

Technical Sessions

Thursday September 29, 2022

THE CANADIAN STEEL CONFERENCE
SHERATON VANCOUVER WALL CENTRE, BC
SEPTEMBER 28-30, 2022

www.cisc-icca.ca

THE CANADIAN STEEL CONFERENCE | SEPT. 28 - 30, 2022

Technical Sessions Thursday September 29, 2022 (Dress Code: Business Casual)

8:00 AM – 4:30 PM
Trade Show Runs All Day

7:00 AM – 8:00 AM
Breakfast

8:00 AM – 9:30 AM
CISC Award Presentation

9:30 AM – 10:00 AM
Break

10:00 AM – 10:45 PM

PLENARY SESSION
Grand Ballroom

1. "Facts Matter" – The True Steel Carbon Footprint and the Effect of Selecting Structural Systems
Hellen Christodoulou (CISC) - Logan Callele (CISC)

10:45 AM – 10:55 AM Transition Between Sessions

10:55 AM – 11:40 AM	Junior A-B	2. Advances in Mid and High-Rise Coreless Steel Modular Construction	Chris Jacques WSP Canada Inc. (BC)
	Junior C	3. Floor System - Solutions for Multi-Storey Construction	Suresh Jacob Nucor Vulcraft Canada Dustin Gravelle Nucor Vulcraft Canada
	Junior D	4. Kingston Third Crossing: Bridge Building IPD Style	Kevin McElhone Walters Inc.
	Gulf Island BC (Mezzanine)	5. Key Updates: The CISC Handbook of Steel Construction 12th Edition	Logan Callele CISC

11:40 AM – 11:45 AM Transition Between Sessions

11:45 AM – 12:30 PM	Junior A-B	6. Built for an Icon – The Buddy Holly Hall of Performing Arts and Sciences	Tom Greenough Entuitive
	Junior C	7. Holistic Assessment between Three Design Scenarios for a Mid-Rise Building Including Steel, Concrete, and Mass Timber Elements	Capucine Lardinois Steligen ArcelorMittal
	Junior D	8. Gordie-Howe International Bridge – An Owner's Perspective on the Steel Technical Requirements	Zaher Yousif Windsor-Detroit Bridge Authority Heather Grondin Windsor-Detroit Bridge Authority Cassandra Dion Parsons Corporation
	Gulf Island BC (Mezzanine)	9. Re-Use of Steel and Lowering Carbon Emissions - Arup and CISC Project Collaboration	Matt Humphries Arup Tim Bennett Arup

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Technical Sessions Cont'd Thursday September 29, 2022

12:30 PM – 1:45 PM Buffet Lunch - Grand Ballroom

1:45 PM – 2:30 PM	Junior A-B	<u>10. Open-Deck Steel Parking Structures – Why This Should Be Canada's Solution to Our Parking Needs!</u>	Michael Samuels CISC Brett Perras CISC
	Junior C	<u>11. The Economic and Resilient Benefits of Buckling Restrained Brace Frames</u>	Brandt Saxey Corebrace
	Junior D	<u>12. Architecturally Exposed Structural Steel - Application of the Guide to Design, Procurement and Delivery of Bridge Projects</u>	Matt Van Dyck EllisDon Civil Ltd. Jonathan Werner Entuitive
	Gulf Island BC (Mezzanine)	<u>13. Efficient Design of Floor Beams</u>	Andy Metten Bush, Bohlman & Partners

2:30 PM – 2:35 PM Transition Between Sessions

2:35 PM – 3:20 PM	Junior A-B	<u>14. Getting Fired Up - Design. Specify (Fire Protection of Steel Structures)</u>	Ron Van Frankfoort Carboline Andy Rathod Carboline
	Junior C	<u>15. Weld Design for Hollow Structural Section Connections</u>	Dr. Kyle Tousignant Dalhousie University
	Junior D	<u>16. The SFIA Matsen Tower - 40 Storey Cold-Formed Steel Stud and C-Joist Building – A Hypothetical Study in Structural Potential</u>	Brett Perras CISC
	Gulf Island BC (Mezzanine)	<u>17. Shop Safety - From Napkin to Policy</u>	Julie Lavoie & Bola Lyari Canam

3:20 PM – 4:30 PM

Steel Sponsors "Special" Sessions to be Announced

4:30 PM – 6:30 PM

Closing Reception

6:30 PM – 7:30 PM

Trade Show Exhibitors Move-Out

Each session is worth 0.075 CEU = 0.75 PDH - Information to receive a certificate will be provided during the event.

