Time	Event	Location
8:30 – 9:15 am	Check-in, poster setup, & breakfast	Foyer
9:15 – 9:30 am	Welcome remarks	HSC 1A1
9:30 – 11:00 am	Oral presentations – Morning session	HSC 1A1
11:00 – 12:00 pm	Poster presentations – Morning session	Foyer
12:00 – 12:30 pm	Keynote speaker: Dr. Hertzel C. Gerstein	HSC 1A1
12:30 – 1:00 pm	Keynote speaker: Dr. Kerstin de Wit	HSC 1A1
1:00 – 1:30 pm	Lunch	Foyer
1:30 – 3:00 pm	Oral presentations – Afternoon session	HSC 1A1
3:00 – 4:00 pm	Poster presentations – Afternoon session	Foyer
4:00 – 4:30 pm	Closing ceremony & awards presentation	HSC 1A1

Level 1 **PURPLE SECTION BLUE SECTION** Entrance from McMaster Campus 1 P ä 18 1H 10 11 1 M 1R Ħ 1G Media Shop Cafeteria 1 M 1R / 🛗 **ii** / 10 1F 1K 1K 15 1D 1E 1T **RED SECTION** YELLOW SECTION

Main Street

Welcome from the Co-Chairs

Dear students, faculty, and community members,

It is our pleasure to welcome you to the 9th annual McMaster Medical Student Research Day (MMSRD), which proudly showcases the tremendous efforts and achievements of McMaster University's MD and MD-PhD students. For the first time, we are also pleased to welcome students from neighbouring Canadian medical schools, as part of an annual initiative that we hope fosters ties and enables collaborations within the next generation of physicians.

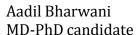
The 2018 MMSRD committee, co-chaired by Aadil Bharwani and Jennifer Asselstine, has put together an exciting program that includes Dr. Hertzel C. Gerstein and Dr. Kerstin de Wit as keynote speakers. The program committee is also pleased to note that it has continued to achieve gender parity for oral presentations this year.

Our scientific program once again features both poster and oral presentations. We thank all the students who submitted abstracts, and our abstract committee, who had the difficult task of choosing the twelve speakers featured this year from the many excellent submissions. Both oral and poster presentations cover a wide range of research endeavours—basic sciences, clinical research, community research, quality improvement projects—thus highlighting the diversity and strength of modern healthcare. We would also like to appreciate the McMaster Medical Student Council and the McMaster University Medical Journal for the funding provided, without which MMSRD would not be possible.

Success in improving patient care and medical practice relies upon healthcare practitioners who embrace the astonishingly interdisciplinary nature of medicine to embark upon initiatives that range from examining the chemistry of novel antibiotics to those that affect local and global communities. We urge you to explore and consider the intricate complexities of this nuanced field by attending the numerous talks and posters on display, and finding inspiration in the efforts of your peers and colleagues.

Thank you for being a part of MMSRD 2018. We are extremely impressed by the quality of research and are thrilled to provide this platform to showcase it. We hope that you discover unique insights and a breadth of perspectives, and form ties that strengthen our ever-growing community and field.

Sincerely,





Jennifer Asselstine MD candidate, class of 2020



Morning Oral Presentations (HSC 1A1)

<u>9:30.</u> Pre-treatment with amiodarone for restoration and maintenance of sinus rhythm after elective electrical cardioversion of atrial fibrillation: a systematic review and meta-analysis

Kevin J. Um*, William F. McIntyre, Emilie P. Belley-Cote, Pablo A. Mendoza, Alex Koziarz, Guy Amit, Victor A. Chu, Richard P. Whitlock, Jeff S. Healey

<u>9:45.</u> Development of broadly-protective and combinatorial antibody therapies against influenza A virus infections

Ali Zhang*, Matthew S. Miller

10:00. Impact of a nursing engagement intervention on pain, agitation, and delirium assessment in a community intensive care unit (ICU)

Carolyn M Tan*, Mercedes Camargo, Ramez Maximous, Madelyn Law, Jennifer LY Tsang

10:15. Preparedness of Canadian physician offices for paediatric emergencies

Anushka Weeraratne, Dayae Jeong, Subhrata Verma*, Marina Atalla, Mohammed Hassan-Ali, April J. Kam

10:30. IgG1+ B cell immunity predates IgE responses in epicutaneous sensitization to foods

Yosef Ellenbogen*, Rodrigo Jiménez-Saiz, Manel Jordana

<u>10:45.</u> Unexpected benefits: can methadone maintenance treatment decrease nonopioid substance use in patients with opioid use disorder?

