences. She has continued in her role as the director of the McMaster Clinician Educator Area of Focused Competency Program, the first in Canada. She received her Masters of Health Professions Education from the University of Illinois at Chicago (UIC). She serves on the editorial boards of several journals including: Journal of Graduate Medical Education, AEM Education & Training, Canadian Journal of Emergency Medicine, and Perspectives on Medical Education.

Dr. Chan is well known for her education research and innovation. She is one of the founding members of the CanadiEM website, the MedEdLIFE research collaborative, and a key member of the METRIQ Study Group. She is exceedingly proud of this virtual research group, which has just published their 21st paper in a program of research that started only 5 years ago.

Her current programs of research include: contextualized clinical decision making; improving knowledge translation using education theory and innovation. Along with colleagues in other areas, Teresa has been working with a number of qualitative projects about how physicians think through multiple diagnostic possibilities at once. The work on this has been a labour of love, but it has been really exciting to see the results coming forth.

Another area where Teresa will be exploring and innovating is with the online sphere. Social media is clearly part of the fabric of the modern world, and scientists are often wary to dive in. With the support of the PSI Graham Farquharson Knowledge Translation Fellowship, Teresa is excited that her first paper in this area has been accepted for publication, and should be online soon. Based on this and other qualitative work she is working on, her team (including Brandon, Mark, Victoria and Yusuf) are excited to continue improving knowledge translation in the age of social media.

Finally, as we roll into the era of competency-based medical education, Teresa and her learning analytics/assessment team colleagues are working on a series of studies that are relevant to CBME: 1. Examining the faculty perceptions of programmatic, workplace-based assessment; 2. Developing and validating a scoring tool for short comments (the Qualitative Assessment for Learning score) to help with faculty development; 3. Exploring how gender and entrustment affects assessment of faculty members; 4) Determining the discriminatory value of EPAs.

## ADJUNCT SCIENTISTS

---

**Dr. Matthew Sibbald, MD**  
Associate Professor, Medicine



Dr. Matt Sibbald is an adjunct scientist at McMaster Education, Research, Innovation and Theory program with interests in simulation based education, competency based education, clinical reasoning and intravascular imaging. He is an Associate Professor of Medicine, McMaster University and Interventional cardiologist at Hamilton Health Sciences and Niagara Health System. Matt graduated from University of Toronto with an MD in 2004, completing internal medicine and cardiology residencies at University of Toronto. He finished a fellowship in interventional cardiology at University Health Network 2013. He completed a Masters in Health Professions Education in 2011 and PhD in 2013 both from Maastricht University, Netherlands. He is currently director of the Centre for Simulation Based Learning in the Faculty of Health Sciences, cardiology residency program director at McMaster University, and chair-elect of the AFC committee for intervention cardiology at the Royal College of Physicians and Surgeons of Canada.

Ongoing projects involve diagnostic errors and competency based medical education.

Artificial intelligence for diagnosis: Matt is leading a multicenter project investigating the role of artificial intelligence in the form of electronic differential diagnostic support in reducing diagnostic error. The ability of an electronic differential diagnosis support system (EDS) to reduce diagnostic error may depend on when it is used in the diagnostic process, the degree of expertise of the clinician using the EDS and its acceptability to the user. Matt is investigating with Jon Sherbino, Geoff Norman and Sandra Monteiro, Charles Friedman and Jonathan Ilgen.

Competency based assessment arrives: Matt is the principal investigator on a multicenter grant exploring “Translational Activities” in developing assessment programs for Competency Based Medical Education. Competency Based Medical Education necessitates the robust translation of outcome frameworks (i.e., lists of entrustable professional activities and milestones) to assessment plans. How educators are or should be “translating” outcome frameworks to assessment plans is unclear, yet vital for assessment quality. This grant investigates threats to validity using the lenses of workplace based learning and Callon’s theory of sociologic translation.

## ADJUNCT SCIENTISTS

---



**Dr. Ranil Sonnadara, PhD**  
Associate Professor, Surgery

As Director of the Office of Education Science for the Department of Surgery, Ranil's mandate is to integrate recent advances and best practices in education science into surgical curricula whilst training the next generation of surgical educators. This includes overseeing the transition to the new Competence By Design Curriculum for all surgical programs. Ranil is also a Faculty Affiliate with the Vector Institute for Artificial Intelligence, a member of the Schools of Computational Science and Engineering and Biomedical Engineering, and is an Adjunct Scientist with MERIT. Ranil also serves as the Creative Director for McMaster's LIVElab.

"We have recently completed our project on using electroencephalography (EEG) to measure mind wandering during live lectures. This project was funded through an Educational Research Grant from the McMaster Surgical Associates. The findings of our work were recently published in PLOS ONE. Key take-away points include: 1) We can accurately detect mind wandering from EEG at the individual level using data-driven feature learning and machine learning. 2) The neural correlates of mind wandering might be more variable and individualized than suggested by traditional statistical methods.

Our lab continues to be interested in the role that competence committees play in competency-based training programs. We are currently working with the Postgraduate Medical Education office to examine implementation practices and develop guidelines for competence committee implementation at the local level. The findings of a McMaster-wide survey on this topic were recently presented at the Royal College of Physicians and Surgeons of Canada (RCPSC) Competency-Based Medical Education Program Evaluation Summit (Ottawa, ON) and locally at the Mac-CBME Day in Competency-Based Medical Education. Other related work involves exploring the role that context plays in competence committee decision-making processes through interviews, naturalistic observations, and experimental studies. This work is funded by an RCPSC Research on Competency-Based Medical Education Grant and will help maximize the effectiveness of competence committees, including their composition, access to, and interpretation of data to generate sound judgments of residents' performance. Finally, we recently published a guide for virtual communication during promotions meetings, which is an offshoot of our existing work on competence committees and offers avenues to address potential challenges and maximize outcomes.

We are investigating the role of observation in learning surgical skills, with an interest in which types of performances are most helpful to observe. Upcoming studies will further explore if and how trainees learn from performances containing errors.



## ADJUNCT SCIENTISTS

---

**Dr. Lara Varpio, PhD**  
Adjunct Professor, Medicine



Dr. Lara Varpio is Professor of Medicine, and Associate Director of Research for the Health Professions Education graduate degree program at the Uniformed Services University of the Health Sciences (USU). She also holds adjunct status at McMaster University.

Among the many awards she has won over her career, Dr. Varpio was most recently selected as an inaugural Fellow for the Karolinska Institutet Prize for Research in Medical Education (2019). In 2018, she had one of the top downloaded articles in both Medical Education and Perspectives on Medical Education. She has also been honored with the 2016 Diana Forsythe Award in recognition for the year's best paper at the intersection of Social Sciences and Medical Informatics, and with inclusion in the 2016 Yearbook of Medical Informatics as one of the best papers addressing clinical information systems. Dr. Varpio is an Associate Editor for Perspectives on Medical Education (PME), and has been an invited editor for several special journal projects including: the special edition about Lessons Learned from Health Professions Education Failures Surprises for Perspectives on Medical Education, the Philosophy of Science Series for Academic Medicine, and the Qualitative Rip Out series for the Journal of Graduate Medical Education. She has served on the Association of American Medical Colleges' national Medical Education Meeting planning committee since 2013 and sits on the Association for Medical Education in Europe's research committee where she is Chair of the Grants Committee.

Dr. Varpio completed her PhD in English in 2007 (University of Waterloo, Canada) in collaboration with the Wilson Centre for Research in Education at the University of Toronto. This award-winning research investigated Electronic Health Records (EHRs) and their impact on medical trainee socialization (2008 Outstanding Dissertation NCTE; 2007 University of Waterloo Alumni Gold Medal). Dr. Varpio spent the first 6 years of her career at the University of Ottawa before moving to the Washington DC area to work with USU.

Dr. Varpio's current program of research uses qualitative methodologies and methods, integrated with theories from the Social Sciences and Humanities, to investigate questions relating to how individuals (e.g. clinicians, patients, researchers, etc.) collaborate and perform in teams. Her most recent work in this program is related to: (i) interprofessional care teams (e.g., how EHRs impact interprofessional clinical reasoning and collaboration; the characteristics of successful military interprofessional healthcare teams); and (ii) health professions education scholarship units and scholars (e.g. the measures of success for these units in Canada; the institutional logics of these units that cross national boundaries). Dr. Varpio also works extensively with individual health professions educators (e.g. from surgery, internal medicine, nursing, pharmacy, etc.) and in a wide range of topics, including: resident assessment; transitions in undergraduate medical education; global health; resident feedback to faculty; diversity and inclusion in medical education admission processes; and medical humanities. Dr. Varpio is internationally recognized for her expertise in qualitative research methodologies and methods (e.g. from grounded theory to autoethnography, and from visual rhetorical discourse analysis to think-aloud / think-after interviews).