1. “Facts Matter” – The True Steel Carbon Footprint and the Effect of Selecting Structural Systems

Date: Thursday September 29, 2022 | **Time:** 10:00 AM – 10:45 AM

Room: Grand Ballroom

The CISC Team will talk about:

- “Facts” about “Clean” Steel
- The “True Steel Carbon Narrative” when Designing with Steel
- How Design Affects Carbon Numbers
- Looking for Cost effective & Lowest Carbon Footprint?
- Lifecycle: Durability, Sustainable Solutions, Circular Economy
- The CISC EPD’s – What others don’t provide

SPEAKERS



Dr. Hellen Christodoulou, Ph.D.Eng., B.C.L., LL.B., M.B.A. | Steel Market and Industry Development, CISC

Dr. Hellen Christodoulou brings 40 years of experience in the field of bridges and major bridge structures across Canada and the US, in the conceptualization, design, rehabilitation and supervision of major bridge projects, including superstructure and infrastructure design. She has worked with engineering firms and major construction entities in the construction industry, and government and municipal authorities. She is considered a leading court expert in the field of forensic analysis of bridge and large infrastructure projects.

Dr. Christodoulou graduated in civil engineering with graduate degrees; She holds a PhD in Civil Engineering with specialization in bridges, degrees in civil and common law, and holds a master’s in business administration. She participated in the writing and presentation of engineering articles, taught engineering courses, and participated in numerous conferences on law and engineering. She is a member of several technical and industry committees that are responsible for setting industry standards and updating of codes used for design. She is also an active member of Advisory Boards and Steering Committees, Construction Associations, Ministry Committees, Universities and Professional Orders across Canada.

She is Director of Steel Market and Industry Development for the Canadian Steel Construction Institute, a technical organization for the steel construction industry in Canada Steel, the voice of the Steel Construction Industry in Canada in the areas of innovation, leadership, steel design and construction.

On behalf of the Senate of Canada the Senate Sesquicentennial Medal was conferred to Dr. Hellen Christodoulou, in commemoration of the hundred and fiftieth anniversary of the Senate of Canada and in recognition to her valuable service to the nation, by Senator Rosa Galvez.



Logan Callele, M.Sc., P.Eng. | Manager, Engineering, CISC

2. Advances in Mid and High-Rise Coreless Steel Modular Construction

Date: Thursday September 29, 2022 | **Time:** 10:55 AM – 11:40 AM

Room: Junior A-B

‘Coreless steel modular’ being steel-framed modular buildings that use steel as a lateral force resisting system (with or without supplementary damping or base isolation). The current approach is to use a cast in-place reinforced concrete core for these buildings.

There would be discussion on low and high seismic zones

SPEAKER



Chris Jacques | WSP Canada Inc. (BC)

Chris has over 20 years of diverse structural engineering experience from his work in Vancouver, London, the UK and Toronto, including design and project management for large retail centres, sports and arts centres, and with high-rise structures. Chris teaches seismic design of steel structures with the Structural Engineers Association of BC, and is a Technical Committee member of the CSA Group's S16 Standard 'Design of Steel Structures'

3. Floor System - Solutions for Multi-Storey Construction

Date: Thursday September 29, 2022 | Time: 10:55 AM – 11:40 AM

Room: Junior C

This session aims to highlight the construction advantages, cost and time savings of building composite floor with poured concrete on steel deck. It will touch upon the design and behaviour, as well as selection and specifications of open web steel joist and deck in composite floor construction.



