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CANADIAN INSTITUTE OF STEEL CONSTRUCTION
INSTITUT CANADIEN DE LA CONSTRUCTION EN ACIER
THE CANADIAN STEEL CONFERENCE
Technical Sessions
Tuesday September 26, 2023

THE CANADIAN STEEL CONFERENCE | SEPT. 26 and 27, 2023

Technical Sessions
Tuesday September 26, 2023

8:00 AM – 8:30 AM	*Steel Conference Kick-off* *Grand Ballroom*		
8:30 AM – 9:15 AM	**Grand Ballroom**	BMOx in the Digital World Delivering a Fast-tracked Steel Convention Centre During a Pandemic	**Annelise Loczy** RJC **Brian Kowaleski** Walters
	Trinity Room (1+2)	Perspectives from a Steel Deck Supplier	**Samuel Richard** Canam Group
	Trinity Room (3+4+5)	From may to must: Computing seismic design forces using the equivalent static force procedure vs. dynamic analysis methods	**Taylor C. Steele** **UNB**
	York Room (A+B)	Floor Systems and the Effect on Embodied Carbon	**Mandi Augustynski** CISC
9:15 AM – 9:30 AM	*Session Change*		
9:30 AM – 10:15 AM	**Grand Ballroom**	Prompt Payment Updates across Canada – The Leaders and the Laggers	**Dan Leduc** Soloway Wright
	Trinity Room (1+2)	Effective Use of Hollow Structural Sections in Building Framing	**R. Bradlee Fletcher** Atlas Tube
	Trinity Room (3+4+5)	CFS 12-storey building case study – a panel discussion	**Michael Stiller** ArcelorMittal **Raymond Van Groll** MTE Consultants **Brant Oldershaw** WSP **Willems Ransom** mcCallumSather Architects
	York Room (A+B)	Seismic Design of Steel Structures – Conventional Construction	**Logan Callele** CISC
10:15 AM – 10:45 AM	*Break & Booth Exhibits*		
10:45 AM – 11:30 AM	**Grand Ballroom**	ODACC (Ontario Dispute Adjudication for Construction Contracts) Advantages & Stats	**Elise Teitler** ODACC
	Trinity Room (1+2)	Connection Design Considerations in Structural Design	**Ranka Radonjic-Vuksanovic** Pittsburgh Steel
	Trinity Room (3+4+5)	PORT LANDS BRIDGES	**Steve Matthews** E.S. Fox **Thomas McNutt** Harbourside
	York Room (A+B)	Spec it Fast and Spec it Right: CFS Building Components Selection Guide	**Sarah Majlesi** CISC
11:30 AM – 11:45 AM	*Session Change*		
11:45 AM 12:30 PM	Policies on Procurement & Greening Canada Program **Treasury Board of Canada Secretariat / Secrétariat du Conseil du Trésor du Canada** **Grand Ballroom**		

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12:30 PM – 1:45 PM	*Lunch - Grand Ballroom*		
1:45 PM – 2:30 PM	**Grand Ballroom**	Practical considerations for the reuse of structural steel	**Isis Bennet** WSP
	Trinity Room (1+2)	Lessons Learned: Modifications to Existing Industrial Structures	**Alexandru Coman** **Xing Li** BBA
	Trinity Room (3+4+5)	Open Web Steel Joists: Working Together for A More Effective Outcome	**Dustin Gravelle** Vulcraft Canada **Mario Harja** Canam Group
	York Room (A+B)	Insulated Metal Panels – Uniting Energy Efficiency with Design Versatility	**Ian Yates** Vicwest
2:30 PM – 3:00 PM	*Break & Booth Exhibits*		
3:00 PM – 3:45 PM	**Grand Ballroom**	Design and Construction Canada's First Tsunami Evacuation Tower	**Andy Metten** Bush, Bohlman & Partners
	Trinity Room (1+2)	Measuring the Business Benefits of Structural Seismic Resiliency	**Paul Steneker** WSP
	Trinity Room (3+4+5)	Health and Safety in the Construction Sector; dealing with issues of today!	**Michelangelo LaSelva** Walters
	York Room (A+B)	Challenges and Solutions for Designers of Monorails and Underslung Cranes	**Robert (Bob) MacCrimmon** Hatch
3:45 PM – 4:45 PM	*Reception*		
5:00 PM	*Make way to Rogers Centre (Baseball Fun Night)*		
6:00 PM	*Rogers Centre - Summit Suite Corporate Box - Suite opens at 6:00 pm* *(Dress Code: Casual)*		