# SCHOLARS

---

## **Ellen Amster, PhD** Associate Professor, Family Medicine & History

---

Ellen Amster is the Jason A. Hannah Chair in the History of Medicine at McMaster University and Associate Professor in the Departments of Family Medicine and History. She received her B.A. from the University of Chicago and Ph.D. from the University of Pennsylvania. A historian of North Africa, France, and medicine, her research on science in the French-Islamic colonial encounter was first a book, *Medicine and the Saints: Science, Islam, and the Colonial Encounter in Morocco, 1877-1956* (University of Texas) and now extends to an interdisciplinary global health field course she leads in the determinants of women's health for undergraduate students in Morocco.

She is the Principal Investigator of the Morocco-Canadian Network in Maternal and Infant Health, a project funded by the Canadian Institute for Research on Health. Her research has also received funding from Fulbright, SSRC, AIMS, CIHR, and the Government of France. Current research interests include Islamic biopolitics, globalizing the history of public health, and North African gender, religious, and race identities. She has created a resource for all researchers in the history of medicine and medical humanities that includes worldwide library, archival, museum, grants and digital collections, the History of Medicine and Medical Humanities Research Portal.

## **Emily Block, MSc** Continuing Health Sciences Education

---

Emily Block completed her MSc of Health Science Education from McMaster University and a BSc in Medical Sciences from Brock University. At McMaster University, she works as a curriculum developer and education research lead in Continuing Health Sciences Education.

Contributions to medical education include: examining how the clinical environment shapes relationships between medical learners and their teachers; assessment in medical improvisation; development and examination of non-traditional learning formats and; community engagement in the development of health sciences education.

## **Deepak Dath, MD** Professor, Surgery

---

Dr Deepak Dath is a professor of surgery at McMaster University. His current educational projects include research on validating a simple tool to measure the quality of educational materials and understanding how medical students decide to choose a career in general surgery. His main focus is in leadership in education. Dr. Dath is co-founder of the TISLEP leadership summit and the sanokondu ([www.sanokondu.com](http://www.sanokondu.com)) group of educators who aim to make leadership education accessible to physician trainees and training programs worldwide. He is a faculty of the CLIME (Canadian Leadership in Medical Education) course and the co-chair of developing CLIME II. Dr. Dath is working to develop value based or character based leadership training.

**Leslie Martin, MD**  
Assistant Professor,  
General Internal Medicine

---

Leslie Martin completed a Masters in Health Professions Education at Maastricht University. Dr. Martin is currently the Deputy Program Director for the Core Internal Medicine Program, and is involved in the McMaster University Clinical Educator Program as the Assessment Unit Lead. Her research interests include applying qualitative methodology to explore coaching, feedback and learning in postgraduate medical education during the era of competency based medical education (CBME). She has been involved in the design, implementation and now evaluation of the CBME for the Division of General Internal Medicine at McMaster University. Lastly, she has a clinical and research interest in addictions medicine, and is co-chair of the Inpatient Addictions Medicine Service at St. Joseph's Healthcare Hamilton and Hamilton General Hospital.

**Som Mukherjee, MD**  
Assistant Professor,  
General Internal Medicine

---

Dr. Som Mukherjee is an Associate Professor in the Department of Oncology, Division of Medical Oncology at McMaster University. He completed a two year oncology research fellowship combined with a Masters in Health Research Methodology at McMaster University. He currently serves as program director for the McMaster medical oncology residency training program as well as the national program director subcommittee chair for the Royal College of Physicians and Surgeons Specialty Committee. His research interests in education include evaluation of resident wellness programs, assessment of teaching using electronic modules for resident education, integration of entrustable professional activity (EPA) assessments within objective structure clinical skills examination (OSCE) and evaluating various aspects of new competency based medical education (CBME) programs within existing residency training programs. His clinical areas of interest include the management of patients with breast and genitourinary malignancies.

**Mohammad Zubairi, MD**  
Assistant Professor, Pediatrics

---

Dr. Mohammad Zubairi is a Developmental Paediatrician at Ron Joyce Children's Health Centre & Assistant Professor in the Department of Pediatrics. He is the training and education lead with the McMaster Autism Research Team. He holds an MEd from OISE at the University of Toronto and completed a research fellowship through The Wilson Centre. He is the Educational Resource Person (ERP) for pediatric residents and medical students completing their child development rotation. His current area of scholarship is around studying the design of simulations taking into account factors related to the hidden curriculum, social accountability and equity, diversity and inclusion. He is particularly interested in understanding critical reflexivity and transformative learning as it relates to clinical encounters, with a focus on where culture matters in clinical reasoning.

**Daniel Brandt Vegas, MD**  
Assistant Professor,  
General Internal Medicine

---

# MEMBERS

---

## **Bojana Babic, MD** Associate Clinical Professor, Pediatrics

---

Dr. Bojana Babic completed her pediatric residency training at McMaster University in 2005, and her fellowship in pediatric endocrinology at the Hospital for Sick Children in Toronto in 2008. Following her training, she joined the Division of General Pediatrics at McMaster University in 2009, and is an associate clinical professor in the Department of Pediatrics. Dr. Babic is in her third year of Clinician Educator program at McMaster University. She is the associate program director for the Pediatric Postgraduate Residency Education at McMaster since May 2018 and is the education lead for the Division of General Pediatrics.

## **Ereny Bassillious, MD** Associate Professor, Pediatrics

---

Dr. Ereny Bassillious is a pediatric endocrinologist at McMaster Children's Hospital and Associate Professor at McMaster University. She completed her MHPE at the University of Illinois at Chicago and fellowship at the Wilson Centre. Ereny is the program director for our fellowship program for which she helped secure new accreditation with the Royal College two years ago.

## **Amanda Bell, MD** Associate Clinical Professor, Family Medicine

---

Amanda Bell is an Associate Clinical Professor in the Department of Family Medicine and practices as a small-town family physician in Niagara. She is currently serving as the Regional Assistant Dean at the Niagara Regional Campus of the Michael G. DeGroot School of Medicine. Dr. Bell has completed her Masters of Science in Health Science Education at McMaster University. Her areas of education research and include student mistreatment, professionalism and distributed medical education.

## **Kat Butler, MD** PGY1 Resident, Pediatrics

---

Kat Butler is a first year resident in the Department of Paediatrics at the University of Toronto, with interests in qualitative research, simulation, interprofessional education and the role of medical education in health equity. Their most recent project is focused on the experiences of trans and gender non-conforming medical students in Canadian universities.

## **Kyla Caners, MD** Assistant Clinical Professor, Emergency Medicine

---

Dr. Kyla Caners is an Emergency Physician and Assistant Clinical Professor at McMaster University. She serves as the Director of Simulation for the McMaster Royal College Emergency Medicine training program. She is also the Assistant Director of Patient Safety and in situ Simulation at the Centre for Simulation Based Learning. Her work to date has focussed largely on curriculum design and implementation. She is currently examining the integration of simulation into quality improvement processes and design. In her spare time, she runs the blog [emsimcases.com](http://emsimcases.com), which acts as a free, online repository of peer-reviewed simulation cases for emergency medicine.

## **Alice Cavanagh, MA** MD/PhD Student, Medicine and Health Policy Programme

---

Alice Cavanagh is an MD/PhD student, completing her doctoral work in the Social Organisation stream of McMaster's Health Policy Programme. Her doctoral work explores how conceptions of 'trauma and violence-informed care' in the context of sexual violence are produced in the policies, training materials, and hidden curricula of medical education.

**Alex Chorley, MD**  
Assistant Clinical Professor,  
Emergency Medicine

---

Alex Chorley is an emergency physician in Hamilton, Ontario, where he practices both general and pediatric emergency medicine. He completed his Bachelor of Science at Western University and went on to do his medical degree and FRCP-EM residency training at McMaster University. He also completed the Royal College's Clinician Educator diploma during his subspecialty year. As part of his medical education fellowship at McMaster, he created a new academic half-day curriculum for the FRCP-EM program founded in competency-based medical education principals. His academic interests include curriculum design as well as simulation-based education. He is currently the Director of Continuing Professional Development for McMaster Emergency Medicine.

**Shivani Dadwal, MD**  
PGY5 Resident,  
Medical Oncology

---

Shivani Dadwal is a 5th year resident in the Medical Oncology program at McMaster. She is involved in residency advocacy and wellness as her program's chief resident, PARO General Council member, and Academic Half Day Subspecialty Chair. Shivani has a particular interest in medical education, and more specifically, looking at domains of resident resiliency, as well as equity, diversity and inclusivity. Shivani's research interests lie in evaluating how best to incorporate those domains in the CBME space.

**Victoria David, MSc**  
PGY4 Resident,  
Hematology

---

Victoria is a hematology PGY-4 at McMaster University. She completed her medical degree and internal medicine training in Calgary. During residency, she acted as a simulation educator, conducted research on competence by design, and served as an instructor for clinical skills and case based learning. Victoria is currently enrolled in the Clinician Educator program.

