

CHES  **SCISS**

Canadian Healthcare
Engineering Society
BRITISH COLUMBIA CHAPTER



Société canadienne d'ingénierie
des services de santé
CHAPITRE DE COLOMBIE-BRITANNIQUE

**BC Chapter Conference
Virtual Education Forum
May 31-June 4, 2021**

**The Physical Environment:
Creating Patient Focused Facilities**



KEYNOTE ADDRESS

Monday, May 31, 2021

8:00 – 9:00 AM

Dr. Marietta Van Den Berg



Surviving or Thriving, Our Pandemic Journey

Mindfulness Meditation: just to slow down, breathe and be present.

Exploring our Journey: because humans need stories to make sense of events.

Coping Mechanisms: calming your nervous system, reframing your thinking.

Building Resilience: finding your strengths and building on them.

Pillars of Wellness: the 4 pillars that support your wellness.

Gifts for Your Brain: during and after this pandemic.

Dr. Marietta Van Den Berg is a psychiatrist in Fraser Health Authority. She also works as the physician quality lead of the Surrey hospitals in British Columbia.

She is a mother of four, grandmother of three and loves living in beautiful BC. She is originally from Zimbabwe, then South Africa and Canada is her last stop. Her passion is stories, the ones people tell, struggle to tell, write down and live. She believes the real healing is having our stories heard or witnessed.

Dr. Van Den Berg is grateful for this opportunity and hopes to provide some comfort, some learnings and some opportunity for reflection.

CHES BC Chapter 2021 Virtual Education Forum
May 31, 2021 – June 4, 2021

VIRTUAL EDUCATION FORUM - WEEK AT A GLANCE

Monday, May 31, 08:00 – 09:00 Keynote Speaker: Dr. Marietta Van Den Berg
“Surviving or Thriving, Our Pandemic Journey”

Monday, May 31, 09:00 – 10:15 | Hosted by Williams Engineering Canada, HH Angus and Associates and KRA Kirsten Reite Architect Inc.

“How Consultants Feel the Capital Project Implementation Process Can Better Respond to Emergent Events”

Presenters: Kevin Cheong, Edward Hood and Kirsten Reite

Tuesday, June 1, 09:00 – 10:15 | Hosted by Kasian Architecture

“Designing for the ‘New Normal’ in Healthcare”

Presenters: Wojciech Brus, John Kapov and Golnaz Rakhshan

Wednesday, June 2, 09:00 – 10:15 | Hosted by Stantec

“Humanization of Long-Term Care”

Presenters: Tariq Amlani, Eleonore Leclerc and Ray Pradinuk

Thursday, June 3, 09:00 – 10:15 | Hosted by Ellis Don

“The Challenges and Innovations of Healthcare Construction in a Pandemic”

Presenters: Jordan Highton and Levi Strzelec

Friday, June 4, 09:00 – 10:15 | Hosted by Fraser Health Authority

“Organizational Response to the Novel Coronavirus (COVID-19) – Impact on Facilities Design”

Presenters: Martine Janicki and Jeneen Rankin-Bayer

**09:00 – 10:15 Presenters: Kevin Cheong, Edward Hood and Kirsten Reite
Moderator: Mark Swain**

Panel Discussion – How consultants feel the capital project implementation process can better respond to emergent events.



Kevin Cheong, Senior Electrical Engineering Consultant, Williams Engineering Canada

Kevin has over thirty years’ experience as a leading engineering on hundreds of building projects into the many billions of dollars. These include being the Owner’s Engineer for King Edward Memorial Hospital in Bermuda (Electrical and Health Care Ventilation; first P-3 in the country), and Lynden Pindling International Airport and Electrical/Communications/Technology for BC Children’s (Compliance), Royal Columbian (Business Case), and St. Paul’s (Business Case) hospital redevelopments, simultaneously. After that, he took a break to help BC Hydro/Powertech with Hydro’s public electric vehicle DC fast charging network expansion and improvement.

Kevin is or has been a member of several code and standard committees including the Canadian Electrical Code, the Elevator Code, the Vancouver Building By-Law, the CSA Mechanical Industrial Equipment Safety – Strategic Steering Committee, CSA Z32, CSA EVEMS, CSA/UL V2G, etc. He has also presented at several regional, national, and international conferences/events on various topics including multi-disciplinary code and standard topics such as green buildings/sustainability, including several for CHES-BC.

As part of the engineering community response to CoViD-19, Kevin participated in a volunteer multi-company group of mechanical consulting engineers throughout the province in providing common messaging to health authorities, hospitals, and their support staff regarding subjects such as Anteroom, AIR, AIR-OR and AGMP ventilation.



