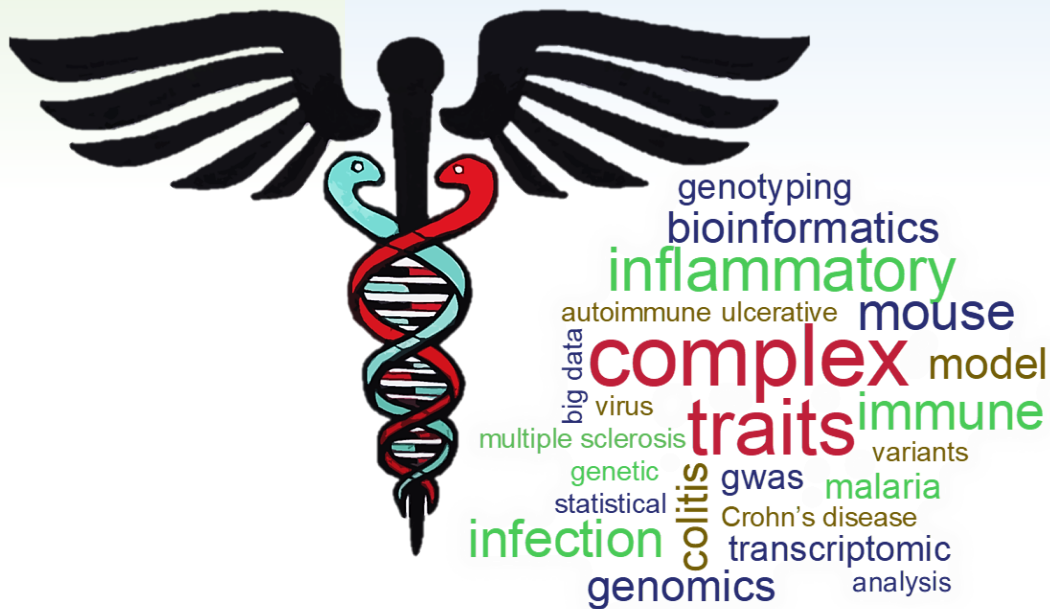


MCGILL UNIVERSITY RESEARCH CENTER ON COMPLEX TRAITS

2nd Montreal Symposium on the Immunogenetics of Infectious and Inflammatory diseases: Building bridges between medical and fundamental research



Monday, June 11, 2018

Hôtel ALT Montréal - Griffintown
Rose-Fuchsia Creative Lounge - 7th floor
120 Peel Street, Montréal

Save the date!

For more information go online

@ <https://mcgill.ca/mrcct/2nd-mrcct-symposium>

Bridging the research community...



WELCOME REMARKS FROM THE ORGANIZERS



Dr Silvia Vidal
Professor, Dept. of Human Genetics, McGill University



Dr Salman Qureshi
Professor, Dept. of Medicine

Dear Friends and Colleagues,

Welcome to the 2nd Montreal Symposium on the “Immunogenetics of Infectious and Inflammatory diseases: Building bridges between medical and fundamental research”, hosted by the McGill University Research Centre on Complex Traits (MRCCT).

The MRCCT unites scientists working on immune-mediated diseases that range from severe infections to chronic inflammatory conditions. Inflammation is viewed as a common driving factor for many infectious diseases including tuberculosis, malaria, influenza, or a variety of autoimmune conditions including multiple sclerosis, inflammatory bowel disease, asthma, and lupus. At MRCCT, we are inspired and motivated by the prospect of working together to understand the genetic and molecular underpinnings of such widespread and severe conditions, and to implement innovative approaches to translate research results into information with potential clinical value.

For this second edition of our Symposium we have planned a one-day event focused on highlighting links between fundamental and clinical research.

We will hear talks from MRCCT speakers featuring their most recent research on mechanisms of pathogenesis at the intersection of communicable and non-communicable diseases as well as new advances on the identification of novel therapeutic approaches to combat microbes. To illustrate the path towards precision medicine, other speakers will present their groundbreaking work characterizing immune-phenotypes and identifying molecular biomarkers in patient populations both to understand the molecular etiology of immune-disease heterogeneity and for patient stratification. We hope these sessions will provide depth from foundational science to clinical translation.