SPEAKERS



Suresh Jacob P.Eng | Nucor Vulcraft Canada

Suresh has held Engineering and Management positions in manufacturing and construction related industries for over 35 years. His career has taken him across Europe, Middle East, Asia and North America, setting up and building engineering, manufacturing and construction related businesses. He has been in North American steel Joist and Deck industry for over 15 years. The last 7 years has been with Nucor Vulcraft, during which he has been instrumental in setting up and developing their Canadian operations. He is currently occupied with business development, technical marketing, training and special projects. In addition to his professional engineering status attained in 2005, he is also a Certified Welding Engineer.



Dustin Gravelle P.Eng | Nucor Vulcraft Canada

Dustin joined the team at Nucor Vulcraft, Canada in 2018 as Engineering Supervisor. He previously held the position as Technical Lead at a consulting firm in London, Ontario, and as a connection designer at a structural steel fabrication company in the Greater Toronto Area. Dustin joins the team with an extensive background in the fabrication and construction of steel structures. He is currently involved with the technical design and analysis of roof and floor joists for all types of building projects. Other day-to-day responsibilities include on-site assessments, report writing, quality control, and team management. Dustin obtained a Bachelor's of Engineering Science from the University of Western Ontario in 2007.

4. Kingston Third Crossing: Bridge Building IPD Style Construction

Date: Thursday September 29, 2022 | **Time:** 10:55 AM – 11:40 AM

Room: Junior D

The Kingston Third Crossing Project, located in Kingston Ontario. The new 1.2 kilometre, two-lane bridge with a feature steel span with a double delta arch. Canada's first bridge project to use the IPD (integrated project delivery) model. This IPD model allowed Walters and the IPD partners to work together to develop practical fabrication and erection details. Preserving the natural environment and protecting the Cataraqui River were key priorities in building this project.



SPEAKER



Kevin McElhone | Walters Inc.

Kevin has worked in the fabrication and construction industry for over 25 years on projects across Canada and internationally. Projects have spanned many industries from commercial, industrial, heavy industry, mining, O&G, nuclear, bridges and hydro. Kevin enjoys early involvement on projects, providing in depth collaboration and shaping the direction of the structure. He specializes design-assist projects, Integrated Project Delivery (IPD) models, and he applies his knowledge of buildings and structures to guide and assist projects in reducing risks, optimizing schedule and providing consistent value to the project.

5. Key Updates: The CISC Handbook of Steel Construction 12th Edition

Date: Thursday September 29, 2022 | **Time:** 10:55 AM – 11:40 AM

Room: Gulf Island BC (Mezzanine)

The engineering staff at CISC support the steel industry in Canada through many avenues: publications, courses, webinars, technical presentations, engineering support, case studies, and participation in codes and standards development. This talk will focus on new and upcoming courses and publications, with an emphasis on the new (12th edition) of the CISC Handbook of Steel Construction.

SPEAKER



Logan Callele, M.Sc., P.Eng. | Manager, Engineering, CISC

6. Built for an Icon – The Buddy Holly Hall of Performing Arts and Sciences

Date: Thursday September 29, 2022 | **Time:** 11:45 AM – 12:30 PM

Room: Junior A-B

Buddy Holly Hall in Lubbock, Texas, was completed in 2021 and has fulfilled the aim of creating a hub for the arts and culture community as well as a venue capable of attracting top talent for world-class performing arts events. Designed by a Canadian team in collaboration with local partners, structural steel contributes to the architectural expression throughout the Hall. This session will trace the project development and explore innovative steel solutions to bring this unique project to life: from the monumental stair in the main lobby to the horseshoe shaped balconies in the 2297-seat main theatre and beyond.



SPEAKER



Tom Greenough | Entuitive

Tom is an Associate at Entuitive with over 15 years of industry experience working on projects in the commercial, cultural, institutional, residential, and retail sectors.