Nikhita A. Singhal*, Tea Rosic, Nitika Sanger, Zainab Samaan

Afternoon Oral Presentations (HSC 1A1)

1:30. The quantitative assessment of the pivot-shift test in an awake and an asleep condition

Raisah Mohamed*, Dr. Patrick Costigan, Dr. Davide Bardana

1:45. Experiences of trans and gender non-conforming medical students in Canadian universities

Kat Butler*, Adryen Yak, Albina Veltman

2:00. The role of point of care ultrasound in the assessment of hemarthrosis in patients with hemophilia

Michael Uy*, Karen Strike, Wendy Lawson, Dr. Anthony Chan

<u>2:15.</u> Differential therapeutic dosing strategies of calcitriol does not improve measures of mineral bone disorder in experimental CKD.

Bruno Svajger*, Cynthia M. Pruss, Kimberly J. Laverty, Jason Zelt, Rachel M. Holden, Martin P. Petkovich, and Michael A. Adams.

2:30. The impact of incorporating resource stewardship into undergraduate medical curriculum: a quality improvement pilot project for medical education Catherine L. Friedman*, Jasmine Liu, Sonja Wakeling

<u>2:45.</u> Undergraduate medical education: a systematic review and recommendations on the shift towards competency-based medical education

Victoria E. McKinnon*, Jacqueline Wilcox, Aliana Weavers, Ranil R. Sonnadara

Morning Poster Presentations (Ewart Angus Foyer; 11 am-12 pm)

1. Influenza A/PR8 virus infection attenuates OSM-induced Th2 immunopathology in vivo

Anisha Dubey*, Fernando Botelho, Jewel Imani, Rex Park, Lillian Ho, Jann C. Ang, Yushi Yao, William Yao, Matthew Miller, Kjetil Ask, Carl D. Richards

2. Identification and validation of unique and shared M2 macrophage biomarkers between murine models and human disease using bioinformatic gene expression analysis

Pavithra Parthasarathy*, Anna Dvorkin-Gheva, James Murphy, Ehab Ayaub, Karun Tandon, Salem O. Alowami, Luke Janssen, Asghar Naqvi, Mark D. Inman, Martin R.J. Kolb, Nader A. Khalidi, Maggie J. Larché, Kjetil Ask

3. Development of adjuvant therapies to combat bacterial resistance

Madelaine R. Colden Leung*, Kyle C. Leckett, Marisa A. Azad, Linda Ejim, Xiaomeng Li, Aawista Chaudhry, Gerard D. Wright, Alfredo Capretta

4. Type I interferon negatively regulates IL-6- and macrophage-mediated immunopathology during virus infection

Amanda J. Lee, Marianne V. Chew, Sophie M. Poznanski, Ehab Ayaub, Manel Jordana, Carl D. Richards, Ali A. Ashkar

5. The role of microRNA-449 in human breast cancer

Ajay Shah

6. Suture anchor use in hip arthroscopy: a systematic review of techniques and safety profile

Ajay Shah, Jeffrey Kay, Olufemi R. Ayeni

7. Postoperative complications of hypospadias repair in patients receiving caudal block versus non-caudal anesthesia: A meta-analysis

Harkanwal Randhawa*, Patrick Tanseco, Udi Blankstein, Michael Chua, Jin Justin Kim, Armando J. Lorenzo, Luis H. Braga

8. Evaluating pre-operative anesthesia screening tool and key patient care quality markers at HREI

Dr. Prima Moinul, Tiandra Ceyhan*, Tin Enoch, Dr. Jenny Qian, Dr. Tania Ligori, Dr. Varun Chaudhary

