
cisc icca
CANADIAN INSTITUTE OF STEEL CONSTRUCTION
INSTITUT CANADIEN DE LA CONSTRUCTION EN ACIER
THE CANADIAN STEEL CONFERENCE
Technical Sessions
Wednesday September 27, 2023

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

Technical Sessions
Wednesday September 27, 2023

8:30 AM – 9:15 AM	**Grand Ballroom**	Steel Building Systems A Flexible and Cost Effective Solution	**Rae Limerick** Nucor Buildings Company **Carla MacLeod** Behlen
	Trinity Room (1+2)	DESIGN AND DETAILING RECOMMENDATIONS OF SLOTTED-HIDDEN-GAP CONNECTION FOR SQUARE HSS BRACE MEMBERS	**Mohamed S. Afifi** McGill University
	Trinity Room (3+4+5)	Bolted Bridge Splice Design – New Canadian Developments	**Jean-Michel Lamy** Parsons
	York Room (A+B)	Cast Steel Modular Links for EBFs: New S16 Code Provisions	**Michael Gray** Cast Connex
9:15 AM – 9:30 AM	*Session Change*		
9:30 AM – 10:15 AM	**Grand Ballroom**	Cadillac Fairview 160 Front Street: A Collaborative Approach to Complex Structural Steel	**Cait Mancuso** **Andrew Voth** RJC **Mark Nywening** Walters
	Trinity Room (1+2)	Contract Clauses – What to Watch for!	**Dan Leduc** Soloway Wright
	Trinity Room (3+4+5)	Design for Enhanced Seismic Performance With NBC 2020	**Andy Metten** Bush, Bohlman & Partners
	York Room (A+B)	STRUCTURAL STEEL HI-RISES WITH DEEP DECK COMPOSITE SLABS	**Raymond Van Groll** **Brett Perras** Bailey / MTE Consultants
10:15 AM – 10:45 AM	*Break & Booth Exhibits*		
10:45 AM – 11:30 AM	How Changes to the Competition Act will Impact Canadian Businesses **Antonio Di Domenico** Fasken Grand Ballroom		
11:30 AM – 11:45 AM	*Session Change*		
11:45 AM – 12:30 PM	Strategic Options That Jive with the Economy's Current and Anticipated Movements **Peter Hall** Econosphere Grand Ballroom		

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

Technical Sessions
Wednesday September 27, 2023

12:30 PM – 1:45 PM	*Lunch- Grand Ballroom*		
1:45 PM – 2:30 PM	**Grand Ballroom**	Carbon in Steel Construction – A great story getting even better	ArcelorMittal Dofasco Gerdau Atlas Tube
	Trinity Room (1+2)	SpeedCore Systems for Buildings in Canada: Research Update	**Saber Moradi** **Mohammad Froozanfar** Toronto Metropolitan University **Amir Jamshidi** NiiK Group
	Trinity Room (3+4+5)	Complexity, Simplified: Applying Architecturally Exposed Structural Steel	**Terri Meyer Boake** University of Waterloo
	York Room (A+B)	Forthcoming changes in Canadian Composite Steel Deck Design	**Sarah Majlesi** CISC
2:30 PM – 3:00 PM	*Break & Booth Exhibits*		
3:00 PM – 3:45 PM	**Grand Ballroom**	Gordie Howe International Bridge: Building Sustainable and Resilient Infrastructure	**Zaher Yousif** Windsor-Detroit Bridge Authority **Claire Heumann** Parsons
	Trinity Room (1+2)	Connected workflow between steel construction teams	**Jeff Arnott** **Tero Laine** Exact Detailing
	Trinity Room (3+4+5)	A Novel Seismic Isolation Steel Brace Framing System for Low Rise Buildings	**Robert Tremblay** Polytechnique Montréal
	York Room (A+B)	Frequently Asked Questions About Structural Bolts	**Michael Colalillo** CISC
3:45 PM – 4:00 PM	*Break*		
4:00 PM – 5:30 PM	CISC Awards *Grand Ballroom*		
5:30 PM – 7:30 PM	*Reception* *Grand Ballroom*		
8:30 PM – 12:00 AM	*Steel Sponsors Hospitality Suites* *Canam, Corbec* *By invitation only*		
7:30 PM – 9:30 PM	*Trade Show Exhibitors Move-Out*		