A key goal of the Symposium is fostering collaborations, the development of novel ideas and projects. For this, Prof. Philippe Gros from McGill and Drs. Don Vinh and Ines Colmegna from the MUHC, will moderate a workshop in the afternoon. The goal is to have a frank interactive discussion of how to maximize the opportunities and minimize the obstacles to collaboration between basic and clinical investigators.

This Symposium places great importance on the involvement of students and post-doctoral fellows. Twenty-seven posters will be presented during the event, and we thank in advance our panel of judges who will be making tough decisions to identify the winners of the poster competition.

The Symposium would not have been possible without the support from many colleagues and students. First and foremost, we thank each of our speakers. We also sincerely acknowledge all those involved in the organization of the symposium, particularly our administrative support and the team of students volunteers. We are also very grateful to our sponsors and partners for their generous support that has permitted us to organize a Symposium free of charge.

We hope that you will have a stimulating, productive and enjoyable day,

Drs. Silvia Vidal & Salman Qureshi
On behalf of the organizing committee

AGENDA – MONDAY, JUNE 11TH, 2018

8:15 – 8:45 am	Arrival & Registration for all members (<i>Coat check Light breakfast will be provided</i>)
8:45 – 9:00 am	Opening remarks by Drs. Silvia Vidal & Salman Qureshi; co-presidents
9:00 – 10:00 am	Session I – New insights into pathogenesis Chair: Dr. Martin Olivier
9:00 am	Dr. Maziar Divangahi , Dept. Microbiology and Immunology, McGill University <i>“Reprogramming Stem Cells in Protective Innate Immunity against TB”</i>
9:30 am	Dr. Samantha Gruenheid , Dept. Microbiology and Immunology, McGill University <i>“A new link between infection, autoimmunity and Parkinson's disease”</i>
10:00 – 10:30 am	Coffee break
10:30 – 11:30 am	Session II – Finding new solutions Chair: Dr. Jörg Fritz
10:30 am	Dr. David Langlais , Dept. of Human Genetics, McGill University <i>“Rocaglates: novel dual-targeting agents for cerebral malaria”</i>
11:00 am	Dr. Donald Sheppard , Dept of Medicine, MUHC <i>“Breaking the biofilm - from reverse genetics to novel therapeutics”</i>
11:30 – 12:30 pm	Session III – From disease phenotypes to mechanism Chair: Dr. Ines Colmegna
11:30 am	Dr. Marie Hudson , Dept of Medicine, MUHC <i>“Novel insights into systemic autoimmune rheumatic diseases using shared molecular signatures and an integrative analysis”</i>
12:00 pm	Dr. James Martin , Dept of Medicine, MUHC <i>“Inflammatory phenotypes in patients with severe asthma”</i>
12:30 – 2:00 pm	Lunch break (provided) Poster session
2:00 – 3:00 pm	Session IV - Translational Research in Inflammatory Diseases Chair: Dr. Maya Saleh
2:00 pm	Dr. Paul Fortin , Dept of Medicine, CHUL <i>“Building a pipeline for the development and validation of biomarkers in systemic autoimmune rheumatic diseases”</i>
2:30 pm	Dr. Carolyn Jack , Dept of Medicine, MUHC <i>“Skinflammation: immunophenotyping resistant skin lesions in the era of biologics”</i>
3:00 – 3:15 pm	Coffee break
3:15 – 5:15 pm	Workshop: Bridge building between medicine and basic sciences Activities moderated by Dr Gros, Vinh and Colmegna (CAC) 1. Review of opportunities/examples of successful translational projects 2. Brainstorming session
	Student Activities Activities moderated by Amanda 1. 3-Minute Talks 2. Trivia Session
5:15 – 7:00 pm	Awards and closing remarks Award Ceremony - Poster winners 5:15 – 5:30 Closing Remarks by Dr Salman Qureshi 5:30 – 5:45 Cocktail & Mixer 5:45 – 7:00
	FRQS Round Table (Axis Leaders) Moderated by Maya Saleh 5:15 – 6:30 Joining the Cocktail & Mixer 6:30 – 7:00

