Dr. Fred Bryans Faculty Forum 2020

Obstetrics and Gynaecology in the Digital Age: Machine Learning and Artificial Intelligence and the Future of Women’s Health Care

Thursday, January 30, 2020
9:00 am to 5:30 pm

Sheraton Vancouver Wall Centre Hotel
1088 Burrard Street
Port McNeill room (4th Floor, North Tower)
Vancouver, BC

FACULTY OF MEDICINE
Department of Obstetrics and Gynaecology

Accredited by UBC CPD

Accreditation statement
The University of British Columbia Division of Continuing Professional Development (UBC CPD) is fully accredited by the Committee on Accreditation of Continuing Medical Education (CACME) to provide study credits for continuing medical education for physicians. This event is an Accredited Group Learning Activity (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada, and has been approved by UBC CPD for up to 6.75 MOC Section 1 Group Learning credits. Each physician should claim only those credits accrued through participation in the activity.
Dr. Fred Bryans Faculty Forum Program

9:00 to 9:30  Registration and Coffee/Tea

9:30 to 9:40  Workshop Welcome – Geoffrey Cundiff, Department Head

9:40 to 10:40  Workshop: Representing Patients’ Voices in Our Research
Stirling Bryan, President, BC Academic Health Science Network; Professor, UBC’s School of Population & Public Health; Senior Scientist, Vancouver Coastal Health’s Centre for Clinical Epidemiology; Scientific Director, BC SUPPORT Unit

10:40 to 11:40  Workshop: Engaging with Policy Makers – Influencing Policy through Research
Sarah B Munro, Assistant Professor, Division of General Gynaecology & Obstetrics, Division of Gynaecologic Specialties, Department of Obstetrics & Gynaecology, UBC
Ann Pederson, Director, Population Health Promotion, BC Women's Hospital +Health Centre, Provincial Health Services Authority; Interim Executive Director, Perinatal Services BC; Adjunct Professor, School of Population and Public Health, UBC

11:40 to 12:00  Meet our BC Health Research Institutes: Brief overview of services and opportunities
Moderator: Mannie Fan, Research Program Manager (VGH)
- BC Children’s Hospital Research Institute
- Centre for Health Evaluation & Outcome Sciences
- Vancouver Coastal Health Research Institute
- Women’s Health Research Institute

12:00 to 13:00  Registration and Networking Lunch

13:00 to 13:10  Forum Welcome – Geoffrey Cundiff, Department Head

13:10 to 14:10  Keynote Address
Moderator: Janice Kwon, Associate Head Research
Enabling the Digital Revolution in Health Care: Rethinking How We Think about Data
Matthew Trunnell, Vice President and Chief Data Officer, Director, Hutch Data Commonwealth, McIlwain Family Endowed Chair, Fred Hutchinson Cancer Research Center

14:10 to 15:30  Faculty research presentations
Moderator: Nikki Koenig, Research Program Manager (St Paul’s)
- “The Emerging Role of Precision Medicine in Recurrent Pregnancy Loss” Mohamed Bedaiwy
- "Long-term safety of antenatal corticosteroid administration for child neurodevelopment" Jennifer Hutcheon
- “You want to do what? The Importance of Stakeholder Buy In” Nicole Todd
• "Revisiting Ovarian Cancer Histopathology by AI" Ali Bashashati

15:30 to 15:50 Coffee and Networking Break

15:50 to 17:10 Faculty research presentations
Moderator: Ariadna Fernandez, Research Program Manager (BCW)
• “Midurethral sling tensioning (MUST) trial: a comparison of suburethral scissors versus looped babcock technique” Sara Houlihan
• "The Canadian abortion provider survey (CAPS)" Regina Renner
• "Ethics of data sharing in the age of artificial intelligence” Aline Talhouk
• "Automated image analysis and AI to improve IVF outcomes" Jon Havelock and Parvaneh Saeedi

17:10 to 17:20 Evaluation Completion

17:20 to 17:30 General Discussion & Closing Remarks

Department Annual Celebration will follow in the Constellation Room
34th Floor of the South Tower, Sheraton Vancouver Wall Centre Hotel.