**Chante De Freitas, MSc**  
Qualitative Research

---

Chanté De Freitas is a researcher and recent graduate of the Health Science Education MSc program at McMaster University. She completed her thesis on the barriers and facilitators to a medical career faced by aspiring physicians from low-income backgrounds. She uses her background in anthropology and interest in design to explore and address social problems in medical education. She has worked on projects related to learner-preceptor relationships and interprofessional education.

**Michelle Howard, PhD**  
Associate Professor,  
Family Medicine

---

Michelle Howard has an MSc in Epidemiology from the University of Toronto and a PhD in Health Research Methodology from McMaster University.

Her research is on helping with communication and decision-making between patients, families and the health care system to plan for serious illness or end of life, and on understanding how primary care and communities can be organized to ensure quality end-of-life care. She is an adjunct scientist with the Institute for Clinical Evaluative Sciences (IC/ES-McMaster) conducting health system research with health administrative data, and an associate member of McMaster Health Research Methods, Evidence and Impact.

Her educational roles include teaching Program Evaluation in the McMaster Health Science Education graduate program, supporting resident research projects in the Division of Palliative Care, supervising Health Sciences student research projects and theses, and tutoring in the Health Research Methodology graduate program at McMaster.



**Robin Mackin, MD**  
Pediatrician,  
Pediatric Emergency Medicine

---

Robin Mackin completed her Pediatric residency training at McMaster in 2019 and obtained her MD from the University of Ottawa in 2015. She is currently completing a clinical fellowship year in Pediatric Emergency medicine with a scholarly focus on medical education. Her passion for education stems from her experience as a former elite athlete and coach. She has been involved in educational initiatives at both the UGME and PGME level.

Robin's areas of interest include coaching in medicine, curriculum development, simulation and mentorship. She was recognized for her teaching and leadership skills throughout residency as a recipient of the PARO Resident Teaching Award, PGME Resident Leadership Award, PGME Karen and Ian Fraser Endowment Award and the Bosco Paes Award. Robin is very excited to join the MERIT community and grow her academic career in health professions education.

**Sarrah Lal, MBA**  
Assistant Professor,  
Medicine

---

Sarrah Lal is an Assistant Professor at McMaster University and Education Lead within the Michael G. DeGroot Health Innovation, Commercialization and Entrepreneurship initiative. Her work to date has largely focused on curriculum and experience design, investigating the use of simulations, problem-based learning and competency-based assessments to train the next generation of health innovators. She supports clinicians and researchers in innovation project work, particularly focusing on the design of impact solutions to be feasible, desirable and sustainable.

**Shawn Mondoux, MD**  
Assistant Professor,  
Emergency Medicine

---

Shawn is a MERIT member, an Assistant Professor in the Division of Emergency Medicine at McMaster University and an Assistant Professor at the Institute of Health Policy, Management and Evaluation at the University of Toronto. He holds a Master's degree in Quality Improvement and Patient Safety (QuIPS) and has, among others, an interest in developing health system capacity for improvement by creating educational programming in QuIPS.

**Quang Ngo, MD**  
Assistant Professor,  
Pediatrics

---

Before joining the team at McMaster, Dr. Ngo graduated from Western University in 2006, and later completed his pediatric training and a chief residency year at the Children's Hospital – London Health Sciences Centre. He subsequently completed a fellowship in Pediatric Emergency Medicine at the Hospital for Sick Children in Toronto. His enthusiasm for medical education has been recognized throughout his training, having received awards for excellence in teaching both as a resident and as a fellow. During his fellowship, he developed an interest in medical simulation and continues to pursue advanced simulation training as it pertains to medical education and quality improvement in the pediatric emergency department.

Dr. Ngo's joined the McMaster Pediatrics Residency Training Committee as the co-chair of curriculum and simulation in 2014, transitioning to the role of Associate Program Director in 2016 and is currently the Interim Program Director of Pediatrics.

Dr. Ngo's previous research has included the use of medical simulation in space design and quality improvement. He is currently pursuing a Master's Degree in Health Professions Education at the University of Illinois at Chicago where he is exploring simulation based assessment.



**Dilshan Pieris, MSc**  
MD Student,  
University of Toronto

---

Dilshan Pieris graduated from McMaster University's Bachelor of Health Sciences (Honours) program in 2017 and completed a Master of Science in Health Science Education at the same university in 2019. In addition to being a MERIT member, Dilshan is a Medical Student at the University of Toronto, member of the Wilson Centre, and Vice President Education at the University of Toronto's Medical Society.

Dilshan is especially interested in topics relating to empathy in medical education, as well as the intersection between medical education and the humanities. His thesis blended qualitative and arts-based methods to explore factors influencing medical residents' inner motivation to empathize with patients. Dilshan also has interests in knowledge translation and public scholarship, which inspire him to contribute to academic blogs. In terms of his personal interests, Dilshan writes poetry for his personal blog and has self-published an anthology of poetic works.

**Maria Pratt, PhD**  
Assistant Professor,  
School of Nursing

---

Maria Pratt's doctoral research focused on the evaluation of unsatisfactory student performance in clinical nursing practice courses. Her research interests include scholarship of teaching and learning in higher education, student engagement in large group classes, interprofessional simulation learning, and use of situational judgement test as a tool for admission in the BScN program. Dr. Pratt's primary teaching responsibilities are with the BScN program. She teaches PBL courses and supervises nursing students in adult medical-surgical, oncology, and maternal-child practice settings. She is currently an Assistant Professor and Faculty Lead for the BScN Accelerated Stream.

**Inge Schabort, MD**  
Assistant Professor,  
Family Medicine

---

Dr. Inge Schabort (MB ChB, CCFP, FCFP) is an Associate Professor of Family Medicine and the International Medical Graduate (IMG) Coordinator and Academic Half Day Coordinator at McMaster University. She practices as a full-time family physician at Stonechurch Family Health Centre and she tutors Evidence-Based Medicine, Quality Assurance and Behavioural Sciences in the residency program. She teaches in, and developed curriculum for, the provincial Pre-residency IMG program in Ontario.

Her clinical and academic interests include medical education, IMG education and advocacy, disease screening, prevention and health promotion, diabetes and pain management using clinical decision support systems in primary care, global health, inter-professional care and education, refugee health, women's health, chronic disease management, evidence-based medicine and primary care research.

**Natasha Snelgrove, MD**  
Assistant Professor,  
Psychiatry

---

Natasha Snelgrove is a general psychiatrist at McMaster University. She completed her medical school at University of Alberta in 2011 and her residency in psychiatry at McMaster in 2016. She currently practices in a collaborative care setting clinically, and academically has a strong interest in medical education. During her residency, she co-authored a position paper on competency-based medical education (CBME) for Resident Doctors of Canada and was a co-chair of their training committee, focusing on issues of medical education across postgraduate medical education. Since graduating from residency, she has expanded her administrative responsibilities in education, and currently coordinates the Core Curriculum for McMaster's psychiatry residency program. She is expanding her interest in research by currently undertaking McMaster's Masters in Health Professions education and is working a thesis centred in communication skill in psychiatric residents in the landscape of CBME.

**Danielle Soucy, MA PhD**  
Assistant Clinical Professor,  
Family Medicine

---

Danielle Soucy is the Director and Program Coordinator for the Indigenous Students Health Sciences Office. In 2012, Danielle received the President's Award for Outstanding Service.

Working to decrease barriers for Indigenous learners and to work with students to serve as mentor in their professional development, as a course supervisor, an instructor or strengthening their leadership skills are all components of her role as Director that she is most passionate and committed. Danielle continues to publish, conduct peer reviews and speak within the fields of equity, competency, power and privilege within health professions education, the broader social determinants of health, and the promotion and integration of Indigenous scholarship within health professions curriculum.

Danielle recently received the "Excellence in Developing New Indigenous Student Recruitment, Support and Graduation Initiative" award and is the first Canadian in the eight years of awards to win any Leaders in Indigenous Medical Education (LIME) Network award.

**Marco Zaccagnini, MSc**  
Registered Respiratory Therapist  
and Clinical Anesthesia Assistant

---

Marco Zaccagnini is a Registered Respiratory Therapist and Clinical Anesthesia Assistant working at the McGill University Health Centre in Montréal, Québec. He completed McMaster University's Health Science Education in 2019 and is currently enrolled in a Ph.D. in Rehabilitation Sciences at McGill University. Marco's primary supervisor is Dr. Aliko Thomas and his research will be focused on the role of scholars in respiratory therapists.

