Advance Program

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NASCC: THE STEEL CONFERENCE

incorporating the World Steel Bridge Symposium and the SSRC Annual Stability Conference

TECHNICAL SESSIONS | NETWORKING | PRODUCT SHOWCASE

for structural engineers, detailers, erectors and fabricators

April 3–5
2019

America's Center
Convention Complex
St. Louis, Missouri

cisc icca
imca

welcome to st. louis

What is The Steel Conference?

NASCC: The Steel Conference is the premier educational and networking event for the structural steel industry, bringing together structural engineers, structural steel fabricators, erectors and detailers. The Steel Conference offers nearly 150 sessions on topics ranging from properly specifying welds to connection design to tackling the skilled trade shortage. In addition to practical seminars on the latest design concepts, construction techniques and cutting-edge research, the conference also offers an extensive trade show, featuring products ranging from structural design software to machinery for cutting steel beams, and plentiful networking opportunities. And one low registration fee gains you access to all of the technical sessions, the keynote addresses, the T.R. Higgins Lecture and the exhibition hall.

What are some the Highlights this Year?

- There will be three keynote sessions—one each day. The first is a general topic designed to engage the audience and will feature a a former rocket scientist turned law professor who's best known as a professional contrarian. Ozan Varol will share why not following the herd can lead to spectacular success. The second will feature a presentation from a top-rated speaker from the last decade of conferences—Jon Magnusson from MKA, who will share stories from his amazing projects and use his crystal ball to look at future trends that will impact design and construction. And the third will offer the 2019 T.R. Higgins Lecture by Ron Ziemian for his work on brace stiffness for compression members.
- The conference offers 17 PDHs plus an additional 4 PDHs if they participate in an optional Short Course on Tuesday afternoon and another 8 PDHs for the optional short course on Saturday.
- With so many seminars running concurrently, it can be tough to select the one that's right for you. So we've created tracks (or groupings) to help you find the seminars you're most interested in—but we don't require you to pre-register for specific tracks, and we encourage you to explore a wide range of seminars (including the 13 sessions at the Annual Stability Conference and the 26 sessions at the World Steel Bridge Symposium). All of the sessions are included with your conference registration!
- On Wednesday in the exhibit hall, you'll be able to witness student teams demonstrating the erection of their entries into the Student Steel Bridge Competition. If you've never participated in one of these fabulous events, you're in for a surprise!
- Women Who Weld will hold a special workshop in the exhibit hall on Thursday and Friday morning.
- This year features the return of the Welcome Reception on Wednesday evening in the exhibit hall and we've now included the Conference Dinner on Thursday night with your full registration!

Who Participates?

More than 4,500 structural engineers, steel fabricators, erectors, detailers, educators and others that design and build fabricated steel buildings and bridges participate in The Steel Conference each year.

Who Are the Speakers?

Unlike most conferences, which offer a general call for papers, The Steel Conference planning committee selects topics first, then seeks out the top experts in those areas. While some of the speakers are perennial favorites, others are less familiar but are nevertheless experts in their areas.

What about the Exhibit Hall?

This year's exhibit hall features more than 240 exhibitors demonstrating a wide array of products. You'll find fabrication equipment, detailing software, connection products, safety equipment, engineering software and coatings. Equipment manufacturers typically provide full demonstrations of their equipment: Steel beams are cut, punched and drilled right on the exhibit hall floor! The exhibit hall is open April 3–5. See the back cover for exhibit hall hours.

What is the World Steel Bridge Symposium?

The World Steel Bridge Symposium (WSBS) brings together bridge design engineers, construction professionals, academics, transportation officials, fabricators, erectors and constructors to discuss and learn state-of-the-art practices for enhancing steel bridge design, fabrication and construction techniques. See page 31 for the detailed WSBS agenda.

What is the SSRC Annual Stability Conference?

The Structural Stability Research Council's Annual Stability Conference has been held in conjunction with the Steel Conference since 2001. In addition to 13 sessions with more than 30 papers, the SSRC Conference includes the 2018 Beedle Award and MAJR Medal presentations. SSRC also holds its annual meeting immediately prior to the SSRC Conference. Admission to all SSRC Conference sessions is included with your registration. Session descriptions begin on page 35.

for the most up-to-date program,
download the digital version at:
www.aisc.org/nascc

What is the Architect's Program?

The Architect's Program is a tailored collection of sessions that offer AIA LUs, AIA HSW credits and/or GBCI CE credits. The Architect's Program in conjunction with The Steel Conference is the newest education and networking event for architects designing with structural steel. Engage with your fellow architects in this concentrated program and learn about the latest exciting innovations in steel framing systems and how they can be applied to your upcoming projects.