9. Effect of tyrosine kinase inhibitors on thyroid function in chronic myeloid leukemia patients: a systematic review

Jennifer Leigh, Janatani Balakumaran, E. Danielle Sims, Tanisha Birk, Breanne Golemiec, Wryan Helmeczi, Jeyanth Inkaran, Yun-ya Kao, Sarah Saliba, Rishi Sharma, Laura Spatafora, Kristin Wright, William Yao, Lehana Thabane, Laura Banfield, Christopher Hillis, Uma Athale, M. Constantine Samaan

10. Antibiotic prophylaxis for prevention of urinary tract infections within the first year of life in children with vesicoureteral reflux diagnosed in the workup of antenatal hydronephrosis: A systematic review

Jennifer Leigh, Stephanie Sanger, Luis Braga, Rahul Chanchlani

11. Long-term outcomes in children with multicystic dysplastic kidney: a population-based study

Victoria A. Archer*, Jade Dirk, Danielle Nash, Amber Molnar, Anne Tsampalieros, Amit Garg, Rahul Chanchlani

12. Management of concomitant rotator cuff pathology and adhesive capsulitis – a systematic review of indications, treatment approaches, and outcomes Kailai Zhang, Darren de SA, Ajay Kanakamedala, Volker Musahl

13. Empiric antibiotic therapy for hospital-acquired pneumonia: a meta-analysis Yung Lee, Yutong Fei, Romina Brignardello-Petersen, Theresa Aves, Dena Zeraatkar, Paul E. Alexander, Behnam Sadeghirad, Xun Li, Nathan Evaniew, Neera Bhatnagar, Isaac I. Bogoch, Mark Loeb, Gordon H. Guyatt, Reed A.C. Siemieniuk

14. How useful is the Flexion-Adduction-Internal Rotation (FADIR) test for diagnosing femoroacetabular impingement - a systematic review

Ajaykumar Shanmugaraj, Jaymee R. Shell*, Nolan S. Horner, Andrew Duong, Nicole Simunovic, Soshi Uchida, Olufemi R. Ayeni

15. Single bundle over the top ACL reconstruction in skeletally mature patients; a systematic review of outcomes in the primary and revision setting.

Mohamed Sarraj, Darren de SA, Ajaykumar Shanmugaraj, Volker Musahl, Bryson P. Lesniak

16. Hemodynamic outcomes of the Ross procedure versus other aortic valve replacement: a systematic review and meta-analysis

Kevin J Um, Graham R McClure, Emilie P Belley-Cote, Saurabh Gupta, Ismail Bouhout, Hugo Lortie, Hatim Alraddadi, Ali Alsagheir, Matthias Bossard, William F. McIntyre, Alexandra Lengyel, John W Eikelboom, Maral Ouzounian, Michael W A Chu, Dominic Parry, Ismail El-Hamamsy, Richard P Whitlock

17. Does perioperative nutritional optimization decrease the incidence of postoperative complications in surgical patients with gastrointestinal cancer? A Systematic Review and Meta-analysis.

Zainab Najarali, Leyo Ruo, Marko Simunovic, Emmanuelle Duceppe, Sameer Parpia, Natalie Solis, Ye Sao, Abdullah Alhussaini, Betty Zhang, Pablo Serrano

18. Assessing the impact of triage directives on febrile oncology patient wait-times in the Emergency Department - A retrospectives cohort study

Cameron F. Leveille, Madelyn Law

19. Trends in the incidence of Cannabinoid Hyperemesis Syndrome in a Pediatric Emergency Department: A ten-year review

Cameron F. Leveille, Veeral Desai, Mohammed Hassan-Ali, Robert Issenmen, April J. Kam

20. Biparametric versus multiparametric prostate MRI for the detection of clinically significant prostate cancer in treatment-naive patients: a diagnostic test accuracy systematic review and meta-analysis

Mostafa Alabousi, Jean-Paul Salameh, Lucy Samoilov, Hang Yu*, Kaela Gusenbauer, Matthew McInnes, Rodney Breau, Nicola Schieda, Abdullah Alabousi

21. Crossing into the unknown. A peculiar cause of ureteropelvic junction obstruction in a 14-year- old boy

Hang Yu*, Udi Blankstein, Luis H. Braga

22. Radiobiologically-guided radiotherapy in large primary and metastatic hepatic lesions

Daegan Sit, Jonatan Snir, Stewart Gaede, Eugene Wong, Michael Lock

23. Development of psoriatic nails while on adalimumab treatment for Crohn's disease

Rachel M Bierbrier*, Rashie Brar, Hermenio Lima

24. Systematic review of microvascular lining options for near-total and total nasal reconstruction

Kim Y. Grace*, Ramji Maleka, McRae Mark

25. A Systematic Review and Retrospective Cohort Study of Non-Operative Management of Exposed Calvarium Post Radiotherapy