Faculty Forum Objectives
• highlight the opportunities and innovation that AI and Machine Learning can bring to our specialty;
• showcase the spectrum of research of our faculty;
• share lessons learned from engaging with community members and policy makers; and
• cultivate new collaborations across specialties.

Workshop Objectives: “Representing Patients’ Voices in Our Research”
By the end of this workshop, participants will be able to:
• describe what patient oriented research is; and
• explain what resources are available through the BC Support Unit.

Workshop Objectives: “Engaging with Policy Makers – Influencing Policy through Research”
By the end of this workshop, participants will be able to:
• describe common barriers to implementation of best evidence in practice and policy;
• identify case examples of effective practice change in perinatal care from the BC context; and
• select behaviour change strategies that help accelerate the impact of research evidence.
Keynote Lecturer

Matthew Trunnell, Vice President and Chief Data Officer, Director, Hutch Data Commonwealth, Mcilwain Family Endowed Chair, Fred Hutchinson Cancer Research Center

As Fred Hutch’s first chief data officer, Matthew Trunnell works to enhance the impact of the organization’s research-data assets through engineering, stewardship, and data-centered collaborations. He joined the Hutch leadership in 2015 as vice president and chief information officer, overseeing enterprise and scientific computing services. He became chief data officer in January 2019.

Trunnell leads the Hutch Data Commonwealth, a team of software and data engineers who develop data-intensive research capabilities and infrastructure to support data science at the Hutch, the Cascadia Data Alliance and other regional partnerships. The HDC also focuses on training, community development, and strategic partnering.

He has spent his career at the intersection of information technology and scientific research, helping researchers work with large-scale computation and big data — from oceanography to human genomics — and now, precision medicine.

Prior to joining the Hutch, Trunnell served as CIO at the Broad Institute of MIT and Harvard, where he built computational infrastructure supporting massive amounts of human genome data.

He is the inaugural holder of the McIlwain Family Endowed Chair, which is funded by the Hutch board of trustees Chair Matthew McIlwain, his wife, Carol, and their family.

Trunnell earned a bachelor of arts degree in geological and geophysical sciences from Princeton University and a master of science degree in physical oceanography from the University of Washington.
Workshop Presenters

**Stirling Bryan**, PhD. President, BC Academic Health Science Network; Professor, UBC’s School of Population & Public Health; Senior Scientist, Vancouver Coastal Health’s Centre for Clinical Epidemiology; Scientific Director, BC SUPPORT Unit

Stirling Bryan is an economist with a career-long specialization in health care. His current positions include President, BC Academic Health Science Network; Professor, UBC’s School of Population & Public Health; and Senior Scientist, Vancouver Coastal Health’s Centre for Clinical Epidemiology. He is also the Scientific Director for the BC SUPPORT Unit, an operational unit of the BC Academic Health Science Network (BC AHSN), focused on promoting patient-oriented research. Stirling was faculty at the University of Birmingham (UK) from 1998 to 2008, and is a former director of the Birmingham Health Economics Unit. In 2005 he was awarded a Commonwealth Fund Harkness Fellowship and spent a year at Stanford University.

**Sarah B Munro**, PhD. Scientist, Centre for Health Evaluation and Outcome Sciences (CHÉOS), Michael Smith Foundation for Health Research / CHÉOS Scholar; Assistant Professor, Division of General Gynaecology & Obstetrics, Division of Gynaecologic Specialties, Department of Obstetrics & Gynaecology, UBC

Sarah Munro is a qualitative health services researcher who conducts knowledge translation and implementation science in women’s health. Dr. Munro completed her graduate studies at the University of British Columbia and a postdoctoral fellowship at the Dartmouth Institute for Health Policy and Clinical Practice. She began as an Assistant Professor with the Department of Obstetrics and Gynaecology in 2019. For the past 5 years she has collaborated with BC health authorities to accelerate implementation of shared decision-making in women’s reproductive and sexual health care, with a focus on decisions for mode of birth after a previous caesarean section.