Edward Hood, Technical Leader, Senior Mechanical Engineer, HH Angus and Associates

Edward is a Technical Leader and Senior Mechanical Engineer in the Health Division at HH Angus and Associates, responsible for the design of plumbing and medical gas systems and preparation of tender documents.

Edward’s work is focused primarily on hospital and long-term care facilities with additional experience in data centre design. He is involved in projects from conception to completion including design development and specification documentation, including numerous P3 project pursuits. He joined HH Angus in 2010, bringing previous experience designing plumbing, medical gas and fire protection systems.

Edward is a member of CHES and several CSA standard committees including Chair of CSA Technical Subcommittee Z305.13 Plume Scavenging in Surgical, Diagnostic, Therapeutic and Anaesthetic settings, CSA Subcommittee Member on Medical Gas Systems, Z7396.1, Medical Gas Pipeline Systems - Part I, CSA B125 Series Technical Committee Member, CSA B64 Series Technical Committee Member, CSA B45 Plumbing Fixtures Technical Committee.



Kirsten Reite, Principal, Architect AIBC, MRAIC, AAA, SAA, MAA, LEED AP BD+C

During her 25 years of work in the field of Architecture in BC, Alberta, Saskatchewan and Manitoba, Kirsten’s wide variety of experience spans all facets of design with more than 100 projects valuing from \$5,000 to \$400M of new, renovated and programmed space.

Kirsten has successfully delivered these projects using a variety of methods with specialized expertise in Design Build and Public Private Partnerships. One of Kirsten’s key strengths is user group facilitation — she prides herself in her skill of bringing the often-competing interests of clients, users, consultants, contractors and culturally diverse communities together to facilitate a participatory atmosphere and creating an enjoyable and enriching experience for all who are involved.

The COVID-19 pandemic has challenged the current state of health care facilities around the world to provide safe and effective care. These new emerging challenges have called upon architects, planners and healthcare professionals to rethink the current design trends of hospitals and to develop new innovative strategies which not only aim to create a pandemic resilient hospital, but also improve the quality of healthcare environments. Throughout this session, we will introduce suggested best practice design strategies to be implemented within a new healthcare facility during the design phase; in addition to current projects underway, which implement creative COVID-19 response measures during the construction stage, as well as post occupancy.



Wojciech Brus, Architect A/BC, NWTAA, FRA/C, EDAC, MArch Executive Vice President, Kasian Architecture

An award-winning architect with a strong architectural and engineering background, Wojciech engages his 35 years of national and international experience to lead several of Canada’s prominent P3 and healthcare projects. He has led the firm to success in both market sectors and has consequently been recognized as a specialist in healthcare facilities design. His repertoire includes small-scale to high-profile projects, which have been recipients of international recognition, design awards, and commendations. Fueled by the desire to create environments that are both functional and nurturing, Wojciech’s solutions produce value-added benefits and streamlined processes for clients and citizens invested in these facilities.



John Kapov, OAA, MRA/C, LEED® AP, Senior Project Architect, Kasian Architecture

John brings a stellar track record with over 25 years of delivering complex buildings on time and on budget while maintaining architectural integrity throughout the design and construction phases. Specializing in designing and delivering leading-edge acute care hospitals and cancer care facilities, John has strong communication and organizational skills particularly focused on quality assurance of documentation, risk mitigation, and constructability. He is passionate about creating a collaborative design approach in all his projects.



Golnaz Rakhshan, BSArch., MArch, Architect AIBC, LEED Green Associate, MRAIC, Senior Project Architect, Senior Associate, Kasian Architecture

Drawing on ten years of experience in the field of architecture, Golnaz brings a unique set of design and management skills to each project. Her experience ranges from healthcare, commercial to residential architecture, giving her a diverse understanding of design, urban planning, and the built environment. The projects she has been involved in have been mainly large scale healthcare, both new built and renovation as well as multi use focusing on project and design management. She has played a key role in numerous P3, design build and construction management projects while also leading proposal preparation and feasibility studies.

09:10 – 10:15 Presenters: Tariq Amlani, Eleonore Leclerc and Ray Pradinuk
Moderator: Caroline Reid

Health Authorities throughout British Columbia, and across Canada, are renewing and expanding Long Term Care capacity. Most health regions in BC have embraced a 12-resident small household model, and consensus is emerging around the notion of the household as a substantively independent ‘bubble’. Key considerations in an effort to humanize Long Term Care include the number of residents, building height, the ability to isolate when required an otherwise fully integrated adult day program, planning for daylight, view and freedom of movement, and community engagement, both internal and external. The speakers will summarize principles being applied to development programs for almost 3000 residents across BC.