BMOx in the Digital World

Delivering a Fast-tracked Steel Convention Centre During a Pandemic

Date: Tuesday September 26, 2023 | Time: 8:30 AM – 9:15 AM Grand Ballroom

This presentation will focus on the design choices and digital tools used to deliver the steel structure of the BMOx Convention Centre faster than normal, with budget control, while coping with the impacts of the COVID-19 pandemic. Specific topics explored will include: preliminary steel framing choices, effective steel geometry for complex shapes, digital design workflows, BIM model coordination, and 3D fabrication drawing review.

SPEAKERS

Annelise Loczy BEng, P.Eng., Structural Design Engineer | RJC

Specializing in structural engineering as an undergraduate student at McGill University, Annelise was interested in learning the physics and math behind buildings – *How do buildings stand up? Why and when to utilize specific building materials? What types of systems are required?* Upon graduation, she began her career with a well-respected and long-standing Calgary construction firm. Annelise joined RJC Calgary's structural team in 2016 for an opportunity to challenge her knowledge base and advance her skill-set, while bringing an understanding of constructability concepts to her designs. As a valued team member within RJC and on design and construction teams, she consistently demonstrates a collaborative and strong work ethic to each of her projects. Her career has evolved through the years with experience in renovation and new construction projects utilizing steel, concrete and wood materials. With the BMO Expansion as the most prominent project within her portfolio, Annelise is excited to share one of Calgary's priority capital projects with the world!

Brian Kowaleski | Walters

Brian began his career at Walters as a steel detailer and has worked up to his current role Project Manager Steel Detailing. In this role, Brian is a department leader and is responsible for the technical execution of a variety of steel structures. Over the years he has been involved in several high-rise towers and challenging commercial structures, as well as industrial facilities in both Canada and the US. His expertise is in the handling of complex coordination between trades and the logistical execution of major projects from critical lifts and crane planning through to building maintenance systems and elevators. He is also responsible for the day-to-day management of a team of steel detailers to ensure projects are completed successfully and delivered on time.

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Perspectives from a Steel Deck Supplier

Date: Tuesday September 26, 2023 | Time: 8:30 AM – 9:15 AM Trinity Room (1+2)

Have you ever wondered about the intricacies of the steel deck industry? The following presentation will give you a behind the scenes view from a steel deck supplier's perspective. Discussions will begin with a quick introduction to Canam Group's business operations and steel deck product line. The main body of the presentation will focus on 3 sections; (1) steel deck product development, (2) top 5 design considerations and (3) safety initiatives. The first section will be an in depth look into each of the steps during the steel deck product development. From the design of the profile, to laboratory testing and certifications, attendees will see how a steel deck is brought to market. The next section will examine the top 5 design considerations, a steel deck supplier wants clients and specifiers to take into account. These design considerations reflect the consensus from engineering, detailing and sales teams across Canada in regards to today's practices. Lastly, Canam and industry partners are leading a safety initiative; the aim is to prioritize safety during the steel deck installation phase. Current progress and target solutions from this working group will be shared during this final section.

SPEAKER

Samuel Richard | Canam Group

Samuel Richard, P.Eng., is a Senior Structural Engineer nearing 15 years of experience in the steel industry. Working for Canam Group since 2009, he has worked on a multitude of steel building projects across Canada and the New England States. For most of his career, he was a project engineer in a design-build project delivery method for low-rise industrial, commercial and institutional buildings, as well as mid-rise multi-residential buildings. He has ample experience designing an array of steel building solutions, working closely and in collaboration with clients, architects and general contractors. During the past 2 years, he has changed roles and now focuses on research, innovation and product development within Canam. Samuel is also a recent member of the Steel Deck Institute and the Canadian Sheet Steel Building Institute technical committees.