**Ann Pederson**, PhD. Director, Population Health Promotion, BC Women’s Hospital +Health Centre, Provincial Health Services Authority; Interim Executive Director, Perinatal Services BC; Adjunct Professor, School of Population and Public Health, UBC

Ann Pederson supports health promotion and population health initiatives at BC Women’s Hospital & Health Centre. She completed her doctoral studies at UBC in the Department of Experimental Medicine and holds a Master of Science in Community of Health from the University of Toronto. Ann is currently providing interim leadership at Perinatal Services BC. Her current research projects include a study of how cardiovascular researchers engage with sex and gender in their work; an implementation science study on strengthening Kangaroo Care in BC; and a qualitative study on patient and provider perceptions of sexual assault and sexual assault services. Ann is a co-investigator on an international study on female genital cutting/mutilation and health care.
Mohamed Bedaiwy, MD, PhD, FACOG, FRSC. Professor, Division of Reproductive Endocrinology and Infertility, Department of Obstetrics & Gynaecology, UBC

Mohamed Ali Bedaiwy is Professor and Head in the Division of Reproductive Endocrinology and Infertility in the Department of Obstetrics and Gynaecology at UBC. He is also a Professor, Department of Obstetrics and Gynecology, Faculty of Medicine, Assiut University.

Dr. Bedaiwy’s research is focused on advancing basic and clinical knowledge about endometriosis, infertility, assisted reproduction and early pregnancy complications. He also has interest in minimally invasive surgery and fertility preservation. Dr Bedaiwy has served as Chairperson of Postgraduate courses at ASRM, WCE and the AAGL that deal with different aspects of reproductive surgery, endometriosis, and infertility enhancing procedures. He has served on review committees for the NICHD and is an oral examiner for the Royal College of Physicians and Surgeons of Canada. Dr. Bedaiwy has been the recipient of many international awards for surgical and research excellence at different societies from Egypt, Jordan, Australia, Canada and USA.

Jennifer Hutcheon, PhD. Associate Professor, Division of Maternal Fetal Medicine, Department of Obstetrics & Gynaecology, UBC

Jennifer Hutcheon is a Canada Research Chair in Perinatal Population Health and Associate Professor in the Department of Obstetrics & Gynaecology at the University of British Columbia. Her research uses population databases and registries to improve our understanding of maternal and infant health. Current interests include the assessment of fetal growth, evaluating obstetric interventions and policies, and perinatal research methods. She received her PhD in Epidemiology & Biostatistics from McGill University in 2009.

Nicole Todd, MD, FRCS. Clinical Assistant Professor, Division of Gynaecologic Specialties, Department of Obstetrics & Gynaecology, UBC

Nicole Todd completed residency in Obstetrics and Gynaecology at the University of British Columbia. Following residency, she completed a fellowship in Paediatric and Adolescent Gynaecology at the University of Ottawa. Additionally, she received a Health Care Education Scholars Program Diploma from the Academy for Innovation in Medical Education at the University of Ottawa.

Dr. Todd provides Complex Reproductive Care through various multi-disciplinary clinics including Hematology-Gynecology, BMT-Gynecology, Rapid Access IUD Clinic, Complex Contraception, and Transition Access Clinic for young women with complex medical conditions and/or barriers to accessing gynecological care. Her research includes Contributors to Genital Self Image and Cosmetic Vulvar Surgery, Ethics of Cosmetic Vulvar Surgery, LGBTQ+ Post-graduate Curriculum, Atypical ectopic pregnancy (interstitial, cesarean scar, cervical), and Complex Contraception.
**Ali Bashashati**, BSc, MSC, PhD. Director of AI and Bioinformatics Research, Ovarian Cancer Research Program (OV CARE), BC Cancer/UBC; Adjunct Professor, Department of Electrical & Computer Engineering, UBC

Ali Bashashati is currently the Director of Artificial Intelligence (AI) Research in BC’s Ovarian Cancer Research Program (OV CARE) as well as an Assistant Professor in the Department of Pathology & Laboratory Medicine and the School of Biomedical Engineering (SBME) of the University of British Columbia.

Dr. Bashashati’s research lies at the interface between computational, engineering and biomedical sciences. He is interested in developing machine learning and signal processing algorithms and software to combine various sources of omics and imaging data (mainly digital pathology) with major emphasis on biomarker discovery in cancer.

**Sara Houlihan**, MD, FRCSC, FACOG. Clinical Assistant Professor, Division of General Gynaecology & Obstetrics, Division of Gynaecologic Specialities, Department of Obstetrics & Gynaecology, UBC.