POSTER PRESENTATIONS

List of posters presented

#	PRESENTER	STATUS	INST.	LAB	TITLE
1	Dakota Rogers	PhD	McGill	J. Mandl	<i>Investigating naïve CD4 T Cell heterogeneity arising from continuous T Cell receptor interactions with self-ligands</i>
2	Mathieu Mancini	PhD	McGill	S. Vidal	<i>Aberrant immune and CNS-resident cell responses in Rel mutant mice drive lethal herpes simplex encephalitis</i>
3	Félix Lombard	MSc	CR-HMR	S. Lesage	<i>Characterization of the implication of the Idd2 locus in type 1 diabetes development</i>
4	Victor Mullins Dansereau	MSc	CR-HMR	S. Lesage	<i>NOD NK Cells Exhibit a Functional Defect Throughout Their Maturation Process</i>
5	Tyler Cannon	MSc	McGill	S. Gruenheid	<i>Gram-Negative Intestinal Infection Triggers Transient Parkinsonism in Genetically Susceptible Hosts</i>
6	Barbara Mindt	PhD	McGill	J. Fritz	<i>Role of c-Rel in IL-33-mediated Activation of Group 2 Innate Lymphoid Cells</i>
7	Karim Malet	PDF	McGill	J. Fritz	<i>Identification of cytokines secretion machinery in type 2 innate lymphoid cells and its role in inflammatory disorders</i>
8	Shannon Hewgill	MSc	McGill	J. Fritz	<i>Role of diacylglycerol acyltransferase 2 (DGAT2) in group 2 innate lymphoid cell (ILC2) function</i>
9	Marija Landekic	PhD	McGill	D. Vinh	<i>The Role of the CARD9/GM-CSF Axis in Immunity to Candida albicans</i>
10	Amanda Fiore	MSc	McGill	A. Nijnik	<i>The Role of the Nuclear Deubiquitinase MYSM1 in the Transcriptional Regulation of Hematopoietic Stem and Progenitor Cells</i>
11	Thiviya Jeyakumar	PhD	McGill	P. Gros	<i>Inactivation of Irf1 Causes Increased Susceptibility to Colitis-Associated Colorectal Cancer</i>
12	Natasha Barone	MSc	McGill	S. Vidal	<i>Investigating the role of GNL1 in ribosome biogenesis and Natural Killer cell survival</i>
13	Natalie Giannakopoulou	PhD	McGill	S. Gruenheid	<i>Two-component systems and altered virulence of Citrobacter rodentium</i>
14	HanChen Wang	MSc	McGill	A. Nijnik	<i>Investigating the Mym1-regulated transcription control in Hematopoietic Stem and Progenitor Cells</i>
15	Yue Liang	MSc	McGill	A. Nijnik	<i>Testing the Roles and Mechanisms of BAP1 Activity in B cell development</i>
16	Lindsay Burns	MSc	McGill	S. Gruenheid	<i>Host-Mediated Modification of Bacterial Virulence Factor NleA</i>
17	Yun Hsiao Lin	PhD	McGill	A. Nijnik	<i>The Roles of BAP1 in Hematopoiesis and B Cell Physiology</i>
18	Alonso da Silva Lira Filho	PhD	MUHC	M. Olivier	<i>GP63-Enrichment in Leishmania Exosomes is Critical for Hyperinflammatory Pathology of Cutaneous Leishmaniasis</i>
19	Adrien Fois	MSc	CR-HMR	S. Lesage	<i>Modulating Mitochondrial respiration alters immune homeostasis at steady state</i>
20	Patricio Artusa	PhD	McGill	J. Mandl	<i>The role of T-cell repertoire diversity in CD4+ T-cell responses</i>
21	Jacky Tung	MSc	McGill	A. Nijnik	<i>Small Molecule (<3.5kDa) Dialysis of 4T1 Tumor Supernatant Removes 4T1-mediated DC Suppression</i>
22	Allan Tran	MSc	McGill	M. Saleh	<i>The Role of Estrogen-related receptor alpha intestinal homeostasis and experimental Colitis</i>
23	Adrian John de Boer	MSc	McGill	M. Saleh	<i>The cellular inhibitors of apoptosis proteins (cIAP)1 and cIAP2 mediate ER stress resolution in intestinal epithelial cells</i>
24	Jean-Frédéric Olivier	PhD	McGill	P. Gros	<i>Altered Activation and Migration of Dendritic Cells in Cerebral Malaria Resistant CCDC88B Mutant Mice</i>
25	Anni Fan	MSc	McGill	J. Zhang	<i>High Salt Diet Decreases Nociceptive Pain Thresholds and Affects Immunological Profile in Male BL6 Mice</i>
26	Oladayo Oladiran	PhD	McGill	J. Zhang	<i>Cytomegalovirus infection in mice leads to acute inflammatory peripheral neuropathy</i>
27	Mostafa Khair	PDF	McGill	M. Saleh	<i>Metabolic control of innate immunity and cell death</i>