The compass symbol next to session descriptions identifies sessions in the Architect's Program. Sessions are also summarized in the listing on page 42.

Will there be Conference Proceedings?

The Steel Conference does not offer conventional proceedings. Instead, approximately 45 days after the conference, we post slideshows (complete with audio) of most of the sessions to our education archives at **www.aisc.org/educationarchives**. Proceedings for the SSRC Conference will also be available in the archives.

How Many PDHs can I Earn?

Participants can earn 17 PDHs plus an additional 12 PDHs if they participate in optional short courses (see page 9).

Exhibiting

Interested in exhibiting at The Steel Conference? Contact Renae Gurthet at **renae@gurthetmedia.com** or 231.995.0637 or visit **www.aisc.org/nascc/exhibitors** for more information.

Sponsorships

For information regarding sponsorship opportunities, contact Elizabeth Purdy at **purdy@aisc.org** or 312-670-5438 or visit **www.aisc.org/nascc/sponsors**.

2019 Conference Location

America's Center Convention Complex
701 Convention Plaza
St. Louis, MO 63101
www.explorestlouis.com/meetings-conventions/americas-center/

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NASCC: THE STEEL CONFERENCE

schedule-at-a-glance

HRS.	WEDNESDAY SESSIONS | 4.3.19		8:00–9:00a	9:15–10:15a	10:30–12:15p		1:30–3:00p	3:15–4:45p	5:00–6:00p
1.0	K1	KEYNOTE: The Power of Contrarian Thinking			ALL				
1.0	A1	Designing for Membrane Architecture	E F A						
1.0	A2	Trends in Construction for Architects		E A					
1.0	A3	Promoting Health and Wellness Through Design							E A
1.5	C1a	Engineers: Getting the Welds You Want and Need						E	
1.5	C6a	Thermal Steel Bridging Quantification and Solutions in Steel-Framed Structures						E F R D A	
1.5	C7a	30+ Good Rules of Connection Design: Round 2						E F R D	
1.5	C8a	What I Didn't Have Time to Say in Baltimore					E F R D		
1.5	CS1	The Structural Stability Game Show					E F R D		
1.0	CS2	The Gateway Arch – Unique Perspectives		E F R D A					
1.0	D5	What Erectors Love to Hate about Steel Detailers							F R D
1.0	E1	Ethical Cultures of High-Performance Organizations	E F R D						
1.0	H1a	Retractable Stadium Roofs – Challenges in Design and Construction of Large Mechanized Structures	E A						
1.0	H2a	Designing with Complex Geometries		E F R D A					
1.5	H3a	AISC Research: Seismic Evaluation and Retrofit of Concentrically Braced Frames					E		
1.5	H4a	Lessons From the First SpeedCore Project					E A		
1.5	H5a	SpeedCore and Composite Plate Shear Walls: Current Research and Developments						E F R D	
n/a	J1	Fostering Innovation in Structural Steel[1]	J						
1.0	L1a	Structural Fire Engineering: A Powerful Sanctioned Design Option	E						
1.0	L2a	Design Column Reinforcement		E					
1.0	L3a	Proactive Fracture and Fatigue Design in Steel							E
1.5	L5	The Learning Never Stops: Going Beyond a College Education					E		
1.0	L7b	Properly Specifying Steel Deck		E					
1.0	L8a	Your Code of Standard Practice – Sections 3 and 4							E
1.5	L9a	Properly Specifying Steel Joists						E	
1.5	L10a	New Design Guide 35 – Storm Shelter and Safe-Room Design					E		
1.5	L11a	Design Guide 7: Industrial Buildings – Roofs to Anchor Rods					E F D		
1.5	L13a	Retrofit of Existing Buildings With Steel Joists					E		
1.5	L14	What Not To Draw						E F R A	
1.0	L15a	Traditional and Advanced Methods for Assessing Ponding Instability	E						
1.5	L16a	Structural Vibration Serviceability: FAQs and More					E		
1.0	L17a	Drawing Details: The Good, the Bad, and the Ugly		E					
1.5	L18a	Distortion of Curved Members						E	
1.0	LL1	What You Need to Know About Defending and Prosecuting Claims – Before You Get into a Dispute	E F R D						

LUNCH IN THE EXHIBIT HALL | noon – 2:00 p.m. | EXHIBIT HALL OPENS

[1] Educator Session is 7:00 a.m. – 9:00 a.m.

