



Developmental Origins
of Health and Disease

2nd Annual Canadian DOHaD Society Meeting

**February 14, 2018
Banff (Alberta)**

Program Guide

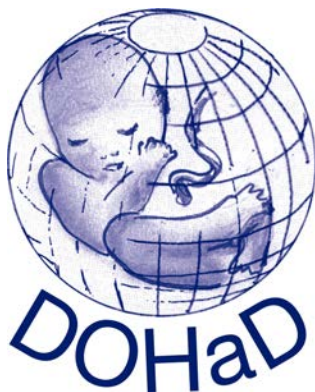
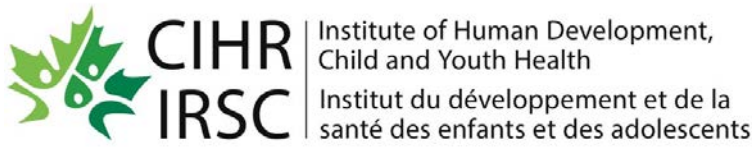
Acknowledgements



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Thank you!

DOHaD Canada and the organizing committee of this year's meeting are deeply grateful for the support of our wonderful sponsors, without whom this meeting would not be possible.



Message from the program chairs



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On behalf of DOHaD Canada Leadership and the program committee, it is with great pleasure that we welcome you to the 2nd Annual Canadian DOHaD Society meeting (DOHaD Canada 2018) in the beautiful Canadian Rockies. This year's theme is about translating DOHaD research into action. The meeting showcases the work of international and Canadian DOHaD researchers, trainees, and new investigators who have championed DOHaD knowledge dissemination and translation of their research.

An event such as DOHaD Canada 2018 would not be possible without the commitment of the individuals who volunteered their time and expertise. Special acknowledgements to the trainee members of the DOHaD Canada 2018 Organizing Committee, Drs. Laura Reyes and Luseadra McKerracher and Ms. Stephana Chera, for their contributions to the organization of the event. We appreciate the unconditional support of DOHaD Canada leadership, Drs. Deborah Sloboda, Stephen Matthews, (co-Presidents) and Tim Regnault (Treasurer) and the guidance provided by the scientific committee (Drs. Sarah Kimmins, Stephanie Atkinson, Stephane Bourque, Ian Weaver, and Vern Dolinsky). Special thanks also to Victoria De Luca, administrative assistant of DOHaD Canada. Thank you Victoria for your wisdom, your patience and your untiring efforts to make this scientific meeting possible.

Most of all, we are grateful to the DOHaD Canada community for their interest and for choosing DOHaD Canada 2018 as the channel to present their high-quality research.

We hope you find the program interesting and stimulating, and your stay in Banff a pleasant one.



Maria B. Ospina, PhD
University of Alberta



Gerry Giesbrecht, PhD
University of Calgary

Program at glance



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7:15-08:00	Registration and Breakfast	Glacier Salon
08:00-08:15	Introductory remarks Chairs: Drs. Maria Ospina and Gerald Giesbrecht Dr. Shoo Lee. Scientific Director; CIHR Institute of Human Development, Child and Youth Health	Summit /Assiniboine Room
08:15-9:15	Keynote Speaker Chair: Dr. Stephen Matthews Dr. Tracey Galloway (University of Toronto): <i>A framework for intervention research that shifts trajectories of health for Indigenous people</i>	Summit /Assiniboine Room
9:15-9:45	Trainee Talks Chair: Dr. Laura Reyes-Martinez - Gabriel Brawerman (University of Manitoba): <i>Resveratrol supplementation improves maternal glucose tolerance and prevents gestational diabetes-induced cardiometabolic disease development in the rat offspring.</i> - Esha Ganguly (University of Alberta): <i>Treating the placenta with a nanoparticle-linked antioxidant to improve pregnancy outcomes in a rat model of fetal hypoxia.</i>	Summit /Assiniboine Room
9:45-10:00	Coffee Break	Alpine Meadows Room
10:00-10:30	Trainee Talks Chair: Dr. Luseadra Mckerracher - Jenna Thomas (University of Calgary): <i>Social buffering of the intergenerational transmission of maternal adverse childhood experiences to infant cortisol reactivity.</i> - Bibek Saha (University of Western Ontario): <i>Maternal nutrient restriction causes neuroinflammation and upregulates amyloid related proteins in guinea pig offspring born growth restricted.</i>	Summit /Assiniboine Room
10:30-11:30	Translational Research Panel: <i>How can DOHaD research inform policy and practice?</i> Moderator: Dr. Deb McNeill (Maternal, Newborn, Child and Youth Strategic Clinical Network) Panel Members: - Dr. Karen Benzies , University of Calgary - Dr. Allison Bichel , Alberta Health Services - Dr. Jocelynn Cook , Society of Obstetricians and Gynaecologists of Canada - Dr. Sandra Davidge , University of Alberta - Dr. Tracey Galloway , University of Toronto	Summit /Assiniboine Room
11:30-13:00	Lunch and Poster Session	Glacier Salon/ Castle Room