Sara Houlihan is a Clinical Assistant Professor in the Department of Obstetrics and Gynaecology at the University of British Columbia. She graduated from the University of Alberta medical school, did her specialty training in Obstetrics and Gynecology at UBC and then completed a fellowship in Female Pelvic Medicine and Reconstructive Surgery (FPMRS) in Calgary, Alberta. Her clinical practice is focused on the prevention, diagnosis and treatment of pelvic floor disorders. Dr. Houlihan is actively engaged in research with specific interests in surgical trials of novel techniques for the treatment of pelvic organ prolapse and quality improvement through surgical complication monitoring.

**Regina Renner**, MD, MPH, FRCSC, FACOG. Clinical Associate Professor, Division of General Gynaecology & Obstetrics, Division of Gynaecologic Specialities, Department of Obstetrics & Gynaecology, UBC.

Regina-Maria Renner is a Clinical Associate Professor at the Department of Obstetrics and Gynaecology of UBC which she first joined in December 2012. Since May 2015 she has been the Fellowship Co-Director of the Family Planning Fellowship at UBC. In March 2013 she also joined the Department of Obstetrics and Gynaecology at Nanaimo Regional General Hospital.

She completed her Family Planning Fellowship at Oregon Health & Science University, OR USA (OHSU, 2011), where she also did her residency. She completed a Master of Public Health at the Mailman School of Public Health, Columbia University, New York, USA (2005).

In 2018 she completed a certificate in quality improvement. Her recent research has focused on in implementation of mifepristone for medical abortion in Canada and she currently is the principal investigator on a CIHR grant to survey Canadian abortion providers. Her prior research in pain management of first trimester surgical abortion has led to a Cochrane review and several randomized controlled trials on this topic. Additional research of Dr. Renner has focused on midlevel providers in abortion care, youth and abortion care, pregnancies with an IUD in situ, and IUD efficacy.
**Aline Talhouk**, PhD. Assistant Professor, Division of Gynaecologic Oncology, Department of Obstetrics & Gynaecology, UBC; Director, Data Science and Informatics, OVCARE

Aline Talhouk is an Assistant Professor in the Department of Obstetrics & Gynaecology and the Director of Data Science and Informatics at OVCARE, BC’s ovarian and gynaecological cancer research program. She completed her PhD in Statistics at the University of British Columbia in 2013 with a focus on computational statistics and machine learning. Since then, she has been working on developing and implementing predictive models to improve patient care in women’s health and oncology. Her research focus also includes the ethics of data sharing and privacy considerations in the era of digital health and AI modeling.

**Jon Havelock**, MD, FRCSC, FACOG. Co-Director, Pacific Centre for Reproductive Medicine; Clinical Assistant Professor, Division of Reproductive Endocrinology and Infertility, , Department of Obstetrics & Gynaecology, UBC

Dr. Havelock completed his residency in Obstetrics and Gynecology at the University of Alberta. He subsequently went on to complete a three-year, American Board Certified fellowship in Reproductive Endocrinology and Infertility at the University of Texas Southwestern Medical Center in Dallas, Texas. He is Royal College Certified in Obstetrics and Gynecology, and Board Certified in Obstetrics and Gynecology and Reproductive Endocrinology and Infertility in the USA.

He is Clinical Assistant Professor at the University of British Columbia (UBC) and former Subspecialty Residency Program Director of the Gynecologic Reproductive Endocrinology and Infertility program at UBC. Dr. Havelock is currently co-director at the Pacific Centre for Reproductive Medicine.

**Parvaneh Saeedi**, BASc, MSc, PhD, Associate Professor, School of Engineering Science, Simon Fraser University

Parvaneh Saeedi (M’04) received the BASc degree in electrical engineering from the Iran University of Science and Technology, Tehran, Iran, and the MSc and PhD degrees in electrical and computer engineering from the University of British Columbia, Vancouver, BC, Canada, in 1998 and 2004, respectively. From 2004 to 2006, she was a Research Associate with MacDonald Detwiller and Associates Ltd. In 2007, she joined the School of Engineering Science at Simon Fraser University, Burnaby, BC, Canada, where she is currently an Associate Professor. Her research interests include machine learning, image processing, pattern recognition, machine vision, and artificial intelligence.
Moderators