**Ali Al Maawali**  
Trainee  
Clinical Educator Program

---

**Emilie Beyls**  
MSc Student,  
Health Science Education

---

**Jason Profetto**  
Assistant Clinical Professor,  
Family Medicine

---

**Kathi Wilson**  
Assistant Professor,  
Midwifery Education Program

---

## POST-DOCTORAL FELLOW

---

**Dr. Yusuf Yilmaz, PhD**  
Researcher-Lecturer, Department of Medical Education  
Faculty of Medicine, Ege University



Dr. Yusuf Yilmaz is a postdoctoral fellow at MERIT and a researcher-lecturer in the Department of Medical Education at Ege University, Izmir, Turkey. He earned his BSc and MSc in computer education and instructional technology from Dokuz Eylul University, and PhD in computer education and instructional technology from Middle East Technical University. During his masters, he visited the University of Edinburgh for three months with a funding of Council of Higher Education, Turkey in order to examine mobile learning in the UK in regard to his thesis. He studied blended learning in faculty development in his PhD dissertation.

Dr. Yilmaz is an interdisciplinary researcher who uses quantitative and qualitative approaches to examine instructional technology in medical education for faculty, and students. His research focuses on faculty development, artificial intelligence in medical education, blended learning, e-learning, m-learning, technology integration in medical education, and virtual patients. Previously, he has collaborated with researchers in several other disciplines of education, and medicine, particularly instructional design and methods at online learning environments. He has worked in several institutional and national projects about instructional technology.

"I have been working as a Postdoctoral Fellow at MERIT for 3 months now and it has been a great experience for me so far! The scientific network of MERIT is limitless, where I have had many scholarly opportunities to enhance my learning. MERIT Rounds and journal club are a few of the opportunities in which I have expanded my network. I even got the chance to present one of the articles for discussion at the MERIT journal club. Attending the International Conference on Residency Education 2019 and its pre-conferences – faculty development and competency-based medical education summit – helped me understand the current state of medical education in Canada. I have met many scientists with diverse backgrounds inside and outside of McMaster University. I participated and presented one of my papers at the Research on Teaching and Learning Conference, hosted by the MacPherson Institute. Moreover, I have collaborated research studies and grant proposals with colleagues in the program. I am honoured to work with some of the bests in medical education that have altered and elevated my point of view to my scholarly activities. Dr. Teresa Chan, MERIT adjunct scientist and my postdoctoral supervisor, and I have been working on various projects regarding faculty development including my postdoctoral project just-in-time learning. Furthermore, my social life in Canada has enabled many close and sincere bonds with my colleagues. I am optimistic about a brighter future from my fellowship at McMaster University."



## MERIT ROUNDS

MERIT Rounds are the third Tuesday of every month.

The Rounds profile emerging topics of interest and controversy in health professions education. Using a facilitated, interactive format, local and international presenters share ideas for discussion and debate.

### 2019 Rounds Event Listing

**Dr. Tavis Apramian, Western University**

Theorizing Learning from Operating Room to Living Room

**Dr. Jason Frank, University of Ottawa**

The Zombies of Med Ed: These Ideas Must Die!

**Dr. Tina Martimianakis, University of Toronto**

Big Data and Value Based Education: Implications for transforming the topography of medical education

**Dr. Robert Whyte, McMaster University**

Equity & Inclusion in McMaster's MD Program: Successes and manifestations of resistance to change

**Dr. Jacalyn Duffin, Queen's University**

Stanley's Dream: The Canadian Medical Expedition to Easter Island

**Dr. Anne Wong, McMaster University**

What's the Fuss? Gender, Leadership & the Myth(s) of Meritocracy

**Dr. Victoria Brazil, Bond University**

Just Say 'No': Simulation Myths and Fails  
(*CSBL Simulation Rounds*)

**Dr. Jennifer Meka, University of Buffalo**

Intentional Collisions: Teaching and Applying the Learning Sciences in Health Sciences Education

**Carolyn Canfield, University of British Columbia**

The Patient Revolution in Health Professional Education: What's happening at the University of British Columbia?

**Dr. Jeffrey Cheung, The Wilson Centre**

The Virtues of (In)Fidelity: Realigning simulation instructional design with the transfer of learning

**Dr. Rachel Ellaway, University of Calgary**

All Medical Education is Simulation



## MERIT THINKTANK

---

MERIT *thinkTank* events are the first Tuesday of every month.

MERIT *thinkTank* is an education research consultation service. Education scholars working on a project or research design can request a consult. MERIT Scientists and Scholars attend, bringing diverse perspectives that include: cognitive psychology, social sciences, kinesiology, qualitative and quantitative methodologies, psychometrics, and more.

Each consultation is 45 minutes long. A 15 minute presentation by the principle investigator, is followed by a 30 minute facilitated discussion between the MERIT team and the PI.

This session is open to all members of the Faculty of Health Sciences community.

### 2019 *thinkTank* Event Listing

**Catherine Friedman, Jasmine Liu, William Tsang, Sarah Wildeman & Dr. Jason Profetto**

A Qualitative Look at Antibiotic Stewardship in Family Medicine Residency: Antibiotics & URIs

**Satyam Choudhuri, Hassaan Abdel Khalik & Dr. Jason Profetto**

Revisiting Canadian Medical School Efforts to Increase Class Diversity: A Statistical Analysis

**Ajay Shah & Dr. Alessandra Palombo**

Evaluating the Family Medicine Experience (FME) Program: Does it increase student interest in family medicine?



## SIBLEY AWARDS

---

The John C. Sibley Award for Excellence in Education for Part-Time Faculty is presented annually to a part-time faculty member who has made outstanding contributions to the education of health professionals. It is named for a former associate dean of the Faculty of Health Sciences who was known for his interdisciplinary approach to community health.

### 2019 Sibley Awards Recipient:

#### **Kristen Burrows**

Assistant Dean, Physician Assistant Education Program

Kristen is a practicing Canadian certified physician assistant and a graduate of the first class of the McMaster Physician Assistant Education Program in 2010.

Before she became a physician assistant (PA), Kristen was an epidemiologist and worked as a consultant for the Public Health Agency of Canada. In 2006, Kristen moved to the Republic of Palau to work as an epidemiologist and infection control practitioner for the Ministry of Health, until she was accepted into the McMaster PA program in 2008.

Kristen has consistently been involved in medical education since 2003, when she worked as a teaching assistant in veterinary medical communications at the Ontario Veterinary College, University of Guelph. Since 2013, Kristen has been a major presence in McMaster's PA program as an assistant clinical professor.



# HEALTH PROFESSIONS EDUCATOR AWARD

---

The award is designed to encourage and reward the continued excellence of health professions education and scholarship within McMaster University. Nominees will be senior faculty and leaders in their respective educational schools that have made substantial contributions to education in the Faculty of Health Sciences including teaching, mentorship, educational scholarship, or research, throughout their careers.

## 2019 Health Professions Educator Award Recipient:

### **Dr. Janet Landeen**

Associate Professor, School of Nursing

Following a 14 year career in hospital and community-based psychiatric mental health nursing, Dr. Landeen joined McMaster in 1987. Initially she held a joint appointment with the Hamilton Program for Schizophrenia. She has been full time with the School of Nursing since 1998 and was Assistant Dean of the Undergraduate Nursing Education Program from 2004-2012. Dr. Landeen completed her BScN from the University of Connecticut in 1973, her Masters of Education (Curriculum Studies) from the University of Victoria in 1988, and her PhD from the University of Toronto (Institute of Medical Sciences) in 2000.



Her expertise in curriculum development and implementation, including research on nursing education approaches were acknowledged in 2015 with the McMaster President's Award for Outstanding Contributions to Teaching and Learning and the Ethel John's Award from the Canadian Association of Schools of Nursing (CASN) for outstanding contributions to nursing education. In 2017 she was initiated as an Inaugural Fellow of the Canadian Nurse Educators Institute of CASN.



## EDUCATION INNOVATION FUND

---

The Faculty of Health Science Education Innovation Fund is to encourage and provide support for the development and/or evaluation of novel and innovative approaches to health sciences education in the Faculty of Health Sciences.

All faculty of FHS are eligible for funding support. Funding cannot be used to supplement another partly funded project. All those awarded funding must be willing to present their research at the Norman Education Research Day. The project should focus on a question or problem relevant to McMaster Faculty of Health Sciences.

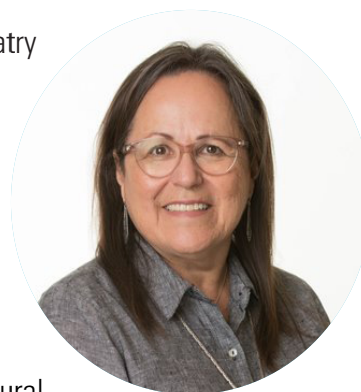
### 2019 Education Innovation Fund Recipient:

#### **Dr. Bernice Downey**

Assistant Professor, School of Nursing, Department of Psychiatry and Behavioural Neurosciences

#### **Project Proposal:** FHS Indigenous Cultural Safety Training

The primary objective of this research study is to assess how inter-professional learners benefit from Core Indigenous Cultural Safety training as it relates to their clinical practice and professional duties. Using the results of this evaluation, the project team is planning to develop a sustainable and adaptable Faculty of Health Sciences-specific Indigenous Cultural Safety training program for students, staff, and faculty members.