SPEAKERS

DR MAZIAR DIVANGAHI

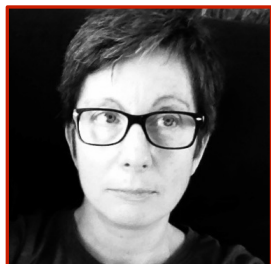
Dept. Microbiology and Immunology, McGill University



Dr. Maziar Divangahi is an Associate Professor of Medicine at McGill University based at the Meakins-Christie Laboratories. Dr. Divangahi is the Associate Director of the Meakins-Christie Laboratories as well as the Co-Leader of the RESP Program. He is a member of the McGill International TB Centre and associate member in the Departments of Microbiology & Immunology and Pathology. He is Harvard-trained pulmonary immunologist and an internationally recognized expert in immunity (host-resistance and disease-tolerance) to two major lung infections, Mycobacterium tuberculosis and influenza virus (e.g. H1N1), that pose serious threats to humans. Throughout his career, he has published in outstanding journals (Cell, Nature Immunology, Science Immunology, Immunity, J Clin Invest, J Exp Med, PNAS) and received numerous awards, including a CIHR New Investigator Award, FRQS Award, CIHR Foundation Grant, and most recently the Strauss Chair in Respiratory Diseases. He is actively involved to develop the respiratory research training program to foster the mentoring and future success of the next generation of respiratory scientists.

DR SAMANTHA GRUENHEID

Dept. Microbiology and Immunology, McGill University



Samantha Gruenheid is an Associate Professor in the Department of Microbiology and Immunology at McGill University, with expertise in bacterial pathogenesis and host-pathogen interactions. Dr. Gruenheid received her Ph.D. at McGill under the mentorship of Dr. Philippe Gros, studying mechanisms of host innate resistance to infection, and undertook postdoctoral studies with Dr. Brett Finlay at the University of British Columbia, where she identified and characterized a family of virulence factors that are injected into host cells by pathogenic bacteria. In 2005, she joined the Department of Microbiology and Immunology at McGill where she runs an active research program on host-microbe interactions, with a major focus on intestinal bacteria. Dr. Gruenheid received a Canada Research Chair and a Senior Research Scholar award from the Fonds de Recherche du Quebec, and her laboratory is currently supported by funding from the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council of Canada, Fond de Recherche Nature et Technologies Quebec, Genome Canada, and Genome Quebec. She is a member of the McGill Center for Research on Complex Traits and an Associate member of the McGill Microbiome and Disease Tolerance Center.

SPEAKERS (CONT.)