Steel Building Systems
A Flexible and Cost Effective Solution

Date: Wednesday September 27, 2023 | Time: 8:30 AM – 9:15 AM Grand Ballroom

Steel Building Systems (SBS) are an effective and economical solution for commercial low-rise buildings for a variety of uses. This session will provide a brief introduction to SBS and then delve into some of the nuances of the SBS industry. A description of the flexural design of SBS secondary cold-formed roof members per CSA S136 will be provided. The speakers will also provide an overview for working effectively with SBS manufacturers.

SPEAKERS

Rae Limerick | Nucor Buildings Company

Rae Limerick is a Senior Project Engineer with Steel Buildings Systems manufacturer American Buildings in the US. American Buildings is a brand of the Nucor Buildings Group (NBG) of Steel Building Systems manufacturers. Rae has over 15 years of experience, with over 10 of these years in the Steel Buildings Systems Industry; all with American Buildings. He has worked primarily in the areas of structural design and R&D. Rae attended the joint Florida A&M – Florida State College of Engineering in Tallahassee FL graduating with bachelor's and master's degrees in civil engineering, specializing in structural engineering. He serves on several committees at CISC, the Metal Building Manufacturers Association (MBMA) in the US and the American Iron and Steel Institute (AISI) Committee on Specifications. Rae has a passion for educating the next generation of engineers and the interaction between disciplines of architecture and structural engineering. He was a full time faculty member at Florida A&M University teaching Civil Engineering Technology undergraduate courses for three years.

Carla MacLeod | Behlen

Carla MacLeod has been in sales with BEHLEN for 8 years. Her territory is Ontario, Canada. Her experience in the SBS industry in marketing and sales developing, spanning nearly 13 years has taught her the importance of honesty and integrity in the industry.

View all CISC Technical Sessions

DESIGN AND DETAILING RECOMMENDATIONS OF SLOTTED-HIDDEN-GAP CONNECTION FOR SQUARE HSS BRACE MEMBERS

Date: Wednesday September 27, 2023 | Time: 8:30 AM – 9:15 AM Trinity Room (1+2)

A slotted tube-to-gusset plate connection is usually used to attach hollow structural section (HSS) braces to the beam-to-column joint of a concentrically braced steel frame structure. The slot in the HSS tube creates a net area in the brace, and shear lag is present due to the unconnected portions of the tube. When seismic capacity-based design procedures are implemented, tensile rupture of the brace's net section is frequently the governing failure mode, which necessitates connection reinforcement schemes that have proven to be uneconomic or unsuitable for seismic applications. The "Slotted-Hidden-Gap (SHG)" connection, in which a notch is formed in the gusset plate so that the gross section of the tube overlaps the plate, represents an attractive alternative to conventional connection reinforcements. However, no codified method of design exists for the SHG connection for square HSS braces. As a result, finite element (FE) modelling and laboratory experiments were carried out to establish design and detailing guidelines for square HSS braces. Based on the preliminary results of the FE simulations, a laboratory testing program of four SHG HSS ASTM A1085 (254×254×13) brace specimens with different weld configurations was initiated. Keeping similar overlap length despite changing overall weld size and length was sufficient to develop the yield resistance of the braces and force fracture in the gross area of the brace away from the connection. Utilizing longer length smaller sized welds granted an additional 3.1% of brace strains compared to connections with shorter welds. A subsequent large-scale parametric numerical FE study of square HSS braces under monotonic tension protocol was done to further investigate key factors influencing the performance of the SHG connection. A design and detailing methodology based on the findings was recommended. The proposed methodology was validated through the design of full-scale braces and their connections that were then numerically modeled and subjected to a reversed cyclic loading protocol. The design recommendations herein proved to be effective because the simulated braces were able to attain their yield tensile resistance and fracture away from the connection region, while sustaining an axial deformation corresponding to an average storey drift of 5.43%, exceeding an average anticipated IDR demand of 5.0% reported for previously tested reinforced square HSS brace connections. The proposed design and detailing method is valid for SHG connection braces with all size ranges and grades of square HSS tubes in North America.