As stated in the Truth and Reconciliation Calls to Action, learning how to engage with Indigenous communities is important for healthcare professionals, learners, and researchers because it allows them to develop an understanding of colonial history and its impact; gain awareness of cultural differences and ways to bridge the gap; and gain self-awareness of their own historical and social bias. Having an in-depth understanding of this socio-cultural and historical context is important to address systemic barriers and facilitate culturally safe health care experiences for Indigenous people.

## PAPERS & PUBLICATIONS

---

\* Names of MERIT Scientists bolded

Acai A, Li SA, **Sherbino J, Chan TM**. Attending Emergency Physician's Perceptions of a Programmatic Workplace-Based Assessment System: The McMaster Modular Assessment Program (McMAP). *Teaching and Learning in Medicine*; 31:4, 434-444. DOI: 10.1080/10401334.2019.1574581

Acai, A., Reid, S.E., & **Sonnadara, R.R.** (2019). Author response to "The road to gender equity in surgery is long." *Canadian Journal of Surgery*, 62(3), E4-E5. <https://doi.org/10.1503/cjs.1962302>

Adler J, **Chan TM**, Blain JB, Thoma B, Atkinson P. The CJEM Debate Series. #OpenAccess: Free online, open access crowdsource reviewed publishing is the future; traditional peer reviewed journals are on the way out. *Canadian Journal of Emergency Medicine*; 2019;21(1);11-14. DOI: 10.1017/cem.2018.481

Akl, E., Dzavik, V., Cairns J., Lavi, S., Mehta, S., Cantor, W., **Sibbald, M.**, Cheema, A., Welsh, R., Sheth, T., Bertrand, O., Liu, Y., Jolly, S. (2019) Heart failure in st-segment elevation myocardial infarction, predictors and prognostic impact: insights from the total trial. *Canadian Journal of Cardiology*. 35(10): S153-S154. <https://doi.org/10.1016/j.cjca.2019.07.300>

Alali A, Li D, **Monteiro S**, Choudur H. Feasibility of high resolution ultrasound for SLAP tears of the shoulder compared to MR arthrogram. *BJR| Open*. 2019 Jun;1(1):20190007

Ankel F, **Sherbino J**(ed) Adaptive Leadership for the New #MedEd: The One Hour Read. The Royal College of Physicians and Surgeons of Canada. 2018

Azan B, Innes ME, Thoma B, Lin M, Van Duyvendyk A, Poonja Z, **Chan TM**. How I Work Smarter: A Qualitative Analysis of Emergency Physicians' Strategies for Clinical and Non-clinical Productivity. *Cureus*; 2019; 11(4): e4499. doi: 10.7759/cureus.4499

Baskwill, A., **Vanstone, M.**, Harnish, D., & Dore, K. (2019). "I am a healthcare practitioner": A qualitative exploration of massage therapists' professional identity. *Journal of complementary & integrative medicine*. 10.1515/jcim-2019-0067

Baylis J, Miloslavsky EM, Woods R, **Chan TM**. Conquering Consultations: A Guide to Advances in the Science of Referral-Consultation Interactions for Residency Education. *Annals of Emergency Medicine*. 2019; 74(1);119-125. DOI: 10.1016/j.annemergmed.2018.12.004

Bazak S, **Sherbino J**, Upadhye S, **Chan TM**. Ascertaining Top Evidence in Emergency Medicine: A modified Delphi Study. *Canadian Journal of Emergency Medicine*; 2019;21(2): 291-295. DOI: 10.1017/cem.2018.404

Bigham B, **Chan T**, Skitch S, Fox-Robichaud A. Attitudes of emergency department physicians and nurses towards implementation of an early warning score to identify critically ill patients: qualitative explanations for failed implementation. *Can J Emerg Med*; 2019; 21(2):269-273. DOI: 10.1017/cem.2018.392. PMID: 29898794

Boshra, R., Dhindsa, K., Boursalieu, O., Ruiter, K.I., **Sonnadara, R.R.**, Samavi, R., Doyle, T.E., Reilly, J.P., & Connolly, J.F. (2019). From group-level statistics to single-subject prediction: Machine learning detection of concussion in retired athletes. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 27(7), 1492-1501. <https://doi.org/10.1109/TNSRE.2019.2922553>

Bourgeois-Law, G., Teunissen, P.W., **Varpio, L.**, Regehr, G. (2019). Attitudes Towards Physicians Requiring Remediation: One-of-Us or Not-Like-Us? *Academic Medicine, Research in Medical Education supplement*. In press.

Bourgeois-Law, G., **Varpio, L.**, Regehr, G., Teunissen P., (2019). Education or regulation? Exploring underlying conceptualizations of physician remediation. *Medical Education*. 53(3): 276-284.

Britten, J., Guan, W., & **Sonnadara, R.R.** (2018). Visualization of 3D diffraction: MAX3D update. *Acta Crystallographica Foundations and Advances*, A74, a399.

Brown A, Nidumolu A, McConnell M, Hecker K, **Grierson L.** (2019). Development and psychometric evaluation of an instrument to measure knowledge, skills, and attitudes towards Quality Improvement in health professions education: The Beliefs, Attitudes, Skills, and Confidence in Quality Improvement (BASiC-QI) Scale. *Perspectives on Medical Education*, 8(3), 167-176.

Brown A, Nidumolu A, Stanhope A, Koh J, Greenway M, **Grierson LEM.** (2018). Can first year medical students acquire quality improvement knowledge prior to substantial clinical exposure? A mixed-methods evaluation of a pre-clerkship curriculum that uses education as the context for learning. *BMJ Quality & Safety*, 0, 1-7. Epub Ahead of Print; doi: 10.1136/bmjqs-2017-007566.

Brush J, Lee M, **Sherbino J**, Taylor-Fishwick J, **Norman, G.** Effect of Teaching Bayesian Methods Using Learning by Concept vs Learning by Example on Medical Students' Ability to Estimate Probability of a Diagnosis: A Randomized Clinical Trial. *JAMA Open Network*, (in press).

Burgess, R., **Vanstone, M.**, Mountjoy, M., **Grierson, L.** Key differences between the severity of disciplinary issues and medical student insights. *Medical Education*. <https://onlinelibrary.wiley.com/doi/full/10.1111/medu.13910>

Burgess, R., **Vanstone, M.**, Mountjoy, M., **Grierson, L.** Lines in the sand: Pre-interview rank and probability of receiving admission to medical school. *Canadian Medical Education Journal*. 10(3): e49-54.

Bynum, W., Artino, A.R., Uijtdehaage, S., Webb, A.M., **Varpio, L.** (2019). Sentinel emotional events: the nature, triggers, and effect of shame experiences in medical residents. *Academic Medicine*. 94(1): 85-93.

Cavanagh, A., **Vanstone, M.**, Ritz, S. (2019). Problems of problem-based learning: Towards transformative critical pedagogy in medical education. *Perspectives in Medical Education*. 8 (1): 38-42.

Cernat, A., De Freitas, C., Majid, U., Trivedi, F., Higgins, C., **Vanstone, M.** (2019) Facilitating informed choice about non-invasive prenatal testing (NIPT): A systematic review and qualitative meta-synthesis of women's experiences. *BMC Pregnancy and Childbirth*. 19(27). <https://doi.org/10.1186/s12884-018-2168-4>

**Chan TM**, Bhalerao A, Thoma B, Trueger NS, Grock A. Thinking critically about Appraising FOAM. *AEM Education and Training*. 2019; 3(4): 398-402. DOI: 10.1002/aet2.10352

**Chan TM**, Kuehl D. On Lampposts, Sneetches, and Stars: A call to go beyond Bibliometrics for determining Academic Value. *Academic Emergency Medicine*; 2019;6(26);688-694. DOI: 10.1111/acem.13707

**Chan TM**, Mercuri M, Turcotte M, Gardiner E, **Sherbino J**, De Wit K. Making Decisions in the Era of the Clinical Decision Rule: How emergency physicians use clinical decision rules. *Academic Medicine*. Accepted on August 26, 2019.