Pinkal Patel*, Hanyang Liu, Jenny Santos, Sophocles Voineskos, Matthew McRae

26. Dysglycemia and dyslipidemia in Chronic Myeloid Leukemia patients treated with Tyrosine Kinase Inhibitors: A systematic review

Breanne Golemiec*, Laura Spatafora*, Janatani Balakumaran, Danielle E. Sims, Kristin Wright, Tanisha Birk, Wryan Helmeczi, Jeyanth Inkaran, Yun-ya Kao, Jennifer Leigh, Sarah Saliba, Rishi Sharma, William Yao, Lehana Thabane, Laura Banfield, Christopher Hillis, Uma Athale, M. Constantine Samaan

27. The effects of Imatinib therapy on growth trajectories in pediatric chronic myeloid leukemia: a systematic review and meta-analysis

Janatani Balakumaran*, Kristin Wright*, Danielle E. Sims, Tanisha Birk, Breanne Golemiec, Wryan Helmeczi, Jeyanth Inkaran, Yun-ya Kao, Jennifer Leigh, Sarah Saliba, Rishi Sharma, Laura Spatafora, William Yao, Lehana Thabane, Christopher Hillis, Laura Banfield, Uma Athale, M. Constantine Samaan

28. The bone health effects of tyrosine kinase inhibitors in chronic myeloid leukemia: a systematic review and meta-analysis

William Yao*, Janatani Balakumaran, E. Danielle Sims, Breanne Golemiec, Laura Spatafora, Kristin Wright, Tanisha Birk, Wryan Helmeczi, Jeyanth Inkaran, Yun-ya Kao, Jennifer Leigh, Sarah Saliba, Rishi Sharma, Lehana Thabane, Christopher Hillis, Laura Banfield, Uma Athale, M. Constantine Samaan

29. Prevalence of IgG4-related disease markers in submandibular gland tumours: a retrospective chart review

Kelly Y. W. Chin *, Martin D. Hyrcza, Michael K. Gupta

30. The rivermead post-concussion questionnaire score is associated with social and self-reported recovery six months after mild traumatic brain injury in older adults Jennifer M. Asselstine*, Vicki L. Kristman

31. Depressive symptomatology and lifelong music experience: a cross-sectional study

Jennifer M. Asselstine*, Vicki L. Kristman

32. Do medical students entering clerkship benefit from a simulation-based skills orientation: an education innovation

Sean Mcintosh*, Leah Zhao*, Luke Ryan*, James Beecroft

33. Effect of simulation-based learning on attitudes towards the homeless in healthcare students

Rahat Hossain, Tanisha Birk, Rebecca Harrison

34. Preparedness of Canadian physician offices for paediatric emergencies

Anushka Weeraratne, Dayae Jeong*, Subhrata Verma*, Marina Atalla, Mohammed Hassan-Ali, April J. Kam

35. The utility of mindfulness in the prevention of falls

Peter Hoang, Kim Moore

36. Improving interprofessional learning through expansion of the HEIGHTEN program (Horizontal Elective for Interprofessional Growth & Healthcare Team ENhancement)

Victoria DeVito*, Peter Hoang*, Sean McIntosh*

37. The use of video aids in code status discussions: a pilot single-centre quality improvement study.

Yassmin Behzadian, Dr. William Cumming, Dr. Rebecca Kruisselbrink

38. "Who heals the healer?"; suicide intervention skills training and peer to peer mental health support targeted towards medical students.