Geoffrey W. Cundiff, MD, FACOG, FACS, FRCPC. Head & Dr. Victor Gomel Professor of Obstetrics & Gynaecology, UBC

Geoffrey Cundiff is Professor and Head of the Department of Obstetrics and Gynaecology at the University of British Columbia. His clinical practice, based at the Centre for Pelvic Floor, is dedicated to the diagnosis and treatment of pelvic floor disorders. Dr. Cundiff is also a research scientist at the Centre for Health Evaluation and Outcomes Sciences as well as the Women’s Health Research Institute, and has active trials in reconstructive surgery and obstetrics. His research interests are broad-based including epidemiology of pelvic floor disorders, surgical education, and prevention of maternal obstetrical trauma, and patient centered outcomes, although he is best known for outcomes research for pelvic floor disorders. He has published 6 books, and more than 140 peer reviewed publications including, surgical and non-surgical treatments, and has led several multi-centered randomized trials. He has been a pioneer in advocating patient-based outcomes measures and has worked to develop and validate such measures.

Janice Kwon, MD, MPH, FRCSC. Associate Head Research, UBC Department of Obstetrics & Gynaecology; Program Director, Gynaecologic Oncology Fellowship Program; Associate Professor, Division of Gynaecologic Oncology, UBC

Janice Kwon was appointed as Associate Head of Research in 2019. She is an Associate Professor and Director of the Gynecologic Oncology subspecialty (fellowship) training program at UBC. Dr. Kwon serves on the Board of Directors for the Society of Gynecologic Oncology of Canada and the Committee on Economic Analysis for the Canadian Cancer Trials Group. She completed medical school and residency training at Queen’s University, and Gynaecologic Oncology subspecialty training at the University of Toronto. She obtained a Masters in Public Health at Harvard University, and held appointments at Western University and the University of Texas M.D. Anderson Cancer Center in Houston prior to coming to UBC in 2008. Her research interests include population-based research in gynecologic malignancies, and cost-effectiveness modeling of testing criteria and prevention strategies for hereditary cancer syndromes. She holds a Health Professional Investigator Award from the Michael Smith Foundation for Health Research.
Mannie Fan, PhD, CCRP. Research Program Manager - VGH, Department of Obstetrics & Gynaecology, UBC

Mannie joined the Department of Obstetrics and Gynaecology in 2019 as the Research Manager for the Vancouver General Hospital Site. She has medical research training and experience spanning the lab bench to the bedside. She has been actively involved in clinical research since 2011 and has recently received her CCRP certification from SoCRA. She is committed to bettering people’s lives through scientific research and discoveries. In addition to fostering research at the VGH site, she is also a member of the Fred Bryans Faculty Research Forum planning committee, the Resident Research Advisory Committee, and the Department Research Advisory Committee.

Ariadna Fernandez, BA, MA, CCRP. Research Program Manager, BC Women’s Hospital and Health Centre, Department of Obstetrics and Gynaecology, UBC

Ariadna has worked with the Department of Obstetrics and Gynaecology at the University of British Columbia as the Research Program Manager since 2008. In this role, she has been responsible for promoting research and fostering academic scholarship within the Department. She works with residents, clinicians, researchers and graduate level trainees to support their research and research training. She is responsible for implementing the Departmental Strategic Plan for research as a member/Co-Chair of two Departmental Advisory Groups. She also Chairs the annual Dr. Fred Bryans Faculty Research Forum, a program designed to promote research by faculty in the Department.

Nikki Koenig, BA, CCRP. Research Program Manager, St Paul’s Hospital, Department of Obstetrics and Gynaecology, UBC

Nikki joined the Department of Obstetrics and Gynaecology at the University of British Columbia, St. Paul’s Hospital in 2012. In this role she was responsible for a multitude of projects which included a multicentre randomized controlled trial. As of July 2016 she took on the role of Research Manager at St. Paul’s Hospital. She works with medical students, undergraduate students, residents, clinicians and clinician – researchers to support their research and research training. She is also a member of the Fred Bryans Faculty Research Forum planning committee as well as on the Resident Research Advisory Committee, and the Department Research Advisory Committee.