SPEAKER

Mohamed S. Afifi | McGill University

Mohamed is a Passionate lecturer and Structural Engineer with over 10 years of experience in regional and global projects. Backed up with strong academic performance, Mohamed integrates both practical and theoretical knowledge.

Mohamed's expertise lies in the areas of Structural Engineering and Construction Materials. Mohamed holds a doctorate degree (PhD) from McGill University where he conducted research on the seismic resistance of various steel brace connections. Mohamed has also conducted research on the development of new concrete technologies during his master's research at the American University in Cairo (AUC).

Mohamed is currently a lecturer of civil engineering at McGill University, where he teaches structures and materials engineering courses for graduate and undergraduate students. Mohamed also works as Structural engineer for the rail and transit department at Hatch Ltd. In this role, he has gained experience in rating of existing rail bridges, design review, structural design and inspections for railway and highway structures.

View all CISC Technical Sessions

Bolted Bridge Splice Design – New Canadian Developments

Date: Wednesday September 27, 2023 | Time: 8:30 AM – 9:15 AM Trinity Room (3+4+5)

An upcoming Design Guide, related to the design of bridge bolted field splices, in currently in preparation by the CISC Technical Team. This presentation will describe the reasons that led to the development of a guide, the research done in this field in the recent years and will briefly present the guide itself.

SPEAKER

Jean-Michel Lamy | Parsons

Jean-Michel Lamy is a senior bridge engineer, affiliated to Parsons, with 12 years of experience in design and evaluation of bridges. He has worked on a variety of technical challenges and has participated on alternative delivery method projects, such as:

- The New Champlain Bridge Corridor,
- the Réseau Express Métropolitain, a design-build light rail transit project, or
- the Île-aux-Tourtes bridge replacement bid.

Jean-Michel is a member of the CSA S6 Sub-Committee 10 (Canadian Highway Bridge Design Code, Steel Structures), the CISC Bridge Committee and IABSE. He is a practicing engineer in Quebec and Ontario.

View all CISC Technical Sessions

Cast Steel Modular Links for EBFs: New S16 Code Provisions

Date: Wednesday September 27, 2023 | Time: 8:30 AM – 9:15 AM York Room (A+B)

Eccentrically Braced Frames (EBFs) are the highest ductility seismic force-resisting braced frame system in Canada per CSA S16. Modular links are also codified and enable designers to optimize the size of the yielding link and beam independently, promoting a more efficient and economical design. As a boltable solution, modular links also enable larger architectural openings, simplified and rapid erection, and replacement elements for post-earthquake rehabilitation.

Cast Steel Modular Links are experimentally validated and standardized link elements for EBFs. New code provisions for cast modular links are proposed for the upcoming S16-24 code. In this presentation, designers and engineers will explore the S16-19 code requirements for modular links and identify how to design EBFs using cast modular links and the current code requirements. Then, compare this to the proposed S16-24 code requirements for cast modular links and evaluate the changes.

SPEAKER

Michael Gray | Cast Connex

Michael is a co-founder and Executive VP of CAST CONNEX. He received his Bachelors in Civil Engineering and Doctorate from the University of Toronto and has co-developed several patented devices for the seismic performance of steel structures. Michael is an active member of the Canadian steel industry, serving as a member of the Canadian Institute of Steel Construction's Education and Research Council.