Madison C. C. S. Links*, Kyall M.D. Rakoz*

39. Simulation activities in undergraduate medical education: improving accessibility to simulation training at a regional medical school campus Kelly Lien*, Amanda Singh, Dr. Andrew Costa, Dr. Natalie Needham-Nethercott

Afternoon Poster Presentations (Ewart Angus Foyer; 3 pm-4 pm)

1. Understanding neuropsychiatric phenotypes in a mouse model of the 15q13.3 microdeletion syndrome

Leon Chalil*, Brianna K. Unda, Sean H. White, Karun K. Singh

2. Examining the role of inflammasome components in host defense against Campylobacter jejuni infection

Sheida Naderi-Azad*, Martin Stahl, Shauna Crowley, and Bruce Vallance

3. Activating autologous natural killer cells as a therapy for ovarian cancer Tina Nham*, Sophie M. Poznanski, Isabella Y. Fan, Mira M. Shenouda, Marianne V. Chew, Amanda J. Lee, Fatemeh Vahedi, Yalda Karimi, Martin Butcher, Dean A. Lee, Hal Hirte, Ali A. Ashkar

4. The effects of type II diabetes on the severity of ischemia reperfusion-induced acute kidney injury

Salwa Farooqi*, Rachel E. Carlisle, Jeffrey G. Dickhout

5. Varying femoral-sided fixation techniques in anterior cruciate ligament reconstruction have similar clinical outcomes: a network meta-analysis

Ajay Shah, Daniel J. Hoppe, David M Burns, Joseph Menna, Daniel Whelan, Jihad Abouali

6. Introducing knowledge translation to plastic surgery: turning evidence into practice

Syena Moltaji, Ahmad H. Alkhatib, Hanyang Liu, Jessica Murphy, Lucas Gallo, Marta Karpinski, Sadek Mowakket, Achilleas Thoma A

7.Incidence, risk factors and clinical profile of thromboembolic events in childhood nephrotic syndrome

Hannah Geddie, Kayla Dadgar*, Mihir D. Bhatt, Anthony Chan, Rahul Chanchlani

8. Valve prosthesis choice in patients with end-stage renal disease dependent on dialysis: a systematic review and meta-analysis

Kim K*, Gupta S, Alsagheir A, Makhdoum A, Pandey A, Newsome B, Gao Sophie, Belley-Côté E, Whitlock R

9. 6 Year trends in research presented at the annual Canadian anesthesiologists society meetings

Tiandra Ceyhan*, Adam Searle, Scott McCusker, Forough Farrokhyar, Noora Abdulhadi, Tania Ligori, Varun Chaudhary

10. Assessment of the psychometric properties of patient-reported outcomes of anxiety and depression in SLE

Andrew Kwan*, Sherief Marzouk, Helia Ghanean, Kishwar Ali, Nicole Anderson, Jiandong Su, Zahi Touma

11. Hip capsular thickness correlates with range of motion limitations in femoroacetabular impingement

Kailai Zhang, Darren de SA, Hang Yu, Hema Nalini Choudur, Nicole Simunovic, Olufemi Rolland Ayeni

12. Results after laparoscopic partial splenectomy for children with hereditary spherocytosis: are outcomes influenced by genetic mutation?

Jakob Pugi, Manuel Carcao, Luke Drury, Jacob Langer

13. All inside anterior cruciate ligament reconstruction - a systematic review of techniques, outcomes, and complications

Darren de SA, Ajaykumar Shanmugaraj, Melissa Weidman, Devin C. Peterson, Nicole Simunovic, Volker Musahl, Olufemi R. Ayeni

14. Elbow flexion angle during graft fixation for ulnar collateral ligament reconstruction: A systematic review of outcomes and complications Neel, Patel, Darren De SA, Sarah L. Zhu*, Asheesh Bedi, Bryson P. Lesniak

15. Incidence, risk factors and outcomes of renal vein thrombosis in neonates in Ontario

Allison C. Ouellette*, Anthony Chan, Elizabeth Darling, Hsien Seow, Rahul Chanchlani

- 16. Efficacy of surgical oophorectomy for quality of life outcomes compared to GnRH analogue therapy in women with endometriosis-related chronic pelvic pain Angela Li*, Stephen Bates
- **17.** A systematic review of sustainability in global surgery initiatives Maylynn Ding*, Nicole Jedrzejko, Joseph Margolick, Jenny H. Nguyen, Morad Hameed, Emilie Joos
- 18. Can the neutrophil-to-lymphocyte ratio and platelet-to-lymphocyte ratio predict survival in patients treated with stereotactic body radiation therapy for non-small cell lung cancer? A systematic review