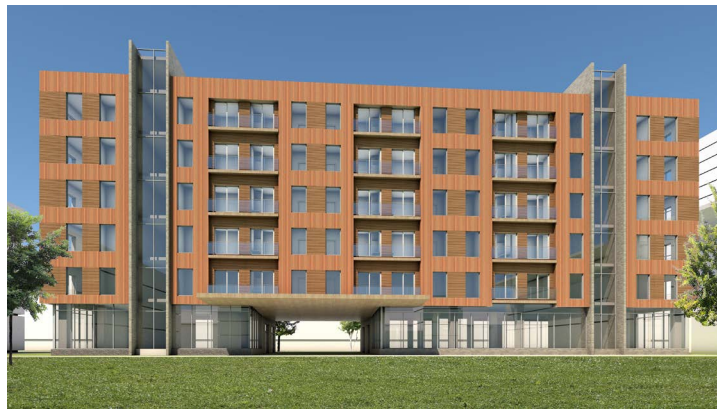
Tom is known by colleagues and clients for being able to deliver creative solutions on challenging and complex projects. Tom believes in a collaborative team approach to project design and delivery and the mentoring of junior staff. Tom is also a key contributor to Entuitive's Technical Committee, overseeing the development, implementation, and maintenance of all technical matters for the firm.

7. Holistic Assessment between Three Design Scenarios for a Mid-Rise Building Including Steel, Concrete, and Mass Timber Elements

Date: Thursday September 29, 2022 | **Time:** 11:45 AM – 12:30 PM

Room: Junior C

The case study that will be presented, is comparing a functional equivalent generic building in terms of environmental impact, cost, and speed of erection. Three structural scenarios for the same six-storey mixed commercial/residential building were analyzed covering steel, concrete and mass timber construction. The design containing the steel-based solutions was determined to be the most environmentally sustainable and economical overall. In addition, the steel design showed a schedule reduction of 5% and 12% over timber and concrete, respectively.



SPEAKER



Capucine Lardinois | Steligen ArcelorMittal

Capucine Lardinois is a Project Manager at ArcelorMittal Global R&D in the Construction and Manufacturing products Team. She is involved in the review of technical design reports for the Steligen® building case studies comparing functional-equivalent buildings with different design scenarios. She promotes the steel solutions communicating about the economic and environmental benefits based on the research results. She has a structural background mainly oriented in steel and composite solutions. She gained valuable work experience taking different roles in Research & Development and Steel industry in Europe and Canada. She served as European Expert Evaluator at the Research Fund for Coal and Steel (RFCS). She is a Professional Engineer of Ontario and holds master's and bachelor's degrees in Construction Civil Engineering from Liege University in Belgium.

8. Gordie-Howe International Bridge – An Owner’s Perspective on the Steel Technical Requirements

Date: Thursday September 29, 2022 | **Time:** 11:45 AM – 12:30 PM

Room: Junior D

With a clear span of 853m over Detroit River, the Gordie Howe International Bridge will have the longest main span of any cable-stayed bridge in North America. The Windsor-Detroit trade corridor is the busiest commercial land border crossing between Canada and the USA, and the Gordie Howe International Bridge will provide essential additional crossing capacity through six new lanes of traffic and a direct highway-to-highway connection.

A new crossing at the Windsor-Detroit trade corridor has been underway since 2000. Windsor-Detroit Bridge Authority (WDBA) and its owner’s engineer (OE), Parsons, worked together to define the technical requirements for the project, evaluate proponents during the extensive procurement process and are now overseeing design and construction.

This presentation will provide an overview of the bridge design and construction to date and focus on the technical specifics of the Bridge structural steel packages. With sustainability being top of mind in the industry, the bridge is being constructed with a 125-years service life, the upper bound for service life required in peer procurements. The influence of these durability requirements on the steel packages, as well as other defining requirements such as redundancy and dual design, will be explored in the presentation.