View all CISC Technical Sessions

Cadillac Fairview 160 Front Street:
A Collaborative Approach to Complex Structural Steel

Date: Wednesday September 27, 2023 | Time: 9:30 AM – 10:15 AM Grand Ballroom

The 160 Front Street project adds a new iconic structure to the Toronto skyline. The 46-story structural sloping steel-framed commercial office tower was designed with significant collaboration between RJC Engineers and Walters Inc. to meet both the clients vision and the demanding structural requirements of this unique building. This presentation will give an overview of the project that used approximately 9,500 tonnes of structural steel, its design challenges and the efficient and elegant solutions developed through collaboration.

SPEAKERS

Cait Mancuso, M.E.Sc., P.Eng. | RJC

Cait is a project structural engineer at RJC Engineers in Toronto. Since graduating with a Master's from the University of Western Ontario in 2016, Cait has worked on the design, coordination and construction for a number of residential and commercial office structures with RJCs tall buildings group. She has been part of many diverse projects and has served as the primary design contact for many of her projects through construction. In addition to 160 Front Street, select projects Cait has worked on include Yonge + Richmond Condominium, The Taylor Apartments and Novus at Garrison Point.

Mark Nywening, Ph.D., P.Eng. | RJC

Andrew Voth is an associate structural engineer at RJC Engineers in Toronto specializing in design and performance of unique steel structures. He has gained local and international design experience working on a wide range of residential, retail, commercial, and entertainment structures including London's 20 Fenchurch Street office building, Square One Shopping Centre South and West Expansions and the Canadian Museum for Human Rights in Winnipeg. In addition to delivering the over one-acre elevated pedestrian park and adjoining pedestrian bridge as a part of the CIBC Square project, he is currently leading the design of the Peter Gilgan Mississauga Hospital . Andrew received his doctorate from the University of Toronto with focus on the behavior and design of connections to round hollow structural sections. He is currently an associate member of CSA S16 Design and Construction of Steel Structures – Standards Development Technical Committee.

Andrew Voth, M.E.Sc., P.Eng. | Walters

Mark Nywening is a Senior Project Engineer at Walters Inc. He obtained his Master of Engineering Science degree at Western University in London Ontario in 2007 with a focus on Wind Pressures on Low-Rise Buildings. In his 16+ years in the steel industry he has worked on many projects including 160 Front Street, the BMO Centre Expansion and Remai Art Gallery. Mark recently completed a peer review of the Connections I course and an update/rewrite the Connections II course for the CISC.

View all CISC Technical Sessions

Contract Clauses – What to Watch for!

Date: Wednesday September 27, 2023 | Time: 9:30 AM – 10:15 AM Trinity Room (1+2)

Contract Clauses You Should Read.. But Don't: a review of certain contract clauses and trends that deal with an inappropriate allocation of risk.

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.

View all CISC Technical Sessions

Design for Enhanced Seismic Performance With NBC 2020

Date: Wednesday September 27, 2023 | Time: 9:30 AM – 10:15 AM Trinity Room (3+4+5)

Ductile principles are used extensively in seismic codes to provide fuses that reduce forces on the building, however going into the plastic yielding means that there will be damage to the fuse elements. Recent earthquakes in countries with modern building codes have shown that good seismic engineering through ductile design principles can reduce the death toll from earthquakes. However, concern was raised after the Christchurch earthquake where damage to buildings and the economy was in the billions of dollars. In the 2020 edition of the NBC, enhanced seismic performance requirements were introduced to try to make buildings such as schools and hospitals perform better for lower return period earthquakes while still allowing the building to perform in a ductile manner under the design level event. These requirements involve performing a set of checks on a subset of buildings that are felt to be most critical to maintain functionality and occupancy immediately after an earthquake. In these checks, forces from a lower return period earthquake are imposed on a structural model of the building with the requirement that the building remain elastic. This talk covers the clause of NBC 2020 that will improve the performance of some buildings under seismic loading and discusses what it means to be "elastic" it does not attempt to cover all the changes in NBC 2020.