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From may to must:
Computing seismic design forces using the equivalent static force procedure vs. dynamic analysis methods

Date: Tuesday September 26, 2023 | Time: 8:30 AM – 9:15 AM Trinity Room (3+4+5)

Although Section 4.1.8 of the National building code gets longer with every new edition, the equivalent static force procedure remains as a relatively expedient method to perform the seismic design of buildings in Canada. However, the simplicity of the equivalent static procedure comes at the cost of making many conservative assumptions. In addition, modern architecture and humanity's push to build bigger and taller introduce many complexities that push the designer beyond this simplified design procedure into the realm of dynamic analysis. This presentation reviews the assumptions made in the equivalent static force procedure and how the dynamic analysis inherently addresses these assumptions. The design forces calculated using the equivalent static force procedure are compared to those determined using dynamic analysis on a 3D model in STAAD. Pro for a regular six-storey braced frame building. Both response spectrum analysis and response history analysis will be applied, and general methods to determine the validity of the results will be discussed. In general, lower seismic design forces can usually be achieved through the development of a 3D model and application of dynamic analysis procedures such that the reduction in material costs will outweigh the additional time spent during the design process.

SPEAKER

Taylor C. Steele, Ph.D., P.Eng. | UNB

Dr. Steele is an Assistant Professor at the University of New Brunswick in Fredericton. Before joining UNB in 2022, he spent four years in structural engineering consulting. His teaching and research at the university focus on earthquake engineering and the effective design of steel structures.

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Floor Systems and the Effect on Embodied Carbon

Date: Tuesday September 26, 2023 | Time: 8:30 AM – 9:15 AM York Room (A+B)

'Embodied Carbon in Floor Systems'' will introduce the topic of environmental product declarations and explore the calculations and considerations involved in embodied carbon analysis.

SPEAKER

Mandi Augustynski | CISC

Mandi Augustynski, P. Eng., M. Eng. is a structural engineer with a background in industrial design, resource processing and extraction. Miss Augustynski is passionate about the environment and has previously served on several environmental committees and is currently a member of the CISC standing committee on sustainability. Miss Augustynski has a master's degree of structural engineering from Concordia University and a bachelor's of structural engineering from McGill University.

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Prompt Payment Updates across Canada – The Leaders and the Laggers

Date: Tuesday September 26, 2023 | Time: 9:30 AM – 10:15 AM Grand Ballroom

Prompt Payment Across Canada: Goals vs Reality:
a review of the status of prompt payment legislation across the country and some of the issues being experienced in jurisdictions that currently have prompt payment regimes.

SPEAKER

Dan Leduc | Soloway Wright

Dan Leduc practices almost exclusively in the field of construction law and dispute resolution. He is frequently called upon to advise and represent owners, subcontractors, suppliers, and builders in such front-end services as contract reviews, tender issues, and general construction matters, as well as in litigation and arbitration.

Mr. Leduc is experienced in negotiating, mediating, arbitrating, and litigating all manner of construction disputes including construction liens, trust claims, delay claims, construction insurance claims, and architect's and engineer's errors and omissions. He has experience in drafting and negotiating various forms of construction contracts on behalf of owners, developers, general contractors, subcontractors, and suppliers. Mr. Leduc also has experience in surety bond claims, including performance bond claims and labour and material payment bond claims, as well as managing cases involving large volumes of documents, at times, in excess of 2,000,000 documents.

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Effective Use of Hollow Structural Sections in Building Framing

Date: Tuesday September 26, 2023 | Time: 9:30 AM – 10:15 AM Trinity Room (1+2)

Hollow Structural Sections (HSS) are commonly chosen for aesthetic reasons for exposed structural framing and for their efficiency as tall columns, but there are many other applications of HSS which are less obvious. Many applications of HSS draw upon of its advantages such as high strength to weight ratio, superior resistance to torsion, and smaller surface area, to name just a few.

This presentation will expose the attendee to applications of HSS that they may be less familiar with. We will explore these applications through practical examples.

SPEAKER

R. Bradlee Fletcher, S.E. | Atlas Tube

Brad Fletcher, S.E., is the senior sales engineer at Atlas Tube. In this role, Brad leverages his 32 years of experience in engineering design and the steel industry to provide technical expertise on the use of steel hollow structural sections (HSS) to design engineers and architects.

A registered structural engineer in the state of Illinois, Brad has held senior positions at leading architecture and engineering firms, Skidmore, Owings & Merrill; Sargent & Lundy; and Halvorson and Partners. For the past fifteen years, Brad has focused his efforts on serving as a liaison between structural designers and the steel industry.