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13:00-14:00	<p>Keynote Speaker Chair: Dr. Deborah Sloboda Dr. Pathik D. Wadhwa (University of California, Irvine): <i>Intergenerational transmission during gestation of the effects of maternal childhood trauma exposure</i></p>	Summit /Assiniboine Room
14:00-15:00	<p>DOHaD Canada Research Highlights: Updates from the CIHR DOHaD Team Grants Chairs: Dr. Stephanie Atkinson and Ms. Stephana Cherak</p> <ul style="list-style-type: none"> - Drs. Ashley Wazana & Eszter Szekely: <i>How the early environment interacts with prenatal adversity and genetic susceptibility to moderate the risk for anxious and depressive disorders from infancy to early adolescence - the moderating effect of maternal care and the mediating effect of temperament</i> - Dr. Sarah Kimmins: <i>Generational and sex-specific effects of paternal environmental exposures on offspring development health</i> - Dr. Meaghan Jones: <i>Prenatal Programming of Children's Mental Health: Epigenetic Mechanisms and Resilience Promotion</i> - Dr. Deborah Sloboda: <i>HUGS for HEALTH: Healthy Bugs for Healthy Babies DOHaD</i> 	Summit /Assiniboine Room
15:00-15:15	Coffee Break	Alpine Meadows Room
15:15-16:15	<p>DOHaD Canada Annual General Meeting: Shaping our new Society Chairs: Drs. Deborah Sloboda, Stephen Matthews and Tim Regnault</p>	Summit /Assiniboine Room
16:15-16:30	<p>Closing remarks and trainee awards Chairs: Drs. Gerald Giesbrecht and Maria Ospina - Drs. Deborah Sloboda and Stephen Matthews (DOHaD Canada co-Presidents)</p>	Summit /Assiniboine Room

Keynote speakers



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Tracey Galloway, Ph.D.

A framework for intervention research that shifts trajectories of health for Indigenous people



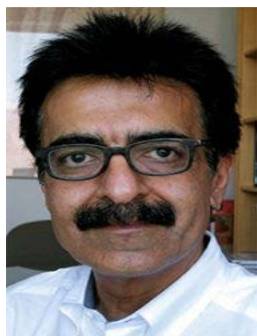
Department of Anthropology. University of Toronto.

Dr. Tracey Galloway is a community health scholar whose research addresses the health priorities of circumpolar Indigenous people. Her research program involves reduction of the impact of chronic disease through applied health policy research to reduce health inequities and promote health system improvement. Current CIHR-funded projects include evaluation of the impact of food subsidy programs on food security, understanding the impact of competitive health program funding models on Yukon First Nations, and qualitative assessment of Inuit people's journeys through cancer diagnosis and treatment.

Her research examines patterns of child growth and nutrition, prevalence of overweight and obesity, and incidence and prevalence of chronic diseases such as diabetes, hypertension, cardiovascular disease, chronic lung disease and cancer in Indigenous populations. Dr. Galloway's methodological work addresses the use of international reference standards for growth and obesity assessment in Indigenous populations. Dr. Galloway has a proven track record of respectful engagement and successful collaboration with northern communities and organizations. Through research and advocacy, Dr. Galloway maintains close working relationships with health experts and policy-makers in Canada's Indigenous regions.

Pathik D. Wadhwa, M.D., Ph.D

Intergenerational transmission during gestation of the effects of maternal childhood trauma exposure



Director, University of California Irvine Development, Health and Disease Research Program.

Dr. Pathik D. Wadhwa is a Professor of Psychiatry & Human Behavior, Obstetrics & Gynecology, Pediatrics, and Epidemiology at the University of California, Irvine, School of Medicine, and the founding director of the UC Irvine Development, Health and Disease Research Program. Dr. Wadhwa received his medical degree from the University of Poona, India, in 1985, and his doctorate in social ecology (behavioral medicine concentration) from the University of California, Irvine, in 1993. His research examines the interface between biological, social and behavioral processes in human pregnancy, with an emphasis on outcomes related to fetal development, birth, and subsequent newborn, infant and child development and health.

In particular, this work focuses on the interplay between maternal-placental-fetal neuroendocrine, immune, metabolic and genetic/epigenetic processes as putative mechanisms that mediate the effects of the maternal environment (and particularly prenatal stress and stress-related processes) on early human development. Dr. Wadhwa has published over 100 peer-reviewed scientific papers and lectured extensively at scientific meetings and universities across North America, Europe and Australia. His program has been continuously supported by several research grants from the U.S. National Institutes of Health and other agencies. Dr. Wadhwa is the recipient of several national honors and awards, including recognition for his early- and mid-career contributions from the Academy of Behavioral Medicine, the Perinatal Research Society, the National Institutes of Health, and the World Health Organization.