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.

View all CISC Technical Sessions

STRUCTURAL STEEL HI-RISES WITH DEEP DECK COMPOSITE SLABS

Date: Wednesday September 27, 2023 | Time: 9:30 AM – 10:15 AM York Room (A+B)

Learn about structural steel utilized in Hi-Rise construction, including updated fire and sound listings that are enabling Structural Steel to compete with Cast-in-Placed systems in terms of cost, quality and construction details.

SPEAKERS

Raymond Van Groll | Bailey / 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.

Brett Perras | Bailey / MTE Consultants

Brett is a graduate of the University of Ottawa with a specialization in structural engineering. He has worked in the consulting industry for 10 years with a stint with the CISC as the Senior Engineer representing the CSSBI, cold-formed steel and it's members. Brett is currently the Chair of the CISC Cold-Formed Steel Technical Committee and a Structural Engineer with MTE Consultants.

View all CISC Technical Sessions

How Changes to the Competition Act will Impact Canadian Businesses

Date: Wednesday September 27, 2023 | Time: 10:45 AM – 11:30 AM Grand Ballroom

Canadian Competition Law: Insights and Compliance.
The presentation will provide an introduction to key concepts and trends in competition law, including practical takeaways for the construction and association space.

SPEAKER

Antonio Di Domenico | Fasken

Tony is a Partner and Co-Leader of Fasken's Antitrust/Competition & Marketing Group. As former counsel to Canada's Competition Bureau and having served as counsel in many of Canada's most significant competition matters, Tony is widely recognized as one of Canada's leading practitioners in competition law and litigation. Tony represents and counsels clients in domestic and multi-jurisdictional competition matters, including mergers, criminal cartel matters, advertising and marketing practices, abuse of dominance and other reviewable practices. Tony represents parties in criminal and civil investigations, litigated proceedings before Canada's Competition Tribunal and class action litigation. Tony has extensive trial and appellate experience, having appeared as counsel before Canada's Competition Tribunal, all levels of court in Ontario, the Federal Court of Canada, the Federal Court of Appeal and the Supreme Court of Canada. Tony is the author of the leading legal treatise, Competition Enforcement and Litigation in Canada (Emond Publishing). Tony is an adjunct law professor of law at Osgoode Hall Law School in Toronto, where he teaches competition law and trial advocacy and a non-governmental adviser to the International Competition Network.

View all CISC Technical Sessions

Strategic Options That Jive with the Economy's Current and Anticipated Movements

Date: Wednesday September 27, 2023 | Time: 11:45 AM – 12:30 PM Grand Ballroom

The Canadian economy is at a critical juncture. Our internal economy is fundamentally weak, and likely to experience recession within the next 24 months. Not so for the external economy, where demand is projected to be robust. Infrastructure will soon emerge as a critical factor: partly to stimulate the economy, and partly because there is a wide and growing deficit of trade infrastructure. How do we prepare for this? How do we ensure that when the contracts are issued, Canadian companies - especially steel producers - get a fair chance of willing contracts? Join us for a lively and thought-provoking presentation.

SPEAKER

Peter Hall | Econosphere

Peter Hall is CEO of econosphere inc., a boutique business strategy advisory firm. In this capacity he is involved in advising leading Canadian industry associations and corporations, advising and promoting international initiatives, and conducting ad hoc project work. Mr. Hall is a special advisor to both Martinrea International and Elevate Export Finance, is a Fellow-In-Residence at the C.D. Howe Institute, writes a regular column in the Financial Post, comments in various other media channels and speaks at conferences and with senior executive teams in Canada, the United States and Mexico.