Brad holds a BSCE and MSCE from Purdue University. He is active in many industry groups, including AISC, CISC, CSA, STI and ASTM International.

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CFS 12-storey building case study – a panel discussion

Date: Tuesday September 26, 2023 | Time: 9:30 AM – 10:15 AM Trinity Room (3+4+5)

SPEAKERS

Michael Stiller | ArcelorMittal

Raymond Van Groll | MTE Consultants

Raymond is a graduate of Queen's University with his master's degree in Civil Engineering. Shortly after graduating, he founded Van Groll Engineering Inc., a structural engineering company specializing in residential and commercial construction. In 1997, he merged with partner Jonathan Atkins to create Atkins + Van Groll Inc. Consulting Engineers. In 2020, the company formally merged with MTE Consultants, forming their Toronto Office.

Raymond has completed over 16,000 projects in the United States and Canada ranging from Golf club houses, churches, restaurants, hotels and custom build residential.

Brant Oldershaw | WSP

Brant Oldershaw leads WSP's Structural and Buildings services for Southwestern Ontario, based out of the firm's Hamilton office. With nearly 20 years of experience, Brant has led many of his team's most innovative and high-risk projects in Canada and abroad, across nearly every building type. Starting with the firm's legacy Halsall Associates team in Toronto, and now with WSP for the past decade, Brant has contributed on a variety of award-winning & landmark projects, including Humber River Hospital, Endress+Hauser's new Net Zero Headquarters in Burlington, the St. Catharines Meridian Centre Spectator Facility, Brock University's new "Zone" Fitness Centre, Majdoul Twisting Tower in Saudi Arabia, and the University of Waterloo's Quantum-Nano Centre – winner of the 2010 CISC Engineering Award of Excellence, and proclaimed by the late Professor Stephen Hawking as "design genius". Brant also serves as multi-disciplinary Project Director for many of his team's small and medium-sized projects throughout the Southwestern Ontario Region.

Willems Ransom | mcCallumSather Architects

Willems Ransom, AIA is a Principal at mcCallumSather who has been engaged on Steligence projects since 2019. Willems is an award-winning architect and design leader who is passionate about sustainability, research and building great partnerships to towards resilient communities. Willems believes that great design begins by building great integrated teams and cultivating a strong partnership with client and community stakeholders. He tries to approach every project with a unique contextual sensitivity that is strongly focused on people and a strong sense of place.

Projects range from large institutional buildings and master plans to small community projects but each are unique, sensitive to their context and prioritized sustainable objectives. Whether healthcare, education, community libraries or corporate/commercial work, each of these projects are deeply meaningful to the communities they serve.

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Seismic Design of Steel Structures – Conventional Construction

Date: Tuesday September 26, 2023 | **Time: 9:30 AM – 10:15 AM York Room (A+B)**

This session will discuss the current state of structural steel 'conventional construction' seismic design, and the implications of anticipated changes in the forthcoming S16 (2024) standard. The impact of the updated seismic design parameters in NBC (2020) will also be discussed. A case study design comparison of a commercial building is used to highlight the impacts of these anticipated changes. It is seen that buildings that have used a conventional construction design strategy in the past may need to use a different seismic force resisting system for efficient steel design once NBC (2025) is adopted.

SPEAKERS

Logan Callele | CISC

Logan currently manages the engineering team and operations at the CISC. He has 20+ years of industry experience as both a consulting engineer, a connection design engineer, and managing the engineering operations for a fabricator/constructor. Logan's consulting experience is in north-western Canada, specializing in design of structures in the arctic. Logan's primary focus with his fabrication experience was to provide connection design expertise and support owner/EPC structural engineering teams in understanding how the broader implications of structural steel connection design impacts key project success factors. Both general consulting and extensive steel fabrication and erection experience has led Logan to focus on providing technical support for different construction practices to suit geographic and project niches.

Sector experience includes energy, oil & gas, utilities, industrial & commercial buildings, mining (both surface and below ground) and demolition work.
Logan completed his M.Sc. and B.Sc. in Civil Engineering at the University of Alberta with his research focusing on multi orientation fillet welded connections. As a Professional Engineer he is a member of EGBC and the CSA S16 Committee and has contributed to the engineering profession by authoring 8 technical papers in leading professional journals.