SPEAKERS



Zaher Yousif, M.Sc., P.Eng., PE. | Senior Director – Bridges and Roads, Windsor-Detroit Bridge Authority

Zaher Yousif, M.Sc., P.Eng., PE. is a Structural Engineer with 30 years of experience, specializing in the field of Bridge Engineering. Zaher has extensive experience in roadway and highway bridge planning, design, P3 project management, light rail and pedestrian bridges as well as contract administration and rehabilitation planning. During the course of his career, he has been involved in bridge structures using both cast-in-place post tensioning box and precast concrete girders, as well as steel. Mr. Yousif has extensive experience in delivery of large and complex highway projects using the design-build and P3 model of delivery, this includes Calgary ringroad P3, Northeast and Northwest Anthony Henday P3 in Edmonton, Circle Drive DB and procurement phase of Regina by Pass P3 in Saskatchewan.



Heather Grondin | Vice President – Corporate Affairs and External Relations, Windsor-Detroit Bridge Authority

Heather Grondin has 20 years of experience, specializing in strategic planning, communications, and engagement. As part of diverse public-sector teams working on high-profile projects and portfolios, Heather’s consistent goal has been to build meaningful relationships with various audiences based on trust, transparency and understanding. Holding the executive position of Vice President of Corporate Affairs and External Relations at Windsor-Detroit Bridge Authority (WDBA) since 2015, Heather leads an integrated team of professionals who collect, analyze and disseminate information about WDBA and the Gordie Howe International Bridge project.



Cassandra Dion P. Eng., M. A. Sc. | Deputy Bridge Lead, Parsons Corporation

Cassandra Dion P. Eng., M. A. Sc., is Principal Bridge Engineer at Parsons Corporation. She has 15 years of experience in the industry, with a focus on complex bridge engineering such as design of the cable-stayed Lachine Canal Bridge, and seismic evaluations of the Jacques-Cartier and Alexandra steel truss Bridges. Cassandra graduated with honors from Polytechnique Montréal and attended École Nationale des Ponts et Chaussées in Paris. She is an associate member of the CSA CHBDC S6 Technical Committee and is part of the Bridge code’s Climate Change Working Group. She is currently acting as Deputy Bridge Lead for the Owner’s Engineer team on the Gordie-Howe Bridge, where her role involves performing design oversight, durability reviews and interfacing with construction oversight.

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9. Re-Use of Steel and Lowering Carbon Emissions - Arup and CISC Project Collaboration

Date: Thursday September 29, 2022 | Time: 11:45 AM – 12:30 PM

Room: Gulf Island BC (Mezzanine)

SPEAKERS

Matt Humphries | Arup

Tim Bennett | Arup

10. Open-Deck Steel Parking Structures – Why This Should Be Canada's Solution to Our Parking Needs!

Date: Thursday September 29, 2022 | **Time:** 1:45 PM – 2:30 PM

Room: Junior A-B

Steel-framed parking structures (SFPS) built today are radically different from their predecessors. Innovative techniques have revolutionized the corrosion-resisting capabilities of structural steel and have satisfied corrosion concerns. It's time to consider SFPS as viable and superior parking structure to the current norm in Canada as they provide a platform for aesthetic expression that lasts for decades. A SFPS will improve the return on your investment through benefits in significant savings in project cost and schedule. During the presentation we will discuss the many benefits of a SFPS as well as the structural and architectural considerations that must be made to make for a successful project.