Poster presentations



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#	Presenter	Affiliation	Title
D1	Alexandra Beaudry-Richard	University of Montreal	Antenatal inflammation induced by interleukin-1 causes retinal and sub-retinal vasculopathy in progeny
D2	Laetitia Guillemette	University of Manitoba	Exposure to gestational and pre-gestational diabetes increases cardiovascular risk in youths and young adults
D3	Laetitia Guillemette	University of Manitoba	Positive social determinants of health could prevent cardiovascular risk after exposure to maternal diabetes in youth and young adults
D4	Tara Perrot (Elizabeth O'Leary)	Dalhousie University	Effect of paternal high-fat diet exposure and maternal semi-naturalistic housing on rat offspring anxiety-like behaviour.
D5	Stephana Cherak	University of Calgary	Association between maternal salivary cortisol and birth weight: A Systematic Review and Meta-Analysis
D6	Prasoon Agarwal	University of Manitoba	Methylation of genes in adolescents with type 2 diabetes that is associated with exposure to maternal diabetes during pregnancy
D7	Brittany Moyce	University of Manitoba	Altered hepatic fatty acid and mitochondrial metabolism contributes to development of gestational diabetes mellitus in pregnant adiponectin-deficient mice
D8	Barbara Verstraeten	University of Alberta	Effects of maternal stress on offspring development and adult behaviour in a rat two-hit stress model are gender-specific.
D9	Barbara Verstraeten	University of Alberta	Match or mismatch? Differential effect of prenatal psychological stress and interleukin (IL)-1 _β on maternal and offspring neuroendocrine gene expression in uterus.
D10	Anne-Sophie Plante	Laval University	Trimester-specific Intuitive Eating Scores assessed by the Intuitive Eating Scale-2 in Association with Gestational Weight Gain in Pregnant Women - Preliminary Results
D11	Andrew Woodman	University of Alberta	Prenatal iron-deficiency causes sex-dependent mitochondrial dysfunction and oxidative stress in the fetal kidneys and liver
D12	Gerald Giesbrecht	University of Calgary	Association between maternal vitamin D status during pregnancy and antenatal and postpartum depression: A systematic review
D13	Stephanie Kereliuk	University of Manitoba	Gestational diabetes alters mitochondrial bioenergetics in early-life and impairs cardiac function in the rat offspring
D14	Mariam Vahdaninia	University of Portsmouth	Fatty acid supplementation during pregnancy and allergic outcomes in offspring: a systematic review and meta-analysis

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D15	Mariam Vahdaninia	University of Portsmouth	The effectiveness of maternal fatty acid interventions during pregnancy on obesity in offspring: a systematic review and meta-analysis
D16	Matthew Martens	University of Manitoba	Defending the neonatal heart: Misoprostol prevents Bnip3-induced cardiometabolic dysfunction during hypoxia
D17	Pablo Nepomnaschy	Simon Fraser University	Fetal protection from maternal cortisol: Early 11-beta hydroxysteroid dehydrogenase type 2 (11 ₋ HSD2) expression in the human placenta
D18	Kozeta Miliku	University of Manitoba	Human milk fatty acids: associations with maternal characteristics and infant body composition
D19	Janet Poplawski	University of Lethbridge	A new mouse model of migration stress reveals stress-related metabolic and behavioural signatures
D20	Jessica Baraskewich	University of Calgary	Disordered eating in pregnancy: Child & maternal outcomes one-year post-partum
D21	Maria Ospina	University of Alberta	Overview of systematic reviews and panoramic meta-analyses of the relationship between preterm birth and risk of asthma in childhood and adulthood
D22	Shelby Oke	Western University	Postnatal catch-up growth in low protein IUGR offspring leads to increased expression of hepatic microRNA-140: mechanism of premature senescence?
D23	Flavien Delhaes	Western University	Regulation of cytoskeletal dynamics in trophoblastic cell by low oxygen conditions.
D26	Taylor Morriseau	University of Manitoba	Gestational diabetes mellitus (GDM) exposure and postnatal diet influence pancreatic islet function of the rat offspring
D28	Taylor Morriseau	University of Manitoba	Investigating the role of the HNF-1 _{G319S} polymorphism in early-onset type 2 diabetes (T2D) in Manitoban Indigenous youth
D29	Nikoo Niknafs (Ruth Grunau)	University of British Columbia	Neonatal factors and cortisol levels in relation to sensory sensitivity at age 4.5 years in children born preterm
D30	Abdul Wajid	University of Calgary	Psychosocial factors associated with trajectories of maternal psychological distress over ten years from the postnatal period: An Australian population-based Study
D34	Elena Ali	University of Calgary	Prenatal anxiety and children's behavioral problems: the moderating roles of maternal-child attachment and child's sex