Key

A | Architects D | Detailers E | Engineers R | Erectors F | Fabricators J | Educators

HRS.	WEDNESDAY SESSIONS | 4.3.19		8:00–9:00a	9:15–10:15a	10:30–12:15p		1:30–3:00p	3:15–4:45p	5:00–6:00p
1.5	LL2	Defending and Prosecuting Delay Claims					E F R D		
1.0	LL3	It's Time to Take Another Look at Your Subcontracts		E F R D					
1.0	LL4	Due Diligence: Warning Flags Before You Submit Your Bid							E F R D
1.5	LL5	Avoiding "Bet the Company" Legal Mistakes						E F R D	
1.0	M1a	Post-Earthquake Reconstruction of Christchurch: Steel City New Zealand	E						
1.0	M2a	Let's Talk Seismic – In Language We Can All Understand		E					
1.5	M3a	The AISC 3rd Edition Seismic Design Manual					E F R		
1.5	M4	Healthcare Design in High Seismic Areas: Old and New						E F A	
1.0	M5a	Design of Multi-Tiered Braced Frames							E
1.5	M9	Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 1						E	
1.5	M10	Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 2						E	
1.5	M11a	To 3 or Not to 3						E	
1.5	P1	Understanding Your Assets as a Manager					E F R D		
1.5	P2	Effectively Influence Others to Optimize Results						E F R D	
1.5	P5	The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)					E F R D		
1.0	P6	Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications	E F R D						
1.0	P7	Get What You Want from the EOR and GC		F R					
1.0	P8	Effective Project Management							E F R D
1.0	R1	Heavy and Complicated Lifts – Risks, Uncertainties and What to Look Out For	E R						
1.0	R2	Code of Standard Practice: Section 7 – An Erector's Perspective		E F R D					
1.0	R3	Establishing an Effective Field Leadership Mentoring Program for Erectors							R
1.5	RT1	Fabricator Roundtable					F		
1.0	T3	The AISC Guide to BIM/Modeling							E F R D
1.0	Z2	Tackling the Skilled Trade Shortage		E F R					
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges							E F R D A
1.0	Q1	AISC Certification Forum	F R						
1.0	Q2	What Do AISC Certification Complaints and Appeals Policies Mean to Specifiers and Participants?		F R					
1.5	Q3	Let's Set that Goal!					F R		
1.5	Q4	Teamwork: No One in this Room is Smarter than All of Us						F R	
1.0	Q5	Areas of Concern and Corrective Action Requests: Streamlining the Process and Talking About the Root Cause							F R
1.0	B1	Improving the Quality of Steel Bridge Fabrication through Communication	E						
1.0	B2	Pedestrian Bridges – Unique Design and Analysis	E D						
1.0	B3	Research and Construction of Press-brake-formed Steel Tub Girder Bridges		E F					
1.0	B4	New and Exciting Changes to Welding for Bridges		E F D					
1.5	B5	Redundancy of Steel Bridges – Part 1					E		
1.5	B6	The Steel Advantage in Accelerated Bridge Construction					E F R D		
1.5	B7	It's All in the Details						E F R D	
1.5	B8	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1						E F R	
1.0	B9	The Rehabilitation of the Pulaski Skyway Bridge							E F R D
1.0	B10	Design and Maintenance of Steel Bridges for Corrosion Control							E F D
1.0	S1	Advances in Stability Analysis	E						
1.0	S2	Stability of Beams and Girders		E					
1.5	S3	Stability under Seismic Loading					E		
1.5	S4	Presentation Session for Beedle and McGuire Awards						E	
1.0	S5	Stability at Elevated Temperatures							E