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ODACC (Ontario Dispute Adjudication for Construction Contracts) Advantages & Stats

Date: Tuesday September 26, 2023 | Time: 10:45 AM – 11:30 AM Grand Ballroom

I will be presenting on the topic of resolving construction disputes in Ontario through adjudication. I will provide information on adjudicating in Ontario, the process, the timelines and sharing some statistics with the audience. I will also discuss ODACC (Ontario Dispute Adjudication for Construction Disputes) as the acting Authorized Nominating Authority in Ontario and our responsibilities in overseeing and administering construction disputes in Ontario.

I will briefly discuss a similar adjudication regime that will be in force in the coming months by the Federal Government with the appointment of a Federal Adjudicator Authority CanDacc (Canada Dispute Adjudication for Construction Disputes) who will oversee and administer the adjudication of Federal construction disputes.

SPEAKER

Elise Teitler | ODACC

Elise is currently the Director of ODACC (Ontario Dispute Adjudication for Construction Contracts), and Manager of ADR Services at ADR Chambers. She is also the Director of CanDACC (Canada Dispute Adjudication for Construction Contracts) the exclusive Adjudicator Authority for federal construction disputes that are adjudicated across Canada.

In her years as a practicing lawyer, she was both a commercial litigator at a downtown Toronto law firm and held positions as in-house counsel for a large television broadcaster and a software company. As a litigator, she appeared in court to litigate corporate commercial matters and worked in the communications area. She has been involved in many settlement negotiations to bring resolution to various large scale commercial disputes.

Prior to joining ADR Chambers, she focused her time on business development for several companies including a web-based business linking lawyers and other professionals for family law matters, bringing a Korean editorial magazine to Canada, and working in the health and wellness field.

Elise joined ODACC in November, 2020 and is now Director of ODACC and the newly created CanDACC, the two Authorized Nominating Authorities that oversee and administer adjudications of construction related disputes in Ontario and federally across Canada.

Elise earned her LLB from Osgoode Hall Law School in 1990 and was called to the Ontario Bar in 1992. Elise completed undergraduate studies at McGill University and has also studied at Columbia University and the University of Oxford.

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Connection Design Considerations in Structural Design

Date: Tuesday September 26, 2023 | Time: 10:45 AM – 11:30 AM Trinity Room (1+2)

- Importance of connections and their impact on structure strength and stability (quick introduction)
- Quick Reference to applicable codes and guidelines regarding the required connection design information on design drawings
- Examples of common RFI "triggers" including:

  *Clarification of Connection Design Criteria
  *Load Paths (internal, transfer or connection force?)
  *Framing and Constructability issues
  *Impact of Connections on Members Performance (eccentricity, strength and stability)

SPEAKER

Ranka Radonjic-Vuksanovic, P.Eng. | Pittsburgh Steel

Ranka is an Engineering Manager with Pittsburgh Steel Group, steel fabricator based in Mississauga, Ontario.

During her 25+ years career in steel industry, she worked on variety of industrial, commercial, institutional, residential and mixed-use projects both in Canada and USA.

As a member of the PEO Professional Standards Sub-Committee between 2010-2016, she contributed in publishing "Structural Engineering Design Services for Buildings Guideline", 2017.

Ranka is an active member of the CSA S16 Design of Steel Structures – Standards Development Technical Committee.

She is a CISC Accredited Connection Designer (Conventional Construction).

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PORT LANDS BRIDGES

Date: Tuesday September 26, 2023 | Time: 10:45 AM – 11:30 AM Trinity Room (3+4+5)

This presentation provides a comprehensive examination of the practical aspects involved in the reuse of structural steel. Recognizing the significant environmental benefits associated with steel reuse and its alignment with circular economy principals, understanding the intricacies of its implementation is crucial for successful and sustainable projects. Key topics covered include sourcing salvaged steel, handling and inspection procedures, design considerations, and automation techniques. This review draws on experience from the Centre Block Rehabilitation (CBR) project, which is currently in the detailed planning stage of its steel reuse program, as well as anecdotes from projects in the UK. Highlighted are perceived barriers and effective approaches to overcome them, along with anticipated challenges in the implementation of the CBR case study. By emphasizing the benefits, challenges, and cost-effective practical solutions for steel reuse, this presentation equips professionals with the knowledge and tools necessary to effectively incorporate structural steel reuse in their projects.