**Chan TM**, Van Dewark K, **Sherbino J**, Lineberry, M. Coaching for Chaos: A qualitative study of instructional methods for multipatient management in the emergency department. *AEM Education and Training*. *AEM Education and Training*. 2019;3(2);145-155. DOI: 10.1002/aet2.10312

**Chan TM**, Yarris LM, Humphrey-Murto S. Delving into the Delphi method. *Canadian Journal of Emergency Medicine*; 2019; 21(2): 167-169. DOI: 10.1017/cem.2019.3

Chorley AG, Walton JM, Montesanto B, **Chan TM**. Developing Residents as Medical Educators via the McMaster Multidisciplinary Academic Day Planning Committee. *Cureus* 11(10): e5855. DOI: 10.7759/cureus.5855

Coetzee K, **Monteiro S**. DRIFT happens, sometimes: Examining time based rater variance in a high-stakes OSCE. *Medical teacher*. 2019 Apr;1-5.

Colmers-Gray IN, Krishnan K, **Chan TM**, Trueger NS, Paddock M, Grock A, Zaver F, Thoma B. The revised METRIQ Score: A quality evaluation tool for online educational resources. *Academic Emergency Medicine: Education and Training*. 2019;3(4), 387-392. DOI: 10.1002/aet2.10376

Connolly, J.F., Reilly, J.P., Fox-Robichaud, A., Britz, P., Blain-Moraes, S., **Sonnadara, R.R.**, Hamielec, C., Herrera-Diaz, A., & Boshra, R. (2019). Development of a Point of Care System for Automated Coma Prognosis – A Prospective Cohort Study Protocol. *BMJ Open*, 9(7), e029621. <https://doi.org/10.1136/bmjopen-2019-029621>

Cook DA, Durning SJ, **Sherbino J**, Gruppen LD. Management Reasoning: Implications for Health Professions Educators and a Research Agenda. *Academic Medicine*. 2019 Apr. [Epub ahead of print]

D'Angelo, M., Cervero, R., Durning, S., **Varpio, L.** (2019). The Teamwork Model: Proposing a Model for Studying Interprofessional Healthcare Teams. *AMEE MedEdPublish*. 8(2): 11.

Darling EK, Grenier L, Nussey L, Murray-Davis B, Hutton EK, **Vanstone M**. Access to midwifery care for people of low socio-economic status: a qualitative descriptive study. *BMC pregnancy and childbirth*. 2019 Dec 1;19(1):416.

De Freitas, C., **Grierson, L., Vanstone, M.** When I say Merit. (2019). Medical Education. <https://onlinelibrary.wiley.com/doi/full/10.1111/medu.13894>

Dhindsa, K., Acai, A., Wagner, N., Bosnyak, D., Kelly, S., Bhandari, M., Petrisor, B., & **Sonnadara, R. R.** (2019). Individualized pattern recognition for detecting mind wandering from EEG during live lectures. PLOS ONE, 14(9), e0222276. <https://doi.org/10.1371/journal.pone.0222276>

Dhindsa, K., Bhandari, M., **Sonnadara, R.R.** (2018). What's holding up the big data revolution in healthcare? BMJ, 363, k5357. <https://doi.org/10.1136/bmj.k5357>

Dove C, **Chan TM**, Thoma B, Roland D, Brujins SR. A cross-sectional description of open access publication costs, policies and impact in emergency and critical care journals. 2019; 9(3): 150-155. DOI: 10.1016/j.afjem.2019.01.015.

Eva, K., **Norman, G.** Quantitative methods. In Swanwick T, Forrest, K.m O'Brien B. Understanding Medical Education (3rd ed). Wiley, 2019.

Fahim, C., Wagner, N., Nousiainen, M.T., & **Sonnadara, R.R.** (2018). Assessment of technical skills competence in the operating room: A systematic and scoping review. Academic Medicine, 93(5), 794-808.

Fani P, Patlas MN, **Monteiro S**, Katz DS. Non-contrast MDCT for Ureteral Calculi and Alternative Diagnoses: Yield in Adult Women vs in Adult Men. Current problems in diagnostic radiology. 2019 Mar 1;48(2):148-51.

France E.F., Cunningham, M., Ring,N., Uny, I. Duncan, E.A.S., Jepson, R.G., Maxwell, M., Roberts, R.J., Turley,R.L. Booth, A., Britten, N., Flemming, K., Gallagher, I., Garside, R., Hannes, K., Lewin, S., Noblit, G.W., Pope, C., Thomas, J., **Vanstone, M**, Higginbottom, G.M.A., Noyes, J. Improving reporting of Meta-Ethnography: The eMERGe Reporting Guidance, Psycho-oncology, DOI is 10.1002/pon.4915, 15 January 2019.

Fulkerson, Z, **Norman G**, Carlos, W. Learning: Developing knowledge through making meaning. In: The Art and Science of Enhancing Patient Engagement in Pulmonary Healthcare, 2019.

Gossack-Keenan K, De Wit K, Gardiner E, Turcotte M, **Chan TM**. Showing your thinking: Using mind maps to understand gaps between experienced emergency physicians and their students. Academic Emergency Medicine: Education and Training. Accepted July 17, 2019. Online first August 1, 2019. DOI: 10.1002/aet2.10379

Gottlieb M, **Chan TM**, Clarke SO, Ilgen J, Jordan J, Moschella P, Santen SA, Yarris LM, Coates WC. (2019 November). Emergency Medicine Education Research Since the 2012 Consensus Conference: How Far Have We Come and What's Next?. AEM Education and Training. <https://doi.org/10.1002/aet2.10404>

**Grierson L, Monteiro S, Sibbald M, Norman G.** Simulation based learning and the challenge of transfer. In Chiniera G (ed). Clinical Simulation (2nd ed). 2019.

Grock A, Bhalerao A, **Chan TM**, Thoma B, Wescott AB, Trueger NS. Systematic Online Academic Resource (SOAR) Review: Renal and Genitourinary. AEM Education and Training. 2019; 3(4), 375-386. DOI: 10.1002/aet2.10351

- Hamwey, M., Allen, L., Hay, M., **Varpio, L.** (2019). Bronfenbrenner's Bioecological Model of Human Development: Applications for Medical Education. *Academic Medicine*. In press.
- Hall AK, Rich J, Dagnone JD, Weersink K, Caudle J, **Sherbino J**, Frank JR, Bandiera G, Van Melle E. It's a Marathon, Not a Sprint: Rapid Evaluation of CBME Program Implementation. *Academic Medicine*. 2019 Nov 12.
- Hernandez J, Jeong ES, **Chan TM**. Prompting Paramedics: The Effect of Simulation on Paramedics' Identification of Learning Objectives. *Cureus* 11(8): e5362. 11 August 2019. doi: 10.7759/cureus.5362.
- Humphrey-Murto, S., O'Brien, B., ten Cate, O., Irby, D., Hu, W., van der Vleuten, Gruppen, L., Hamstra, S., Durning, S.J., **Varpio, L.** (2019). 14 Years Later: Follow-up Study of 8 Health Professions Education Scholarship Units. *Academic Medicine*. In press.
- Humphrey-Murto, S., Wood, T., Mascioli, K., Gonsalves, C., **Varpio, L.** (2019). The Delphi Method. *Academic Medicine*. In press.
- Jiang NN, Fong C, Sahlas DJ, **Monteiro S**, Larrazabal R. Degree of Conjugate Gaze Deviation on CT Predicts Proximal Vessel Occlusion and May Expedite Endovascular Therapy. *Journal of Stroke and Cerebrovascular Diseases*. 2019 Jan 14.
- Kahlke, R., **Varpio, L.** (2019). Positioning the work of health professions education scholarship units: How Canadian directors harness institutional logics. *Academic Medicine*. In press.
- Kennedy P, **Monteiro S**, Yip G, Gastaldo F. Aortic Bulge: A Possible Predictive Sign of Impending Aortoenteric Fistula. *Canadian Association of Radiologists Journal*. 2019 Mar 25.
- Khalid, AF., Lavis, J., El-Jardali, F., **Vanstone, M.** (2019). The governmental health policy-development process for Syrian refugees: An embedded qualitative case study of Lebanon and Ontario. *Conflict and Health*. 13:48.
- Khan Z, Rojas D, Kapralos B, **Grierson L**, Dubrowski A. (2018). Using a social educational network to facilitate peer-feedback for a virtual simulation. *Computers in Entertainment (CIE)*, 16(2), 5.
- Kheterpal, S., Busse, J.W., Baxter, P., **Sonnadara, R.R.**, & Bhandari, M. (2019). Daily versus weekly evidence reports for orthopaedic surgeons in India: A mixed-methods study. *Orthopaedic Trauma Association International*. <https://doi.org/10.1097/OI9.0000000000000029>
- Kiger, M.E., Meyer, H.S., Hammond, C., Miller, K.M., Dickey, K.J., Hammond, D.V., **Varpio, L.** (2019). Whose Patient is This? A Scoping Review of Patient Ownership. *Academic Medicine, Research in Medical Education supplement*. In press.
- Kilian M, **Sherbino J**, Hicks C, **Monteiro SD**. Understanding diagnosis through ACTion: evaluation of a point-of-care checklist for junior emergency medical residents. *Diagnosis*. 2019 Apr 16.