LUNCH IN THE EXHIBIT HALL | noon – 2:00 p.m. | EXHIBIT HALL OPENS

Key

A | Architects D | Detailers E | Engineers R | Erectors F | Fabricators

schedule-at-a-glance | thursday

HRS.	THURSDAY SESSIONS | 4.4.19		8:00–9:00a	9:15–10:15a		10:30–11:45a	noon–1:00p		2:00–3:30p		4:00–5:30p
1.0	K2	KEYNOTE: The Joy of Steel...So Many Possibilities			EXHIBIT HALL OPENS | 9:30 a.m.	ALL		LUNCH IN THE EXHIBIT HALL | noon – 2:00 p.m.		COFFEE BREAK IN THE EXHIBIT HALL | 3:15 p.m.–4:15 p.m.	
1.0	A4	Salesforce Transit Center	E A								
1.0	A5	Architecturally Exposed Structural Steel (AESS): Communicating for Success		E F R A							
1.5	C1b	Engineers: Getting the Welds You Want and Need							E		
1.0	C2a	Bracing Success with Delegated Connection Design		E F D							
1.0	C3a	Kinked Connections – What Are They and Why Should I Care	E F								
1.5	C5a	Casting Away and Forging Ahead							E F A		
1.5	C5b	Casting Away and Forging Ahead									E F A
1.5	C6b	Thermal Steel Bridging Quantification and Solutions in Steel-Framed Structures									E F R D A
1.5	C7b	30+ Good Rules of Connection Design: Round 2							E F R D		
1.5	C8b	What I Didn't Have Time to Say in Baltimore									E F R D
1.0	D1	Training Your Detailers for Quality	E F D								
1.5	D2	Introduction to AISC Design Guide 34: Steel Framed Stairway Design							E F D A		
1.0	D3	Detailing: It's Not Just That Anymore		F D							
1.0	E2a	Engineering Ethics: When to Report Violations		E							
1.0	G2	Overview of the Steel Forming Process		E F R D A							
1.0	H2b	Designing with Complex Geometries					E F R D A				
1.5	H3b	AISC Research: Seismic Evaluation and Retrofit of Concentrically Braced Frames									E
1.5	H4b	Lessons from the First SpeedCore Project									E F R D A
1.5	H5b	SpeedCore and Composite Plate Shear Walls: Current Research and Developments							E		
n/a	J2	Afternoon Session and Lunch					S				
n/a	J3	Direct Connect					S				
1.0	L1b	Structural Fire Engineering: A Powerful Sanctioned Design Option					E				
1.0	L2b	Design Column Reinforcement	E								
1.0	L4a	Insidious Thermal Forces in Steel Structures: What You Need to Know	E A								
1.0	L6a	RFIs and the Waiting Game		E F D							
1.0	L7a	Properly Specifying Steel Deck					E				
1.5	L9b	Properly Specifying Steel Joists							E		
1.5	L10b	New Design Guide 35 – Storm Shelter and Safe-Room Design							E		
1.5	L11b	Design Guide 7: Industrial Buildings – Roofs to Anchor Rods									E F D
1.0	L12a	Lateral Load Transfer – From Diaphragm to Resisting Elements		E							
1.5	L13b	Retrofit of Existing Buildings With Steel Joists							E		
1.0	L15b	Traditional and Advanced Methods for Assessing Ponding Instability					E				
1.5	L16b	Structural Vibration Serviceability: FAQs and More							E		
1.0	L17b	Drawing Details: The Good, the Bad, and the Ugly					E				
1.5	L18b	Distortion of Curved Members									E
1.0	L19a	HSS: What Designers Should Know about HSS Dimensions and Material Availability		E F R D							
1.0	L20a	Concrete Filled HSS	E								
1.5	LL6	Crisis Management – Workplace Disasters							E F R D		
1.0	LL7	Legal Implications of Electronic Data Transfer	E F R D A								

Key

A | Architects D | Detailers E | Engineers R | Erectors F | Fabricators S | Students