SPEAKERS

Steve Matthews | Area Manager – Structural Steel & Bridge Division
E.S. Fox

Steve Matthews began his career as an ironworker thirty years ago and remains a member of Hamilton Local 736. He has worked at E.S. Fox Limited for the last 20 years and has brought firsthand experience and a distinctive skill set to the Structural Steel and Bridge Division as the Area Manager for the last 8 years. Working with his team and alongside other contractors, Steve has helped to successfully execute hundreds of structural steel installation projects. Steve is a member of several organizations. He serves as an executive committee member on the regional advisory board for I.M.P.A.C.T. and chairs the Bridge Erection Committee for the C.I.S.C.

Thomas McNutt | Senior Structural Engineer, Partner Harbourside

Mr. McNutt is a Partner and Senior Structural Engineer with Harbourside Engineering. He has 13 years of progressive experience in the structural design and construction implementation of bridges, building structures and project management. His experience includes design of concrete, steel, timber structures and main cable dehumidification systems; development of technical and general specifications; review of contract documents; and co-ordination with architects, contractors, owners and other consultants. Mr. McNutt is currently the Technical Secretary of the Section 3 Technical Committee (Loads) of the Canadian Highway Bridge Design Code.

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Spec it Fast and Spec it Right: CFS Building Components Selection Guide

Date: Tuesday September 26, 2023 | Time: 10:45 AM – 11:30 AM York Room (A+B)

Presentation on various cold-formed steel components and associated assemblies with references to standards, manuals, and details. A simplified guide to specifying cold-formed steel as a structural material in design and construction.

SPEAKER

Sarah Majlesi | CISC

As a Structural Engineer with a Master's degree in Civil Engineering Structures, I have experience working in multiple disciplines including consulting and project management for the ICI and Residential sectors. This experience has been exclusively in Cold-formed Steel component design for the past eight years. My current role as a Senior Structural Engineer, CFS at CISC includes supporting the steel building industry through Cold-formed Steel education and courses, CSSBI and AISI committee work along with literature and standards review. I am really passionate about what I do and have had the pleasure of working with some amazing professionals in my career thus far. What I have learned is that the only path to move forward as an industry is to be connected and to share experiences and challenges. Knowledge is strength!

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Policies on Procurement & Greening Canada Program

Date: Tuesday September 26, 2023 | Time: 11:45 AM – 12:30 PM Grand Ballroom

This session will provide information regarding the Treasury Board Secretariat's Standard on Embodied Carbon in Construction. It will review the objectives of this standard, which established requirements to disclose and reduce the embodied carbon footprint of construction projects as per the commitments in the Greening Government Strategy. This new standard will require the reporting and reduction of the embodied carbon footprint of all new major government construction projects. This is an important step towards implementing a Buy Clean Strategy in federal government procurement.

SPEAKER

Rob Cooney | Treasury Board of Canada Secretariat / Secrétariat du Conseil du Trésor du Canada

Rob Cooney is a Senior Advisor Buy Clean at the Treasury Board of Canada Secretariat – Centre for Greening Government where he supports the development of Buy Clean policies. Rob's 15 plus year career has seen him support and lead many transformational projects across multiple industry sectors; including IT, logistics, hospital operations, and research and development. Rob has a strong track record of bringing together stakeholders with disparate interests and goals and achieving successful project creation and delivery.

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Practical considerations for the reuse of structural steel

Date: Tuesday September 26, 2023 | Time: 1:45 PM – 2:30 PM Grand Ballroom

This presentation provides a comprehensive examination of the practical aspects involved in the reuse of structural steel. Recognizing the significant environmental benefits associated with steel reuse and its alignment with circular economy principals, understanding the intricacies of its implementation is crucial for successful and sustainable projects. Key topics covered include sourcing salvaged steel, handling and inspection procedures, design considerations, and automation techniques. This review draws on experience from the Centre Block Rehabilitation (CBR) project, which is currently in the detailed planning stage of its steel reuse program, as well as anecdotes from projects in the UK. Highlighted are perceived barriers and effective approaches to overcome them, along with anticipated challenges in the implementation of the CBR case study. By emphasizing the benefits, challenges, and cost-effective practical solutions for steel reuse, this presentation equips professionals with the knowledge and tools necessary to effectively incorporate structural steel reuse in their projects.