DR DAVID LANGLAIS

Dept. of Human Genetics, McGill University



David Langlais is an Assistant Professor in the Department of Human Genetics at McGill University and Principal Investigator at the McGill University and Genome Quebec Innovation Centre. Dr Langlais completed his Ph.D. with honours in Molecular Biology in 2011 under the supervision of Dr. Jacques Drouin at the Institut de recherches cliniques de Montréal. His work revealed the complex transcriptional regulation at play in pituitary corticotrope cells that are central to the immuno-neuroendocrine interface. Using innovative genetic models, he demonstrated that corticotrope cell populations are maintained by self duplication of post-mitotic cells. Dr Langlais then pursued postdoctoral research in Dr Philippe Gros' laboratory at McGill University where he studied the role of critical innate immunity transcription factors and participated in the characterization of new proteins involved in immune function and neuroinflammatory conditions, including cerebral malaria. Dr Langlais has received multiple awards and fellowships, including the Milstein Young Investigator Award from the International Cytokine and Interferon Society. His current research is founded on functional genomics, bioinformatics, genome editing and molecular biology methods to explain the transcriptional mechanisms involved in normal and pathological inflammation, aiming to identify and validate novel therapeutic targets for inflammatory diseases.

DR DONALD SHEPPARD

Dept. of Medicine, MUHC



Dr. Sheppard is a Professor in the Departments of Medicine, Microbiology and Immunology and the Director of the Division of Infectious Diseases at McGill University, in Montreal. He leads the Medical Mycology laboratory and practices clinical infectious diseases at the McGill University Health Centre. His primary clinical area of interest is human fungal disease, particularly invasive aspergillosis in the immunocompromised host. Dr. Sheppard's research interests focus on elucidating the mechanisms by which the fungal pathogen *Aspergillus fumigatus* causes human disease as a means to develop new therapeutics for these infections. His group has discovered the molecular mechanism by which *Aspergillus* forms biofilms, and is pursuing antifungal therapies that interfere with this process. His laboratory is funded by research operating grants from the US National Institutes of Health, the US Department of Defense, the Canadian Institutes for Health Research, and the Cystic Fibrosis Foundation of Canada. He has published over 100 research papers and book chapters and has delivered over 150 invited lectures worldwide. Dr. Sheppard has been the recipient of numerous awards including a Clinician-Scientist award from the Canadian Institutes of Health Research, a Career Award in the Biomedical Sciences from the Burroughs Wellcome Fund and a Research Chair from the Fonds de Recherche Sante Quebec. He is an elected fellow of the Canadian Academy of Health Sciences, the American Society of Clinical Investigation and the American Academy of Microbiology.

SPEAKERS (CONT.)

DR MARIE HUDSON

Jewish General Hospital, Lady David Research Institute



Marie Hudson, MD, MPH, FRCPC, is a rheumatologist and epidemiologist at the Jewish General Hospital, Lady Davis Institute and McGill University in Montreal. She pursues research in systemic autoimmune rheumatic diseases. She is a founding member of the Canadian Scleroderma Research Group, a CIHR-funded, multi-center group of researchers that follows a cohort of over 1500 scleroderma patients across Canada. She is also a founding member and Director of the Canadian Inflammatory Myopathy Study, an emerging inception cohort of subjects with inflammatory myopathies. Her cross-disease research is based on the hypothesis that phenotypically distinct autoimmune diseases may share common underlying mechanisms.

DR JAMES MARTIN

Dept. of Medicine, MUHC



Dr Martin graduated with a BSc in physiology and an MB, BCh from University College Cork, Ireland. He received his training in internal medicine at John Hopkins University and in respiratory medicine at McGill University. He subsequently joined the faculty at McGill where he is currently a Professor of Medicine. He directed the Meakins Christie Laboratories at McGill University from October 1993 to October 2008. He is currently chair of the Department of Medicine and Physician-in-Chief of the McGill University Health Center. Dr Martin has more than 300 publications in the area of asthma, with a particular focus on the use of animal models to explore the pathophysiologic basis of late allergic airway responses and airway remodeling. He established the first animal model of allergen driven airway remodeling and identified the responsible mediators of cellular growth and differentiation. Dr Martin is a member of the American Physiological Society, American Thoracic Society and a Fellow of the Canadian Academy of Health Sciences.