Until recently, he was chief economist at Export Development Canada, heading up a large team of economists and country risk analysts that provided model-driven forecasting for internal and external business strategy purposes, transaction risk analysis for over 160 countries, analytical modeling, and data systems support. In addition to advising EDCs executive team and board of directors, Mr. Hall personally delivered dozens of presentations annually to a wide variety of business, government and academic audiences in Canada, the United States and internationally. He also authored EDCs widely-circulated Weekly Commentary.

Prior to his work at EDC, Mr. Hall directed the economic forecasting activities of the Conference Board of Canada. He has served as the president of the Canadian Association for Business Economics, a 600+ member organization of professional economists, and also its largest local chapter, the Ottawa Economics Association. He has served on the board and as an advisor to multiple Ottawa-area charities.

Mr. Hall has degrees in economics from the University of Toronto and Carleton University.

View all CISC Technical Sessions

Carbon in Steel Construction – A great story getting even better

Date: Wednesday September 27, 2023 | **Time:** 1:45 PM – 2:30 PM **Grand Ballroom**

SPEAKERS

ArcelorMittal Dofasco | **Gerdau** | **Atlas Tube**

View all CISC Technical Sessions

SpeedCore Systems for Buildings in Canada: Research Update

Date: Wednesday September 27, 2023 | Time: 1:45 PM – 11:30 AM Trinity Room (1+2)

Coupled walls are common lateral force-resisting systems in mid- to high-rise buildings. SpeedCore systems, also known as coupled composite plate shear walls/concrete filled (CC-PSW/CF), comprise two steel faceplates, tie bars, shear studs, and infill concrete. Compared to reinforced concrete walls, SpeedCore walls considerably reduce construction time by eliminating construction requirements, such as concrete curing, formwork, falsework, and rebars. The Rainier Square Tower in Seattle, U.S., a 58-story structure, is the first and the tallest project to employ this system. The SpeedCore wall was recently adopted in ASCE 7-22 (Minimum Design Loads and Associated Criteria for Buildings and Other Structures) with the highest response modification coefficient (8.0) among all other systems and with an over-strength factor of 2.5 and a deflection amplification factor of 5.5.
In Canada, efforts are being made to adopt SpeedCore walls for buildings. A new informative annex N has been put forward for inclusion in CSA S16-24 (Design and Construction of Steel Structures). Research studies on developing response modification factors for SpeedCore walls in Canada have resulted in preliminary recommendations for inclusion in NBC 2025 (National Building Code of Canada).
This talk reviews the general benefits of the SpeedCore system, the new SpeedCore provisions in CSA S16, and ongoing research at Toronto Metropolitan University.

SPEAKERS

Saber Moradi | Toronto Metropolitan University

Dr. Saber Moradi is an Associate Professor in the Civil Engineering Department at Toronto Metropolitan University. He joined Toronto Metropolitan University in 2017 from the University of California, Los Angeles, where he was a post-doctoral researcher in the Department of Civil and Environmental Engineering. Dr. Moradi is a registered professional engineer (P.Eng.) in the province of Ontario, Canada. He is a member of the CSA S16 Technical Committee on Steel Structures for Buildings in Canada and the ASCE SEI Seismic Effects Committee. His research primarily develops innovative solutions using new structural systems and materials for protecting buildings from damage during earthquakes.

Mohammad Froozanfar | Toronto Metropolitan University

Mohammad Froozanfar is a Ph.D. candidate in Structural Engineering at Toronto Metropolitan University. He started his Ph.D. studies in May 2021. Mohammad Froozanfar holds a Master's degree in Civil-Earthquake Engineering from the University of Tehran, Iran. His research focuses on developing innovative solutions, including structural control systems and new seismic force-resisting systems, to mitigate structural damage during earthquakes. He is currently performing research on SpeedCore wall systems as the topic of his doctoral dissertation.