SPEAKER

Isis Bennet | WSP

Isis Bennet is a structural engineer whose professional interest lies at the intersection between sustainability and computational design. For the past 5 years she has reported to the buildings department at WSP with experience working with both modern and traditional building materials. Isis holds a M.A.Sc. in Civil Engineering from Carleton University.

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Lessons Learned: Modifications to Existing Industrial Structures

Date: Tuesday September 26, 2023 | Time: 1:45 PM – 11:30 AM Trinity Room (1+2)

Structural engineers are sometimes faced with a scope of work that directly affects an existing structure, which could necessitate modifications to the structural behaviour of the system, or various reinforcements. For the case of an industrial structure supporting vibrating equipment, some particularities will complexify this engineering process. Some key lessons learned will be shared, with the purpose of highlighting what can be achieved for clients.

SPEAKERS

Alexandru Coman, BBA

Alexandru Coman has 10 years of experience as a structural engineer in the heavy industrial sector, more specifically for mining and cement projects.

As a design engineer, his background includes the realization of feasibility, preliminary and detailed engineering projects. Mr. Coman has worked on the detailed design of various steel buildings, pipe racks and foundations. He has performed retrofits and reinforcement of existing structures, and has also provided technical support to clients and contractors. His combination of technical skills and work ethic have allowed him to greatly contribute to his team's success and help the company achieve its goals.

In addition, he has gained valuable site experience, performing site supervision and quality control for multiple concrete silos and miscellaneous structures for a major project.

Xing Li, P.Eng. | BBA

Over the past 30 years, Mr. Li has acquired solid experience in structural design, construction, engineering management and technical coordination of industrial projects in mining and metallurgy, aluminum smelters, oil and gas, LNG, biofuel plants, hydropower, transmission and distribution, stadiums and buildings. His experience also covers the fields of fabrication and inspection. He excels in structural mechanics and applying structural software to perform static and dynamic analyses for different types of structures. He also has thorough knowledge in prefabricated super-module, heavy structure lifting and pile foundation design. Mr. Li is responsible, efficient, quality-oriented, and possesses a positive personality and excellent interpersonal skills.

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Open Web Steel Joists:Working Together for A More Effective Outcome

Date: Tuesday September 26, 2023 | Time: 1:45 PM – 11:30 AM Trinity Room (3+4+5)

Open Web Steel Joists are highly versatile fabricated members that are essential to optimizing span vs. weight ratios when designing a structure. With the volume of projects using joists and joist girders increasing, and desired construction timelines decreasing, how can engineers and fabricators ensure a smoother process through design and construction? This session aims to shed light on best practices for the specification of OWSJ products which ultimately result in less RFI's, shorter project timelines, enhanced relationships, and increased worker safety.

SPEAKERS

Dustin Gravelle, P.Eng | 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.

Mario Harja | Canam Group

Mario is a structural engineer with over 25 years of experience in both Europe and North America.

Mario is specialized in steel design as well as light gauge cold-formed design with extensive knowledge and expertise in Open Web Steel Joist, and steel deck design.
He joined CANAM in 2013 and presently he holds the position of Engineering Manager in Mississauga, Ontario.

Mario obtained his engineering degree back in 1996 in Timisoara, Romania.

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Insulated Metal Panels – Uniting Energy Efficiency with Design Versatility

Date: Tuesday September 26, 2023 | **Time:** 1:45 PM – 2:30 PM York Room (A+B)

SPEAKER

Ian Yates | Vicwest

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Design and Construction
Canada's First Tsunami Evacuation Tower

Date: Tuesday September 26, 2023 | Time: 3:00 PM – 3:45 PM Grand Ballroom

As part of the upgrade of the Gudangaay Tlaats'gaa Naay High School in Masset on Haida Gwaii Canada's first tsunami evacuation tower was designed and constructed. The tower provides an escape route for the school students and staff in the event of a tsunami. While Canada has had more deaths due to tsunami's than from structural failures in earthquakes this the first tsunami evacuation tower in Canada. The tower must be designed for two loads, it must be capable of resisting earthquakes and wind loads without significant damage and must then be capable of resisting the loads from tsunami water and debris flow. The design for these two separate loads is well established with good refences for both loads. The tower is in a remote location and the considerations of remote construction and durability were key aspects of the design. The talk will cover both design and construction aspects of the tower.

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.