Daegan Sit, Thomas Raissi, Meredith Giuliani, Percy Lee, Narek Shaverdian, Cindy Walker-Dilks, Anand Swaminath

19. Cannabis use and pubertal outcomes: a systematic review

Sama Anvari*, Yung Lee*, E. Danielle Sims, Laura Banfield, Lehana Thabane, M. Constantine Samaan

20. Manual versus device-assisted graft tensioning in ACL reconstruction: A systematic review

Laura Morrison*, Chloe Haldane, Darren de SA, Fawaz Findakli, Nicole Simunovic, Olufemi R Ayeni

21. Masseter oxygenation abnormalities in individuals with frequent wake-time tooth clenching

Nikki Shah*, Luana Melo, W. Darlene Reid, Iacopo Cioffi

22. Post-resuscitation debriefing and its applications in real-world emergency settings: a literature review

Stephen J. Hale, Melissa Parker, Cynthia Cupido, April J. Kam

23. Critical care in the ED: A scope of practice study in two large community hospitals

Daniel K Chan, Dimitar Kolev, Yuming Wang, Kelly Lien, Andrew Costa, X Catherine Tong

- **24.** Anticoagulation versus antiplatelet therapy in adult patients undergoing a bioprosthetic aortic valve replacement: a systematic review and meta-analysis Kevin R. An, Emilie P. Belley-Cote, Kevin J. Um, Saurabh Gupta, Graham R. McClure, Iqbal H. Jaffer, Arjun Pandey, Jessica Spence, Sake J. van der Wall, Richard P. Whitlock
- **25.** Paramedic recognition of paroxysmal supraventricular tachycardia Spencer Sample*, Colleen Shortt, Erich Hanel, Michelle Welsford
- 26. Caregiver psychosocial wellbeing and family violence: A scoping review of factors that affect the wellbeing of children in humanitarian crisis
 Palki Bhatt*, Olive Wahoush
- 27. Experiences of trans and gender non-conforming medical students in Canadian universities

Kat Butler*, Adryen Yak, Albina Veltman

28. Resident attitudes towards & experiences around caesareans in Canadian obstetrics & gynaecology residency programs

Catherine L. Friedman*, Elizabeth Darling, Eileen Hutton

29. A needs assessment of the gaps in the McMaster Medical School Clinical Skills Curriculum

Rebekah Baumann, Brenden Murphy, Christa Jonathan, Anvita Kulkarni, Nisha Kansal, Claire Bodkin, Janice Lee, Priya Gupta, Devon Stride*, Yvgenyi Oparin*, Brittany Graham, Michael Kruse, Talveer Mandur, Jason Profetto, Albina Veltman

30. The Pain In ED study: perceptions of acute care providers on chronic pain in the emergency department, a social media based investigation

Eric Chen*, Daniel Tsoy, Suneel Upadhye, Teresa M. Chan

31. Reduction of no shows and wait times to the Acute Internal Medicine Clinic at St. Catharines General

Sayed M. Turabi*, Keith Tam*, Dr. Shervin Zandi

32. Hamilton Shelter Health Network: voices from within - a systematic description of a health and social services initiative for homeless people in Hamilton, Ontario Matt Kerslake*, Bolade Shipeolu, Jill Wiwcharuk, Dale Guenter

33. Ice cream rounds; wellness promotion and burnout prevention amongst medical clerks

Emily E. Quick*, Paula E. Sneath*, Kyall M.D. Rakoz*, Madison C.C.S Links*

34. Improving appropriateness of Emergency Department referrals to the acute internal medicine clinic at St. Catharines General Hospital

Keith Tam*, Sayed M. Turabi*, Dr. Shervin Zandi Riahi

Acknowledgements

Co-Chairs

Aadil Bharwani & Jennifer Asselstine

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Danyal Saeed	Karun Tandon	Jennifer Leigh	Arden Azim
Anmol Gupta			Pinkal Patel
Kaela Gusenbauer			

Keynote Speakers

Dr. Hertzel C. Gerstein Dr. Kerstin de Wit

<u>Judges</u>

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Dr. Siddharth Nath	Dr. Hertzel Gerstein	Dr. Roopali Chaudhary	Ryan Chadwick
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