Amir Jamshidi | NiiK Group

Amir, an Adjunct Professor at the University of Alberta and a senior structural/research engineer with over 15 years of experience in the industry is the President of Niik Group (an engineering consulting company) and Niik Steel (a steel fabricator in British Columbia). He graduated with his Ph.D. in structural engineering from the University of Alberta, with his research focusing on the progressive collapse of steel structures.
Amir and the Niik companies focus on providing fabrication, technical services and educational opportunities in the design, fabrication, erection, and inspection of steel-framed structures. Amir provides consulting services to institutions, steel fabricators, general contractors, engineers, architects, and owners and assists in overcoming challenges in steel design and construction. His knowledge and experience in the industry allow him to address complex and unique structural steel inquiries by developing innovative solutions and unconventional applications. Amir has worked on many prominent projects in North America, including the Rainier Square Tower (the 1st SpeedCore Project), 200 Park Avenue in San Jose (the 2nd SpeedCore Project), SeaTac Airport, The Leaf at Canada's Diversity Gardens, Walterdale Bridge, and the New Toronto Courthouse.

View all CISC Technical Sessions

Complexity, Simplified: Applying Architecturally Exposed Structural Steel

Date: Wednesday September 27, 2023 | Time: 1:45 PM – 11:30 AM Trinity Room (3+4+5)

There are many challenges we face as an industry when applying AESS to a project. Much of this lies in the decision on the choice of the correct AESS Category. The majority of projects are budget driven or restricted, so how do we balance the inevitable desire to create something truly impressive with a limited budget? This presentation will provide a quick overview of the AESS category system and then dive into how you can apply this to visually complex exposed steel projects, in more economical ways. There are many ways to give the impression of complexity in form and composition that can avoid the use of an AESS 4 solution. It is possible to solve aesthetic goals while also keeping costs under control, without undertaking a high level of compromise to the project.

SPEAKER

Terri Meyer Boake B.E.S., B.Arch., M.Arch., LEED AP |

University of Waterloo

Terri Meyer Boake B.E.S., B.Arch., M.Arch., LEED AP is a Full Professor and Associate Director at the School of Architecture at the University of Waterloo in Canada. She has been teaching building construction, environmental design and film at Waterloo Architecture since 1986.

She was part of the team responsible for the design of the new Architectural Engineering Degree offered at Waterloo, which will see its first graduating class in 2023. She is part of the steering committee for the AE program and also teaches a core introductory course as well as an AE Enclosure Studio.

Her area of research passion is Architecturally Exposed Structural Steel and has now published four extensive books on the subject with Birkhauser: Understanding Steel Design (2011), Diagrid Structures (2013), Architecturally Exposed Structural Steel (2015) and Complex Steel Structures (2020). She works with several agencies developing teaching resources for Architectural education as well as providing numerous continuing education talks, nationally and internationally, for architects and engineers in the applications of Architecturally Exposed Structural Steel. She has recently received the Lifetime Achievement Award from the American Institute of Steel Construction for her contributions to the field.

She is active with the Council on Tall Buildings and Urban Habitat, recently named the Chair of the Height and Data Committee. She is active with the Façade and Fire Engineering group.

View all CISC Technical Sessions

Forthcoming changes in Canadian Composite Steel Deck Design

Date: Wednesday September 27, 2023 | Time: 1:45 PM – 2:30 PM York Room (A+B)

Presentation on current standard CSSBI 12M: Composite Deck Design, identifying current and future proposed references for steel deck design as a form construction in Canada and describing the updated version of CSSBI 12M for 2023.

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!

View all CISC Technical Sessions

Gordie Howe International Bridge: Building Sustainable and Resilient Infrastructure

Date: Wednesday September 27, 2023 | Time: 3:00 PM – 3:45 PM Grand Ballroom

With construction well underway, the Gordie Howe International Bridge project will soon add another crossing option to the Windsor-Detroit trade corridor. The new six-lane bridge will provide additional crossing capacity, redundancy and a direct highway-to-highway connection to the busiest commercial land gateway between Canada and the US.
Valued at $5.7 billion (CDN), the Gordie Howe International Bridge project is being delivered through a public-private partnership. With sustainability top of mind, the bridge is being constructed to achieve a 125-year lifespan. Join Windsor-Detroit Bridge Authority (WDBA) and Parsons representatives to learn more about the bridge design and construction progress achieved to date. Technical requirements for bridge structural steel will be highlighted including durability, redundancy and dual design features.