SPEAKERS



Michael Samuels, P. Eng. | Manager of Engineering, CISC

Michael Samuels, M.A.Sc., P.Eng., is a Structural Engineer with 30 plus years of experience in all aspects of structural engineering from planning to detailed design. He has been involved in large P3 Projects (e.g. Eglinton Crosstown Light Rail and the Ottawa Light Rail for the City of Ottawa both for Metrolinx/Infrastructure Ontario, the LFLRV Maintenance/Storage Facilities for the TTC; the Spadina Subway Extension including the Highway 407 Station for TYSSE; and the Southeast Collector Trunk Sewer (a 19 km sewer tunnel) for York Region. He has worked on large industrial projects including power plants, gas plant, hospital, school projects, wastewater treatment plants (one of which has won the Nova Scotia Lieutenant Governor's Award for Excellence). Mr. Samuels has been involved in office, commercial, and residential buildings. In addition, he has also worked on many overseas bridge design projects as a senior designer and supervisor in which one of his designs was awarded the most outstanding engineering design by the Jamaica Institute of Engineers. Mr. Samuels was a participant on the Technical Advisory Committee (TAC) appointed by the Ministry of Municipal Affairs (MMA) to review the changes made by the National Building Code of Canada (NBCC) and to make recommendations on sections to be implemented by the Ontario Building Code in 2017. He is a member of National Codes and Standards Committees, including Standing Committee on Structural Design and Earthquake Design respectively for the NBCC, CSA Technical Committees and Sub-Committees: S16, Steel Structures for Buildings, S6, Canadian Highway Bridge Design Code, S850, Blast Resistant Buildings, CSA S7, Pedestrian Bridges, various AISI Committees and Research Council on Structural Connections (RCSC).

Mr. Samuels received his Bachelor's Degree from the University of the West Indies and his Masters Degree from the University of Waterloo. He is proficient in 2D and 3D analysis using software such as Staad Pro, RAM Structural System and SFRAME.



Brett Perras, P. Eng. | Steel Market & Industry Development Engineer, CISC

Brett Perras is the Steel Market and Industry Development Engineer for the Canadian Institute of Steel Construction. Brett brings over 8 years of experience in the field of structural engineering, cover general structural consulting and specializing in cold-formed steel applications across Canada, in conceptualization, design, renovation and supervision in new and existing projects. He has worked for various small- and large-scale engineering firms, working with the construction industry, government, and municipal authorities.

11. The Economic and Resilient Benefits of Buckling Restrained Brace Frames

Date: Thursday September 29, 2022 | **Time:** 1:45 PM – 2:30 PM

Room: Junior C

This session will discuss the economic benefits of Buckling Restrained Braced Frames (BRBF). Specifically, how BRBF buildings in moderate and high seismic regions can be designed to reduce steel tonnage and erection times while providing a more reliable means of energy dissipation. Additionally, the resilient benefits of BRBF will be covered, including how structures can be designed for higher levels of resiliency. Design aids and resilient design recommendations will be provided.

SPEAKER



Brandt Saxey | Corebrace

Brandt Saxey, SE, LEED AP, is the Technical Director for CoreBrace where he is responsible for the Research and Development of Buckling-Restrained-Braces. He is a member of the AISC Seismic Systems Committee, the Connection Design Committee, and the Manuals Committee where he has participated in code development and in the writing of the example problems for BRBF, SCBF, SPSW and other lateral systems. Brandt has been involved in the publication of several journal articles, publications and presentations relating to BRB use in steel, concrete, and wood structures, as well as fatigue-life research, generalized connection design, and BRB global stability. Prior to his work at CoreBrace, Brandt was a practicing consulting engineer for several years.

12. Architecturally Exposed Structural Steel - Application of the Guide to Design, Procurement and Delivery of Bridge Projects

Date: Thursday September 29, 2022 | **Time:** 1:45 PM – 2:30 PM

Room: Junior D

Details are being added.

SPEAKER



Matt Van Dyck, P.Eng | Project Manager, EllisDon Civil Ltd.

Matt is a Project Manager with EllisDon Civil currently overseeing the construction of five bridges as part of the broader Portlands Flood Protection Program. He began his career in the ICI sector before doing a stint in EllisDon's Construction Sciences and Engineering group where he worked on construction engineering and logistics problems for a wide variety of projects. In early 2017, he transitioned EllisDon's Civil group where he managed bids in the design-build space before moving into operations, where he has held various roles on the Portland's Flood Protection Project since. He holds a Bachelors Degree in Civil Engineering from Queen's University and is a licensed Professional Engineer.