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Measuring the Business Benefits of Structural Seismic Resiliency

Date: Tuesday September 26, 2023 | Time: 3:00 PM – 3:45 PM Trinity Room (1+2)

The presentation will begin with a brief overview of the current design performance objective for typical structures. This section emphasizes the inherent resiliency disadvantages of the four most popular seismic force-resisting typologies: concrete shear walls, concrete moment frames, steel moment frames, and steel concentrically braced frames. A summary of the current market response to these disadvantages will be presented, including examples of shifts to resilient design and the resulting preference for steel construction in countries such as New Zealand, Japan, and Chile. This will also include an overview of how low-damage systems, such as viscous damping and base isolation, are being integrated into steel structures. The presentation will then include a summary of the recent changes to the 2020 NBCC regarding the seismic performance of post-disaster and high-importance buildings and the expected changes this will have on the design of structures with high ductility. These changes are expected to improve resiliency when compared to alternative options but would increase relative construction costs. The presentation will then discuss the financial advantages of resilient construction as quantified using both a life-cycle cost and downtime reduction provided by increasing quantities of investment in resiliency. This can potentially provide a financial incentive to invest in the increased construction costs. The discussion will include examples of voluntary resiliency improvements analysis from various example projects around the world, including some which predicted investment returns from loss reduction. The goal is to provide the audience with an understanding of the various nuances of the costs and benefits of resilient design and provide guidance on how to approach the topic with building owners and clients.

SPEAKER

Paul Steneker | WSP

Until recently, Paul was working as a structural engineer with WSP where a majority of his time is currently dedicated to the rehabilitation of Center-Block, Canada's largest heritage restoration project valued at an estimated budget of 4.5 billion dollars. A significant component of this project is a large seismic strengthening effort, including the implementation of one of the world's largest base isolation projects, among other major structural modifications. Paul was also leading the analysis component of WSPs burgeoning resiliency advisory service, providing loss estimation analysis and resiliency optimization strategies to building owners and occupants.

Before joining WSP, Paul completed his Ph.D. at McMaster University, where he focused on the risk-adjusted economic optimization of seismic resiliency improvements using machine learning algorithms, with a particular emphasis on the rehabilitation of steel moment resisting frames with pre-Northridge connections.

He is now starting a new role at CEP Forensics pursuing the introduction of similar asset resiliency advisory analysis and services to smaller scale clients with more local scopes of interest.

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Health and Safety in the Construction Sector; dealing with issues of today!

Date: Tuesday September 26, 2023 | Time: 3:00 PM – 3:45 PM Trinity Room (3+4+5)

In today's world of budgets and schedules, how does a company deal with the issues of today, to ensure Safety is integrated into the job every single day!

SPEAKER

Michelangelo LaSelva | Walters

A Health and Safety professional with over 25 years of experience in the manufacturing and construction sectors. Mike spent 15 years working within the prevention system in Ontario and has travelled across North America assisting companies in improving their Health and Safety programs and Safety Culture. He is a material handling expert, especially in the areas of Cranes, hoists, lift trucks and rigging. He is an experienced trainer in a multitude of areas, concentrating mostly on Due diligence and Competent Supervisors. He is currently the Manager of Health, Safety and the Environment for the Walters Group, overseeing the program for both manufacturing and construction.

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Challenges and Solutions for Designers of Monorails and Underslung Cranes

Date: Tuesday September 26, 2023 | Time: 3:00 PM – 3:45 PM York Room (A+B)

The presentation will focus on design and construction of structural steel supports for monorail hoists and underslung cranes. The presentation will identify aspects of design and construction that are unique and could be overlooked by the Engineer. Examples of sub standard design will be shown. Advice on how to avoid pitfalls will be provided as well as design standards and useful references.

SPEAKER

Robert (Bob) MacCrimmon | Hatch

Robert (Bob) MacCrimmon, P.Eng., is a Senior Civil/Structural specialist with Hatch in Niagara Falls, Ontario and has many years of experience in design and construction in the industrial/marine environment. Bob has a great deal of experience working to International standards and is a former member of the American Institute for Steel Construction (AISC) task group for design of industrial building and non building structures. Bob has also been a member of the AIST Committee which authors Technical Report 13 for Design and Construction of Mill Buildings, Canadian steel design standard CSA S16 committee and is the author of the CISC Design Guide for “Crane-Supporting Steel Structures”.

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