130 E Randolph St, Ste 2000
Chicago, IL 60601
312.670.2400
www.aisc.org

Campus Connection Grants

The following is a list of recommended speakers from 2024 NASCC: The Steel Conference. Other speakers from the Steel Conference may also be invited, from 2024 or earlier. You can browse all past conference sessions at learning.aisc.org. Filter by 'Conference Recordings and Papers' and the year.

Sessions marked with the following codes are most appropriate for the following programs.

CE: Civil/structural/construction engineering

AE: Architectural engineering

AR: Architecture

CM: Construction Management

- **Emily Baker**

2024 Forge Prize: Mile Zero: The Forge Prize is a design competition that was established by AISC in 2018. It recognizes visionary emerging architects for designs that embrace steel as a primary structural component. Emily Baker of the University of Arkansas presents her and Princeton's Isabel M. de Oliveira's engineered design for a pedestrian and bicycle rest stop using a Spin Valence System she developed based on a kirigami approach involving cutting and folding of steel plates to create three-dimensional structures. [AR, AE]

- **John Hand**

Houston Endowment: A Case Study for Hybrid Steel and Mass Timber: John Hand of Arup discusses the Houston Endowment showcasing the implementation of an award-winning hybrid steel and mass timber project by highlighting steel's distinct advantages. In addition to the framing system consisting of numerous exposed AESS elements, custom steel fabrications for canopies, and solutions for thermal bridging were also implemented in this building. John Hand is an engineer with an architecture background. [AE, AR, CE, CM]

- **Stan Carroll**

Reviving the Master Builder: Computational Methods in Steel Design and Fabrication: The computational approach in design can connect the architect to the steel building process while increasing efficiency in fabrication and erection and improving precision as described by Stan Carroll of Beyond Metal. Factors like structural deflection and acoustical performance can become parameters in computational design. The speaker is an architect, sculptor, and builder,

and he will discuss the evolution of his design process using computational methods in his award-winning projects of the Skydance Bridge and the Doris Miller World War II Memorial. [AR, CM]

- **Terri Meyer Boake**

The AISC AESS System: Effective Applications: Terri Meyer Boake of University of Waterloo discusses the AISC specification system for Architecturally Exposed Structural Steel (AESS) that was designed to assist the team of the architect, engineer and steel fabricator with the effective navigation of AESS projects. The system works to standardize the approach to design and detailing and allow the team to focus on the more challenging aspects. This presentation will look at the application of the method to a range of projects with a focus on the importance of connection detailing as it feeds into the selection of the most appropriate AESS Category for the project. [AR, AE, CM]

- **Mark Hendel & Kyle Ingber**

Shaping Visions into Reality: Parametric Modeling in Chicago O'Hare's Expansion: Architects come up with forms and shapes that are not always easy to engineer, but for Chicago O'Hare's airport expansion a solution was found using parametric modeling. The HOK architect Kyle Ingber and HOK engineer Mark Hendel will discuss how the result satisfied structural integrity, constructability, and the architect's vision. [AE, AR, CE, CM]

- **Marc Simmons**

Steel in Contemporary Façade Design: Case Studies from international façade engineers Front: Front is a design consulting group that has built their reputation on original problem solving and a forward-thinking approach to technically advanced and aesthetically sensitive facade solutions. Marc Simmons, founding Principal, presents an overview of selected Front projects that rely on and integrate steel into facades in a myriad of system configurations. The presentation will adopt a case study format featuring a broad array of diverse facade projects. [AE, AR]

- **Michel Bruneau**

Adding Resilient Structural Systems to the Engineer's Toolbox: In recent years, the topic of resilience has become of nationwide interest and has caught the attention of the structural engineering community. Structural steel systems can be most effectively designed to provide resilience, and examples will be provided of how this advantage can be achieved. [CE, AE]

- **Cliff Schwinger**

50 Tips for Improving the Constructability of Steel-Framed Building Structures: This seminar presents 50 practical and easy-to-implement tips designers can use to improve the constructability and reduce the cost of steel-framed building structures. Illustrations and examples comparing constructable and "constructability-challenged" details are used to show how relatively small modifications to connection details and framing configurations can significantly improve constructability and reduce costs. Attendees will learn how to identify and

avoid common constructability problems to make their steel structures more constructable. [CE, AE, CM]

- **Jason Fuller, Taylor Perkins, & Tony Ream**

Major River Crossings - Challenging Design & Construction: The design and construction of major bridges across large navigable rivers presents many unique challenges. Not only from the bridge type and span arrangement selection, but also from the impacts of navigation traffic on the viable construction techniques and the impact of those challenges to refining the design of the bridge superstructure. This session will highlight two recently constructed steel bridge projects (the US 60 Smithland Bridge over the Cumberland River and a bridge along Interstate I-64 near Charleston, WV) and how these challenges were overcome. [CE]

- **James Byrum & Adam Friedman**

Construction engineering solutions to a unique and challenging structure at the Ismaili Center in Houston: The new Ismaili Center uses a contemporary design incorporating large open atrium spaces. The large open spaces are framed with structural steel while the majority of the remaining structure is concrete. The construction engineering aspects of this project required careful review of the partially completed structure of the Prayer Hall and Atrium, the design of fabricated temporary bracing, and lifting of heavy trusses. The unique geometry, missing load path, and long term schedule created engineering challenges for the partially completed structure. [AE, CE]

- **David Deem & Colby Tribble**

View from the Top: How an Erector Bids a Steel Project: The objective of this session is to review and discuss what the fabricator and erector see daily that would help everyone involved in the project from the engineers down to fabricate, erect, and become more efficient.

- Temporary Bracing vs Permanent Bracing – Discuss what we like to see vs what is typically shown.
- Welding Requirements – Weld all around symbols, partial pen vs full pen welds, preferred welding positions.
- Field Bolted vs Field Welded Costs – Discuss the cost saving associated on both the fabrication and erection side.
- Columns Lengths, Column Splice Locations & Types - Discuss where the erector prefers them and what all is associated in field welding vs field bolting.
- And more!

[CM]