Krzyzaniak SM, Gottlieb M, Parsons M, Rocca N, **Chan TM**. What Emergency Medicine Rewards: The State of Canadian and American Awards in Emergency Medicine. *Annals of Emergency Medicine*. Accepted April 18, 2019. Online first June 19, 2019. DOI: 10.1016/j.annemergmed.2019.04.022

Lang VJ, Berman NB, Bronander K, Harrell H, Hingle S, Holthouser A, Leizman D, Packer CD, Park YS, Vu TR, Yudkowsky R, **Monteiro S**, Bordage G. Validity Evidence for a Brief Online Key Features Examination in the Internal Medicine Clerkship. *Academic Medicine*. 2019 Feb 1;94(2):259-66.

Larsen, D., **Varpio, L.**, Nimmon, L. (2019). Cultural Historical Activity Theory: The role of tools and tensions in medical education. *Academic Medicine*. In press.

Lopez M, **Chan TM**, Thoma B, Arora VM, Trueger NS. The Social Media Editor Role at Medical Journals: Responsibilities, Challenges, and Opportunities. *Academic Medicine*. 2019;94(5):701-707. Doi: 10.1097/ACM.0000000000002496

Mackenzie C, **Chan TM**, Mondoux S. Clinical improvement interventions for residents and practicing physicians: A scoping review of coaching and mentoring for practice improvement. *AEM Education and Training*. Accepted March 18, 2019. 2019; 3(4), 353-364. DOI: 10.1002/aet.10345

MacLeod, A., Ellaway, R., Paradis, E., Park, Y.S., Rees, C., Young, M., **Varpio, L.**, (2019) Being Edgy in Health Professions Education: Concluding the Philosophy of Science Series. *Academic Medicine*. In press.

Majid, U., Kandasamy, S., Farrah, K., **Vanstone, M.** (2019) Women's preferences and experiences of cervical cancer screening in rural and remote areas: A systematic review and qualitative meta-synthesis. *Rural and Remote Health*. 19:5190. <https://www.rrh.org.au/journal/article/5190>

Manja V, Guyatt G, You J, **Monteiro S**, Jack S. Qualitative study of cardiologists' perceptions of factors influencing clinical practice decisions. *Heart*. 2019 May 1;105(10):749-54.

Manja V, **Monteiro S**, You J, Guyatt G, Lakshminrusimha S, Jack SM. Incorporating content related to value and cost-considerations in clinical decision-making: enhancements to medical education. *Advances in Health Sciences Education*. 2019 May 29:1-6.

McConnell MM, **Monteiro S**, Bryson GL. Sample size calculations for educational interventions: principles and methods. *Canadian Journal of Anesthesia/Journal canadien d'anesthésie*. 2019 May 22:1-0.

McKinnon, V.E., Kalun, P., McRae, M.H., **Sonnadara, R.R.**, & Fahim, C. (2018). A shift on the horizon: A systematic review of assessment tools for plastic surgery trainees. *Plastic and Reconstructive Surgery*, 142(2), 217e-231e.

McQueen, S., VanderBeek, L., McKinnon, V., McCarthy, C., & **Sonnadara, R.R.** (2019). Video-based Assessment in Surgical Education: A Scoping Review. *Journal of Surgical Education*. <https://doi.org/10.1016/j.jsurg.2019.05.013>

Meng J, Mellnick VM, **Monteiro S**, Patlas MN. Acute Aortic Syndrome: Yield of Computed Tomography Angiography in Patients With Acute Chest Pain. *Canadian Association of Radiologists Journal*. 2019 Feb 1;70(1):23-8.2018



**Monteiro S, Grierson L, Sibbald M, Norman GR.** Adapting learning in a simulated environment. In: In Chiniera G (ed). *Clinical Simulation* (2nd ed). 2019.

**Monteiro S, Sherbino J, Sibbald M, Norman G.** Critical thinking, biases and dual processing: The enduring myth of generalisable skills. *Medical education*. 2019 Aug 29. doi: 10.1111/medu.13872.

**Monteiro S,** Sullivan GM, **Chan TM.** Generalizability Theory Made Simple (r): An Introductory Primer to G-Studies. *Journal of Graduate Medical Education*. 2019 Aug 1. doi.org/10.4300/JGME-D-19-00464.1

**Monteiro S,** Xenodemetropoulos T. Resident Practice Audit in Gastroenterology (RPAGE): an innovative approach to trainee evaluation and professional development in medicine. *Canadian medical education journal*. 2019 Jul;10(3):e72.

**Monteiro SD, Sherbino J,** Schmidt H, Mamede S, Ilgen J, **Norman G.** It's the destination: diagnostic accuracy and reasoning. *Adv Health Sci Educ Theory Pract*. 2019 Jul 22. doi: 10.1007/s10459-019-09903-7.

Mueller, V., Ellis, S., Murray-Davis, B., **Sonnadara, R.R., & Grierson, L.E.M.** (2019). A Multiple Trainee, Multiple Level, Multiple Competency (MULTI-TLC) Simulation-based Approach to Training Obstetrical Emergencies. *Perspectives on Medical Education*. <https://doi.org/10.1007/s40037-019-00534-7>

Neubauer, B., Witkop C, **Varpio, L.** (2019). Two Philosophies of Phenomenology: Transcendental and Hermeneutic. *Perspectives on Medical Education*. In press.

Neville A, **Norman G,** White R. McMaster at 50: lessons learned from five decades of PBL. *Adv Health Sci Educ Theory Pract*. 2019 Aug 27. doi: 10.1007/s10459-019-09908-2. [Epub ahead of print] Review.

Nimmon, L., Artino, A., **Varpio, L.** (2019). Social network theory in interprofessional education: Revealing hidden power. *Journal of Graduate Medical Education*. In press.

O'Brien, B., Irby, D., Durning, S.J., Hamstra, S., Hu, W., Gruppen, L., **Varpio, L.** (2019). Boyer and Beyond: A study of health professions education scholarship units in the United States and a synthetic framework for scholarship at the unit-level. *Academic Medicine*. In press.

O'Neill, L., Samaan, Z., McCabe, K., Tabak, TA., Key, B., Litke, K., Whattam, J., Garrick, L., Chalmers, S., Xie, F., Thabane, L., Patel, Y., Shahid, H., Zielinski, L, **Vanstone, M.** (2019) Patient experiences and opinions of an enhanced Behavioural Activation group intervention for depression. *Research on Social Work Practice*. 29(1):10-18 <https://doi.org/10.1177/1049731517749942>

Odorizzi S, Cheung W, **Sherbino J,** Lee A, Thurgur L, Frank J. Signal & noise – do professionalism concerns impact decision-making of competence committees? *CJEM*. Cambridge University Press; 2019;21(S1):S27–S27.

Orr, C.J. & **Sonnadara, R.R.** Coaching by design: exploring a new approach to faculty development in a competency-based medical education curriculum. *Advances in Medical Education and Practice*, 10, 229-244. <https://doi.org/10.2147/AMEP.S191470>

Patocka C, Cheng A, **Sibbald M**, Duff JP, Lai A, Lee-Nobbee P, Levin H, Varshney T, Weber B, Bhanji F. A randomized education trial of spaced versus massed instruction to improve acquisition and retention of paediatric resuscitation skills in emergency medical service (EMS) providers. *Resuscitation*. 2019 Jun 15.

Petrosoniak A, Lu M, Gray S, Hicks C, **Sherbino J**, McGowan M, **Monteiro S**. Perfecting practice: a protocol for assessing simulation-based mastery learning and deliberate practice versus self-guided practice for bougie-assisted cricothyroidotomy performance. *BMC medical education*. 2019 Dec;19(1):100.

Quinn A, Gottlieb M, **Chan T M**, et al. (November 06, 2019) Curated Collections for Educators: Five Key Papers on Clinical Teaching. *Cureus* 11(11): e6084. doi:10.7759/cureus.6084

Rehman, Y., Syed, M., Wiercioch, W., Rehman, N., Drew, B., Cencic, A., Reddy, K., Murty, N., Kachur, E., Dunlop, B., Guyatt, G., Busse, J., Schwartz, L., **Vanstone, M.** (2019). Discrepancies between patient and surgeon expectations of surgery for sciatica: A challenge for informed decision-making? *Spine*. 44 (10): 740-746.

Sanborn MD, **Grierson L**, Upshur R, Marshall L, Vakil C, Griffith L, Scott F, Benusic M, Cole DC. (2019). Environmental health knowledge, attitudes and clinical practices of family medicine residents: a multi-program survey. *Canadian Family Physician*, 65, 269-277.