SPEAKERS (CONT.)

DR PAUL FORTIN

Dept. of Medicine, CHUL



Dr. Fortin obtained his medical degree from 'Université Laval' in Quebec City and graduated from McGill University in Rheumatology. He then obtained a Master's in Public Health from Harvard University School of Public Health. He followed three years of special training in clinical epidemiology as a Harvard post-doctoral research fellow under the direction of Dr. Matthew H. Liang at the Robert Breck Brigham Multi-Purpose Arthritis Center of the Brigham and Women's Hospital. He returned as an Assistant and then Associate Professor of Medicine at McGill University and to the Montreal General Hospital/McGill University Health Centre and Research Institute between 1992 and 2000, where he was funded uninterruptedly by operating grants from The Arthritis Society (TAS) and/or the Canadian Institutes of Health Research (CIHR). Dr. Fortin joined the staff of Toronto Western Division/University Health Network (UHN) and Research Institute in 2000 as a Clinician Scientist and Director of Clinical Research for the Arthritis Centre of Excellence. He became Full Professor of Medicine at the University of Toronto in 2007 and held cross-appointments as staff at the Hospital for Sick Children and as Associate Professor at the Institute of Medical Sciences and the Department of Health Policy, Management and Evaluation of the University of Toronto. In August 2011, he moved to Quebec City, Canada and became Full Professor with tenure at Université Laval and Clinical Researcher at the 'Centre de Recherche du CHU de Québec' where he is actively building up research capacity in clinical rheumatology and a unique research program on Systemic Autoimmune Rheumatic Diseases (SARD).

Dr. Fortin has been working on a better understanding of the bio-psycho-social impact of chronic rheumatic diseases such as systemic lupus erythematosus (SLE), the antiphospholipid antibody syndrome (APS), systemic autoimmune rheumatic diseases (SARD), osteoarthritis and rheumatoid arthritis. He is particularly interested in developing interventions for the treatment of SLE, APS and SARD.

DR CAROLYN JACK

Dept. of Medicine, MUHC



Carolyn Jack, MDCM, PhD is a Clinician Scientist and Assistant Professor at McGill University, running the Division of Dermatology at St. Mary's Hospital and an active member at the Royal Victoria Hospital, McGill University Health Center, Montreal, Canada. Dr. Jack was awarded a Ph.D in Microbiology and Immunology for her work characterizing human T cell polarization and Toll-like receptor functional expression on microglia in the neuro-immunology laboratory of Dr. Jack Antel at the Montreal Neurological Institute in 2007. She completed her medical training with an MDCM at McGill University in 2011, and specialized as a Dermatologist at McGill University, becoming a Fellow of the Royal College of Physicians of Canada in 2017. During her residency at McGill, Dr. Jack designed and completed a pilot clinical study examining cytokine profiles in psoriasis patients treated with ustekinumab, establishing collaborations in industry (R. Bissonnette, Inovaderm Research) and immunologists at Université de Montréal, (M. Sarfati and N. Arbour). Dr. Jack contributed to our knowledge of autoimmune skin diseases with publications in the Lancet and the British Journal of Dermatology, developing expertise in the transcriptional expression and immunophenotyping of cutaneous tissue-resident T cells, particularly in the context targeted therapies. In 2016, she collaborated with Dr. V.A. Gimenez, Dr. D. Sasseville and Dr. Q. Madrenas in order to design a clinical study examining S.aureus and resident memory cutaneous T cell cells in atopic dermatitis; she was awarded approval for this REB study "Crosstalk" at the McGill University Health Center for a study period extending to 2019. Her research involves characterising populations of resident memory T cells present in inflammatory and autoimmune cutaneous disorders with a focus on treatment with targeted and biological therapies.

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ACKNOWLEDGEMENTS

Thanks to the participants for making this Symposium a success!!

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