Jonathan Werner M.A.Sc., P.Eng. | Senior Associate, Entuitive

Jonathan is an engineer with over 29 years of experience in the design, evaluation, project management, contract administration and inspection of bridges and other transportation structures. He has been the engineer-of-record for the Port Lands Bridges during detailed design, fabrication and construction. He has a Bachelor's and a Master's degree in Civil Engineering from the University of Waterloo.

13. Efficient Design of Floor Beams

Date: Thursday September 29, 2022 | **Time:** 1:45 PM – 2:30 PM

Room: Gulf Island BC (Mezzanine)

The design of steel floor beams where the compression flange is laterally restrained is a task that needs to be done efficiently both from a material and design time standpoint. This talk will show how using the CISC Handbook tables both efficiencies can be achieved.

SPEAKER



Andy Metten | Bush, Bohlman & Partners

Andy Metten is well known in the Vancouver structural engineering community where he has been a structural engineer with Bush, Bohlman & Partners for forty years. Andy has taught structural steel design with the Structural Engineers Association of BC and co-written the textbook *Structural Steel Design for Canadian Buildings*. Andy's steel buildings include the international terminal building at YVR and TRIUMF's Institute for Advanced Medical Isotopes. Andy is a member of the S16 committee and the NBC Standing Committee on Earthquake design and is currently working on Canada's first tsunami evacuation tower.

14. Getting Fired Up - Design. Specify. (Fire Protection of Steel Structures)

Date: Thursday September 29, 2022 | **Time:** 2:35 PM – 3:20 PM

Room: Junior A-B

Under ambient conditions, steel is typically designed to ensure that the material stress for factored loads does not exceed the member's yield strength. As the temperature increases, the adequate yield strength begins to degrade, reducing the level of member capacity under load. The design margin of safety is lost, which may lead to a local or global collapse, resulting in escalation or affecting emergency response actions. Practical solutions to mitigate partial or global collapse in the accidental fire limit state can be realized by implementing and optimizing your PFP (aka Fireproofing) strategy early in the design process. Join us as we discuss generic material types, best practices, sustainable material selection, and the use of BIM objects to implement and optimize PFP for cellulosic or hydrocarbon projects.

SPEAKERS



Ron Van Frankfoort | Carboline

Ron van Frankfoort has 32 years of experience within the fire protection industry and has been with Carboline / AD for 22 years, primarily focusing on fireproofing in both Intumescent and Cementitious markets.

Ron has been involved in both the US and Canadian market while with Carboline and has been involved with major Canadian projects such as the Bow tower in Calgary, Rogers Arena in Edmonton and the Canadian Museum of Human Rights in Winnipeg to name a few. Prior to working with Carboline / AD, Ron worked for a prominent Building Code Consulting Engineering firm (LRI Engineering Inc) in Toronto and Ottawa.



Andy Rathod | Carboline

Andy Rathod is a Business Development Manager at Carboline Coatings in Toronto Canada. He has an Undergraduate Degree in Polymer Science, A Master's Degree in Corrosion Technology, MBA From Cornell University and is a Certified NACE Level 3 as well as a SSPC Level 2 coating inspector.

His experience spans in coating and corrosion protection industry working on various infrastructure projects as well as Oil & Gas Projects in Asia, Middle East and North America.

Over the years he has developed a niche in Intumescent Fireproofing and is most proud of being a part of iconic projects like Burj Khalifa, Dubai Metro, Edmonton Ice District, Parliament Building in Ottawa.

He is Passionate about working with his customers and together Building A Better World.

15. Weld Design for Hollow Structural Section Connections

Date: Thursday September 29, 2022 | **Time:** 2:35 PM – 3:20 PM

Room: Junior C

This presentation will provide a review of research on weld design for hollow structural section (HSS) connections and introduce the audience to different design philosophies and code requirements. Recommendations for a “weld effective length” design approach in Canada, covering rectangular and round HSS joints, will be discussed. The benefits of this approach will be illustrated through worked examples.