Sandor, C., Murray-Davis, B., **Vanstone, M.**, Bryant, C. (2019) The transition to clinical practice for new registrant midwives in Ontario, Canada. *Starting Life as a Midwife: An international review of transition from student to practitioner*. Gray, M., Kitson-Reynolds, E., Cummins, A. (Ed). Switzerland: Springer. Pp. 73-94.

Schuwirth L, Durning SJ, **Norman GR**, van der Vleuten CPM. Assessing clinical reasoning. In *Clinical Reasoning in the Health Professions*. Higgs, Jensen, Loftus, Christensen (ed). Edinburgh, Elsevier, 2018.

Servant-Miklos V, **Norman G**, Schmidt, HG. A short intellectual history of problem-based learning. In Moallem M, Hung W. Dabbagh N. *Wiley Handbook of Problem- Based Learning*, 2019

**Sherbino J**, Bandiera G, Doyle K, Frank JR, Holroyd BR, Jones G, et al. The competency-based medical education evolution of Canadian emergency medicine specialist training. *CJEM*. Cambridge University Press; :1–8. 2019 September.

**Sherbino J**. Making change in medical education. *Med Educ*. 2019;53(7):649-651.

**Sibbald M, Sherbino J**, Ilgen JS, Zwaan L, Blissett S, **Monteiro S, Norman G**. Debiasing versus knowledge retrieval checklists to reduce diagnostic error in ECG interpretation. *Adv Health Sci Educ Theory Pract*. 2019 Jan 29. doi: 10.1007/s10459-019-09875-8

**Sibbald M.**, Wang, B., Caners, K. Managing cognitive load in simulations: exploring the role of simulation technologists. *Canadian Medical Education Journal*. 20 September 2019.

St.Onge, C., Young, M., **Varpio, L.** (2019). Development and Validation of a Health Professions Education-focused Scholarly Mentorship Assessment Tool. *Perspectives on Medical Education*. 8(1): 43-46.

Stefan A, Hall J, **Sherbino J, Chan TM**. Faculty development in the age of competency-based medical education: a needs assessment of Canadian emergency medicine faculty and senior trainee. *Canadian Journal of Emergency Medicine*; 21(4): 527-534. DOI: 10.1017/cem.2019.343

Stephens, M.B., Bader, K.S., Myers, K.R., Walker, M.S., **Varpio, L.** (2019). Professional Identity Formation and the Ancient Art of Mask-Making. *Journal of General Internal Medicine*. In press.

Thoma B, **Chan TM**. Using Google Scholar to track the scholarly output of research groups. *Perspectives on Medical Education*. 2019; 8(3); 201-205. DOI: 10.1007/s40037-019-0515-4.

Thoma B, Turnquist A, Zaver F, Hall AK, **Chan TM**. Communication, Learning, and Assessment: Exploring the Dimensions of the Digital Learning Environment. *Medical Teacher*. 2019; 41(4):385-390. DOI: 10.1080/0142159X.2019.1567911

Thomas, A., Lubarsky, S., **Varpio, L.**, Durning, S.J., Young, M. (2019). Epistemology and methodology of scoping reviews: Challenges, considerations, and lessons learned. *Advances in Health Sciences Education*. In submission – submission date: March 2019.

Ting D, Thoma B, Lockett-Gatopoulos S, Thomas AD, Syed AS, Bravo M, Zaver F, Purdy E, Kwok E, **Chan TM**. CanadiEM: Accessing a virtual community of practice to create a Canadian national medical education institution. *AEM Education & Training*; 2019; 3(1); 86-91. Doi: 10.1002/aet2.10199

Tseng EK, Jo D, Shih AW, De Wit K, **Chan TM**. Window to the Unknown: Using Storytelling to Identify Needs for the Intrinsic Competencies Within an Online Needs Assessment. *AEM Education and Training*. 2019;3(2);179-187. Doi: 10.1002/aet2.10315

Tsoy D, Sneath P, Rempel J, Huang S, Bodnariuc N, Mercuri M, Pardhan A, **Chan TM**. Creating GridlockED: A serious game for teaching about multipatient environments. *Academic Medicine*; 2019; 94(1); 66-70. Doi: 10.1097/ACM.0000000000002340

Van EM, Frank JR, Holmboe ES, Dagnone D, Stockley D, **Sherbino J**. A Core Components Framework for Evaluating Implementation of Competency-Based Medical Education Programs. *Academic medicine: journal of the Association of American Medical Colleges*. 2019 Apr.

**Vanstone, M. & Grierson, L.** (2019). Medical student strategies for actively negotiating hierarchy in the clinical environment. *Medical Education*. 19:1013-1024. <https://onlinelibrary.wiley.com/doi/10.1111/medu.13945>

**Vanstone, M.**, Abelson, J., Bidonde, MJ., Bond, K., Burgess, R., Canfield, C., Schwartz, L., Tripp, L. Ethical challenges related to patient involvement in Health Technology Assessment. (2019). *International Journal of Technology Assessment in Health Care*. E-pub before print. <https://doi.org/10.1017/S0266462319000382>

**Vanstone, M., Grierson, L.** (2019). Medical student strategies for actively negotiating hierarchy in the clinical environment. *Medical Education*, 53, 1013-1024.

**Vanstone, M., Monteiro, S.,** Colvin, E., **Norman, G., Sherbino, J., Sibbald, M.,** Dore, K., Peters, A. Experienced physician descriptions of intuition in clinical reasoning: A typology. (2019). *Diagnosis*. <https://www.degruyter.com/view/j/dx.ahead-of-print/dx-2018-0069/dx-2018-0069.xml>

**Vanstone M,** Neville TH, Clarke FJ, Swinton M, Sadik M, Takaoka A, Smith O, Baker AJ, LeBlanc A, Foster D, Dhingra V. Compassionate End-of-Life Care: Mixed-Methods Multisite Evaluation of the 3 Wishes Project. *Annals of internal medicine*. 2019 Nov 12. doi: <https://doi.org/10.7326/M19-2438>

**Varpio, L,** MacLeod, A. (2019). The philosophy of science series: Harnessing the interdisciplinary edge effect in health professions education research. *Academic Medicine*. In press.

**Varpio, L.** (2019). Citizenship and mentorship: A reflection on loss. *Advances in Health Sciences Education*. In press.

**Varpio, L.,** Young, M., Uijtdehaage, S., Paradis, E. (2019). Articulating the distinctions between theory, theoretical framework, and conceptual framework. *Academic Medicine*. In press.

Wagner, N., Acai, A., McQueen, S.A., McCarthy, C., McGuire, A., Petrisor, B., & **Sonnadara, R.R.** (2019). Enhancing Formative Feedback in Orthopaedic Training: Development and Implementation of a Competency-Based Assessment Framework. *Journal of Surgical Education*, 76(5), 1376-1401. <https://doi.org/10.1016/j.jsurg.2019.03.015>

Wagner, N., McQueen, S., & **Sonnadara, R.R.** (2018). Bridging the Gap: Theoretical Principles behind Surgical Boot Camps. In Safir, O., Sonnadara, R.R., Mironova, P., & Rambani, R. (Eds.), *Boot Camp Approach to Surgical Training* (pp. 1-11). Amsterdam, Netherlands: Elsevier.

Wainman B, Pukas G, Wolak L, Mohanraj S, **Norman G.** The critical role of stereopsis in virtual and mixed reality learning environments. *Anat Sci Educ* (in press), 2019-10-28

Wilcox, S., **Varpio, L.** (2019). Finding comfort in the discomfort of difficult conversations. *Military Medicine*. In press.

Yarris LM, **Chan TM,** Gottlieb M, Miller Juve A. Finding Your People in the Digital Age: Virtual Communities of Practice to Promote Education Scholarship. *Journal of Graduate Medical Education*. 2019;11(1):1-5. DOI: JGME-D-18-01093.1

Young, M., LaDonna, K., **Varpio, L.,** Balmer, D. (2019). Fluidity of focal length: Research questions in health professions education research and scholarship. *Academic Medicine*. In press.

Young, M., **Varpio, L.,** Uijtdehaage, S., Paradis, E. (2019). The spectrum of inductive and deductive research approaches using quantitative and qualitative data. *Academic Medicine*. In press.

Zhu, H., Wagner, N., & **Sonnadara, R.R.** (2018). Developing effective recruitment strategies for young infants. *Meducator*, 1(34), 13-16.



MCMASTER EDUCATION  
RESEARCH, INNOVATION &  
THEORY

100 MAIN STREET WEST  
DAVID BRALEY HEALTH SCIENCES  
CENTRE  
HAMILTON, ONTARIO, CANADA

WEB: [MERIT.MCMASTER.CA](http://MERIT.MCMASTER.CA)

EMAIL: [MERIT@MCMASTER.CA](mailto:MERIT@MCMASTER.CA)

TWITTER: [@MERIT\\_MCMASTER](https://twitter.com/MERIT_MCMASTER)