SPEAKERS

Zaher Yousif, M.Sc., P.Eng., P.E. | Windsor-Detroit Bridge Authority

Zaher is a Structural Engineer with 30 years of experience specializing in the field of Bridge Engineering. Zaher has worked extensively in roadway and highway bridge planning, design, P3 project management, light rail and pedestrian bridges, contract administration and rehabilitation planning. During the course of his career, he has been involved in bridge structures using cast-in-place post tensioning box and precast concrete and steel girders. Zaher has been integral to the delivery of large and complex highway projects using the design-build and P3 model of delivery including the East Calgary ring road functional plan, Stoney Trail and Nose Hill Drive, Stoney / Macleod trail, Balzac interchanges, Northeast Stoney trail P3, Northwest Anthony Handy P3, Northeast Anthony Henday P3 and Circle Drive DB. He also participated in the procurement stage for Southeast Stoney trail P3, West LRT DB, Regina Bypass P3 and North Commuter Parkway P3.

Claire Heumann, P.Eng., P.E., ENV SP | Parsons

Claire is a Structural Engineer with 13 years of experience working with top-tier infrastructure clients on bridge, maritime, and civil structure projects. She has served in a variety of roles on the Gordie Howe International Bridge project over the last 4 years and currently acts as a link between the bridge design and construction teams. Her work includes review and response to design changes and field clarifications while providing oversight to confirm project requirements are met. Claire is also a Qualified Team Leader for bridge inspection and

View all CISC Technical Sessions

Connected workflow between steel construction teams

Date: Wednesday September 27, 2023 | Time: 3:00 PM – 3:45 PM Trinity Room (1+2)

In this session we talk about using modern detail oriented BIM process as a platform for easy, accurate and real time communication between steel fabricator, field crew, steel detailers, designers and general contractors. By using information models for all aspects of the construction the project we can get better and more predictable outcome, and get it faster.

SPEAKERS

Jeff Arnott | Exact Detailing

Tero Laine | Exact Detailing

Tero Laine has worked in construction industry as a structural designer, detailer and software expert for 25 years. He has spent considerable portion of that helping steel designers and fabricators get better results utilizing 3D models for all production work and further focusing on the Information in BIM models for process development and quality control. He currently works for Exact Detailing Ltd. In Victoria, BC.

View all CISC Technical Sessions

A Novel Seismic Isolation Steel Brace Framing System for Low Rise Buildings

Date: **Wednesday September 27, 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

Robert Tremblay | **Polytechnique Montréal**

View all CISC Technical Sessions

Frequently Asked Questions About Structural Bolts

Date: Wednesday September 27, 2023 | Time: 3:00 PM – 3:45 PM York Room (A+B)

Explore the essentials of structural bolts in this focused presentation addressing the most frequently asked questions received by the CISC in recent years. Answered questions will cover the difference between bolts and anchor rods, the suitability and identification of bolts grades, pre-tensioning and pre-installation verification requirements, bolt reuse and lubrication, and accounting for prying action. Join us to gain a better understanding of these critical construction components.

SPEAKER

Michael Colalillo | CISC

Michael Colalillo is a new addition to the CISC team, working as a senior staff engineer. He is a professional engineer in Ontario with over a decade of structural consulting experience, which includes involvement in the design of new buildings and the rehabilitation of existing structures. Michael obtained a doctorate from the University of Toronto where he performed experimental and analytical research on structural strengthening using fibre-reinforced polymers (FRP).

View all CISC Technical Sessions