SPEAKER



Dr. Kyle Tousignant | Dalhousie University

Dr. Kyle Tousignant is an Assistant Professor in the Civil and Resource Engineering Department at Dalhousie University. His research interests lie primarily in the field of steel structures, including member, connection and system behaviour, design, and construction. His past research activity has included the development of design rules for hollow structural section connections and fillet welds, which have been incorporated into Canadian and American national steel design standards. Dr. Tousignant is the recipient of the 2019 International Symposium on Tubular Structures Young Researcher Award, the 2019 Canadian Institute of Steel Construction H.A. Krentz Research Award, and the 2018 International Institute of Welding Henry Granjon Prize.

16. The SFIA Matsen Tower - 40 Storey Cold-Formed Steel Stud and C-Joist Building – A Hypothetical Study in Structural Potential

Date: Thursday September 29, 2022 | **Time:** 2:35 PM – 3:20 PM

Room: Junior D

The capacities of CFS (cold-formed steel) framing - when used properly, can be very high. Recent work has centered around tall buildings with materials not ordinarily considered for the use. Along those lines, The SFIA developed this study to see what could be done using CFS C studs and joists.

Although a hypothetical exercise, reasonable restrictions were placed on the overall design in an effort to create a building design with realistic possibilities. Limits were placed on the member depths, spacings and profiles that are commonly used in CFS load-bearing construction. All typical IBC codified loads and criteria were used in the design of the multi-residential tower.

Based on the imposed design parameters and limitations, it was found that a 40 storey CFS tower could be effectively designed. While not likely to be the practical solution in many instances, the study does illustrate the potentially high structural capacity of cold-formed steel framing in structures.

SPEAKER



Brett Perras, P. Eng. | Steel Market & Industry Development Engineer, CISC

Brett Perras is the Steel Market and Industry Development Engineer for the Canadian Institute of Steel Construction. Brett brings over 8 years of experience in the field of structural engineering, cover general structural consulting and specializing in cold-formed steel applications across Canada, in conceptualization, design, renovation and supervision in new and existing projects. He has worked for various small- and large-scale engineering firms, working with the construction industry, government, and municipal authorities.

17. Shop Safety From Napkin to Policy

Date: Thursday September 29, 2022 | **Time:** 2:35 PM – 3:20 PM

Room: Gulf Island BC (Mezzanine)

How do you successfully implement a safety culture? Join us as we walk you through our manufacturing safety journey at Canam from the decentralization of roles and responsibilities, to driving engagement at all levels of the organization and increasing the accountability of all stakeholders. We will also discuss how we are transitioning from a culture of adhering to the rules “because I have to” to “because I care”.

SPEAKERS



Julie Lavoie, M.Sc. | Corporate Health, Safety and Environment Director, Canam

Julie Lavoie, M.Sc., has been the Corporate Health, Safety and Environment Director at Canam Group Inc. since 2015. She has accumulated over 25 years of experience in several manufacturing industries, including brewery (Molson Coors), cosmetics (L’Oreal Canada) and tobacco (British American Tobacco), for which she has had a global mandate to support health and safety implementation in many countries. She received her Baccalauréat in Industrial Relations from the Université Laval in 1994 and her master’s degree in Ergonomics from the Université du Québec à Montréal in 1997.



Bola Lyari M.Sc., CRSP, CSP | Corporate Health and Safety Manager, Canam

Bola Lyari, M.Sc., CRSP, CSP, is a Corporate Health and Safety Manager at Canam Group. She is a passionate and transformational health and safety leader with 15 years of experience in diverse sectors in the United Kingdom, USA and Canada, including oil and gas (Halliburton), chemicals (LyondellBasell) and governmental agencies. She is a Canadian and United States Board Certified Safety Professional, as well as a US Registered Environmental Manager. She received her bachelor’s degree in biochemistry from the University of Lagos and master’s degree in environmental science from the University of Aberdeen.

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