Beyond the initial design and construction phase, and once built, these projects create a legacy of operational requirements. Through careful consideration of the whole life of the building in the design phase, these operations can be optimized. Design tools and considerations discussed in this presentation include digital twins, considerations for embodied and operational carbon emissions, standardized maintenance solutions, prefabrication and modularization opportunities, and strategies for creating engineering system resiliency.



Tariq Amlani, P.Eng, Senior Principal, Global Healthcare Sector Lead

Tariq is a Senior Principal and leads the Global Healthcare Sector for Stantec in Canada. He has worked on hundreds of projects of varying levels of size and complexity and on buildings of all types.

Through an expansive project portfolio, he has gained extensive knowledge and experience working on the procurement, design, and construction of new and existing healthcare facilities. Tariq has demonstrated the ability to design, build, and operationalize high efficiency, patient-centric healthcare facilities that optimize operations, reduce capital and maintenance costs, and leverage cutting-edge healthcare solutions from around the globe.

Notably, Tariq was a lead designer for the new \$432M Kelowna Vernon Hospitals Project, which opened in 2012, and mechanical engineer of record and team lead for the \$606M North Island Hospitals project, which opened in 2017. He was recently selected as one of Building Design +

Construction's Top 40 Under 40, owing to his outstanding achievements in the AEC industry. His long-term care design expertise includes design work on a pair of 236 bed long term care projects in Ontario procured under a rapid delivery model, the redevelopment of the legacy Stanton Hospital to become a new extended care facility, and the design and deployment of numerous long-term care facility upgrades in response to the global pandemic.

As member and vice-chair with the Canadian Healthcare Engineering Society (CHES), past Governor and National YEA Chair with the American Society of Heating and Refrigeration Engineers (ASHRAE), Chair of the Stantec Innovation Committee, and mentor for architectural and engineering students and apprentice contractors, Tariq is an active volunteer in the buildings design and construction industry.



Eleonore Leclerc, Architect AIBC, Principal, Vancouver Healthcare Studio Lead

Eleonore is a Principal at Stantec Architecture and leading the Vancouver Integrated Healthcare Design Studio since 2018.

As part of an initiative to overturn the current Canadian approach to elder housing and care, partnering with her clients at Providence Health, Eleonore co-led a research initiative that included on-site evaluations of several care facilities in northern and central Europe. Her findings from this research have informed her resident experience-centered design for senior’s care facilities in the Province of B.C. and have been the substance of presentations at major conferences in Canada and around the world to foster a new social paradigm of eldercare architecture.

In the last few years, Eleonore has worked with Ray at implementing best practices and innovations in numerous Long Term Care facilities across the Province. Recent projects include concept designs for a 240-resident dementia care home for Providence Health Care in Vancouver, a 152-resident

home in Richmond and various business cases for Health Authorities in British Columbia.



Ray Pradinuk Architect AIBC, LEED® AP, Principal

Ray is the Leader, Healthcare Research and Innovation for Stantec and a principal in the Vancouver Integrated Healthcare Design Studio. He utilizes evidence-based and sustainable design research, careful analysis and innovation in striving for the best overall solutions. Working closely with clients on residential care projects, his focus has been on the design of tranquil to vital care environments that support the ordinary/extraordinary activities of normal life, including freedom of movement, integrated outdoor spatial networks that welcome wandering as a means of creative self-expression, and strategies to engage the surrounding community in the life of the home.

In acute care architecture Ray’s focus has been on the impacts of spatial arrangement on care process efficiency and staff communications, and on building systems integration strategies to achieve exceptional indoor environmental quality and energy conservation. Ray monitors developments in both residential and acute care design worldwide, visits many outstanding new homes, and has completed or is engaged with clinicians, Stantec colleagues and academic

collaborators on various research projects, including a 14-day/5-country field-study of exemplary care homes in Europe. He is a frequent presenter at healthcare design conferences. Recent projects include concept designs for 200-resident home for Fraser Health in Delta, Chilliwack, and Abbotsford, and seven similar sized homes for Northern Health in 5 different communities.

THURSDAY, JUNE 3 “The Challenges and Innovations of Healthcare Construction in a Pandemic”

**09:00 – 10:15 Presenters: Jordan Highton and Levi Strzelec
Moderator: Rick Molnar**

Protecting your business and employees during a pandemic. Management of public, worker and patient safety during construction of a \$417 million dollar hospital in Kamloops BC. How we used the disruption of a pandemic as an opportunity for innovation and creative problem solving. Tackling supply chain challenges, resource limitations and execution of construction in unprecedented times.



Jordan Highton, Senior Superintendent, EllisDon Construction

Jordan is a Senior Superintendent at EllisDon construction holding a diverse portfolio of construction projects. With 20 years of experience as a construction supervisor he has led projects in every sector including: Automotive manufacturing, High rise construction, Industrial processing plants, and Healthcare. Most recently he has completed an \$80 million expansion of the Toyota Cambridge plant and \$170 million expansion to the Schulich School of Engineering in Calgary Alberta. Currently he overseeing construction on the \$417 million, 300,000 square foot Royal Inland Hospital project in Kamloops BC.



Levi Strzelec, GSC, Construction Manager

Levi has been in the construction industry since 2001 and has a proven track record of execution and operations management. He has helped teams successfully deliver large and complex public-private-partnership projects across BC. Levi’s extensive experience in all facets of the construction industry includes leading the construction of healthcare facilities, airports, correctional facilities, commercial buildings, and light industrial facilities. His track record is one of professionalism, honesty and fairness in relationships with clients, subcontractors and professional associates. He is a professional that works well in a collaborative environment with a high degree of technical knowledge.

Levi is the Construction Manager and Design-Build Construction Lead on the \$417M Royal Inland Hospital, where he provides leadership for all facets of the design and construction of the Project.

Levi is EllisDon Design Build Inc.’s senior person responsible for the coordination of all project resources and activities during the detailed design development and construction phases of the Project. Through these stages, he is the primary construction contact person for the Interior Health Authority and will attend all construction related meetings with the Authority’s stakeholders.

09:00 – 10:15 Presenters: Martine J. Janicki and Jeneen Rankin-Bayer

Moderator: Sarah Thorn

Fraser Health Facilities Management has responded to COVID-19 readiness in the form of safe built-environment for airborne-isolation procedure rooms and trauma rooms to reduce the risk of airborne virus transmission. Led by Clinical Facilities Planners, recommendations were developed for large capital projects related to optimal size and location of anterooms to ensure staff and patient safety. The presenters will review the way regional recommendations were developed and their localization on large tertiary hospitals.



Martine J Janicki, PhD (Eng.), BEd, PMP, Fraser Health Facilities Management

Martine is Manager, Space Management joining Fraser Health Facilities Management in 2018 with the goal to participate in the design of innovate health facilities using evidence-based approach and systematic space analytics.

Assigned to large tertiary hospitals, she brings expertise and passion for the transformation of campuses with a focus to develop comprehensive functional programming to ensure the built-environment addresses workflows, clinical equipment, cutting-edge IMIT technology and regulatory requirements.

Prior work includes design, development and implementation of medical technologies and IMIT solutions for health care programs, both in public and private industries.

She has a rich academic training in medical engineering and extensive project management background with demonstrated ability to develop people-centric systems, implement LEAN processes with continuous improvements, and integrate medical and IMIT technologies supports end users for the delivery of safe health services.



Jeneen Rankin-Bayer, RN, BSN, Manager (Interim) Facilities Clinical Planning, Fraser Health Facilities Management

Jeneen has been working with the FH Facilities Management team since 2018 and has recently been filling the role as interim manager of the Facilities Clinical Planning team. She began her nursing career with Fraser Health in 2005 as a front line nurse on a Medical Unit. She moved into the Emergency Department and held roles as Clinical Nurse Educator and Clinical Resource Nurse.

During Jeneen’s work as a front line staff member she became part of the project team in the 2013 Surrey Redevelopment project and then went on to facilitate front line teams in smaller renovation projects in RCH Emergency Department. As a clinical planner with FH Facilities Management, she has worked closely with project teams on the Urgent and Primary Care Centers in Abbotsford, Burnaby, Chilliwack, Ridge Meadows, and Surrey. Jeneen also is currently supporting four FH Emergency Department Redevelopment/Renovation projects in clinical planning and operational readiness work as they move closer to opening dates.

Jeneen lives in Surrey with her husband, two active teenage boys and their black lab. She enjoys being active with her kids, camping with the family, reading and gardening.

Thank you to all our speakers, presenters and moderators!

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The CHES BC Conference Committee thanks our exhibitors for your support throughout the cancellation process of last year's unfortunate demise. Thank you to those who have offered to share new company/product information.

*The logos below are clickable and will open in a new window, check them out!
We look forward to when we can all gather again!*



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