HRS.	THURSDAY SESSIONS | 4.4.19		8:00–9:00a	9:15–10:15a		10:30–11:45a	noon–1:00p		2:00–3:30p		4:00–5:30p
1.5	M3b	The AISC 3rd Edition Seismic Design Manual									E F R
1.5	M6	Seismic Design for Non-West Coast Engineers – Part 1							E		
1.5	M7	Seismic Design for Non-West Coast Engineers – Part 2									E
1.0	M8a	Alternative Seismic Systems	E								
1.5	M11b	To 3 or Not to 3							E		
1.0	M12a	Seismic Behavior and Design of Steel Diaphragms					E F R D				
1.5	P3	Build Teamwork that Works to Win							E F R D		
1.5	P4	The Art of Negotiation									E F R D
1.0	P9	Job Preplan	E F R D								
1.0	P10	Fundamentals of Project Scheduling for Steel Fabrication		E F R D							
1.0	R4	Filling the Skills Gap for Ironworkers					F R				
1.0	R7	Why Do I Need My Temporary Bracing Plan Stamped?	E F R D								
1.5	RT2	Industry Roundtable							F R D		
1.0	T1	Get Control of Shop Information	F								
1.0	T2	What Your Detailing Software Wished You Knew		E F D							
1.5	T4	Best Practices for Model Review: An Update									E F D
1.0	Y1	From Engineer to Field – Eliminating Problems		E R							
1.0	Y2	Critical Lift Planning Basics 101					E R				
1.5	Z4	Solutions for Equity in the Design Industry									E F R D A
1.0	Z5	The Importance of Project Setup					E F R D				
1.0	Q6	What Does "Management Review" Really Mean?	F R								
1.0	Q7	I Have a Quality Manual and Procedures – Now What?		F R							
1.0	Q8	The New Certification Standard: Update for Erectors					R				
1.5	Q9	Steel Erectors Panel Discussion on Quality Control							R		
1.5	Q10	Let's Get Down to the Nuts and Bolts (and Welding Electrodes): All About Jobsite Storage									R
1.0	B11	Steel Bridge Design and Practice in Europe and Japan	E F R D								
1.0	B12	Fatigue: Unique Loading & Crack Detection Technology	E F D								
1.0	B13	Steel Bridge Design Resources: Introduction and Application		E							
1.0	B14	Challenging and Unique Projects – Part 1		E							
1.0	B15	A Second Look at Corrosion: Uncoated Weathering Steel Update & High-Performance Coatings in Florida					E F				
1.0	B16	Challenging and Unique Projects – Part 2					E F R D				
1.5	B17	Redundancy of Steel Bridges – Part 2							E		
1.5	B18	Long Span Bridges							E F R D		
1.5	B19	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1									E F D
1.5	B20	Challenges Encountered During Construction and Demolition									E R
1.0	S6	Stability Considerations for Localized Conditions	E								
1.0	S7	Stability of Plates and Shells		E							
1.0	S8	Stability of Apex Connections in Cold-Formed Steel Portal Frames					E				
1.5	S9	Topics in Lateral-Torsional Buckling							E		
1.5	S10	Topics in Local Stability									E

EXHIBIT HALL OPENS | 9:30 a.m.

LUNCH IN THE EXHIBIT HALL | noon – 2:00 p.m.

COFFEE BREAK IN THE EXHIBIT HALL | 3:15 p.m.–4:15 p.m.

Key

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schedule-at-a-glance | friday

HRS.	FRIDAY SESSIONS | 4.5.19		8:00–9:00a		9:15–10:15a		10:45–11:45a	noon–1:30p
1.0	K3	KEYNOTE: T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide your Judgment		EXHIBIT HALL OPENS | 9:00 a.m.		SNACK IN THE EXHIBIT HALL | 10:15 a.m.–10:45 a.m.		ALL
1.0	C2b	Bracing Success with Delegated Connection Design			E F D			
1.0	C3b	Kinked Connections – What are They and Why Should I Care?					E F	
1.0	C4	Partially Restrained Connections (25 years later) – Current Views From Past Higgins Award Winners	E F					
1.0	D4	Connection Design Efficiency Loss	E F R D					
1.0	E2b	Engineering Ethics: When to Report Violations	E					
1.0	G1	Whole-Building Life-Cycle Assessment	E A					
1.0	H1b	Retractable Stadium Roofs – Challenges in Design and Construction of Large Mechanized Structures	E A					
1.0	L3b	Proactive Fracture and Fatigue Design in Steel			E			
1.0	L4b	Insidious Thermal Forces in Steel Structures: What You Need to Know					E A	
1.0	L6b	RFIs and the Waiting Game	E F D					
1.0	L8b	Your Code of Standard Practice – Sections 3 and 4	E					
1.0	L12b	Lateral Load Transfer – From Diaphragm to Resisting Elements					E	
1.0	L19b	HSS: What Designers Should Know about HSS Dimensions and Material Availability	E F R D					
1.0	L20b	Concrete Filled HSS					E	
1.0	M1b	Post-Earthquake Reconstruction of Christchurch: Steel City New Zealand					E	
1.0	M2b	Let's Talk Seismic - In Language We Can All Understand					E	
1.0	M5b	Design of Multi-Tiered Braced Frames					E	
1.0	M8b	Alternative Seismic Systems			E			
1.0	M12b	Seismic Behavior and Design of Steel Diaphragms			E F R D			
1.0	P11	Effective Communication for Project Managers	E F R D					
1.0	P12	Your Code of Standard Practice – Sections 5, 6 and 8			F			
1.0	R5	What's New in the Realm of Safety?			E F R			
1.0	R6	Don't Be "Rig Poor"! – Understanding the process of sizing the right crane for your steel erection project					E F R	
1.0	Z1	Working ON Your Business, Not Just IN Your Business					E F R D	
1.0	Z3	Structural Engineering Engagement and Equity (SE3): 2018 Survey Results	E					
1.0	Q11	The Paint Certification Primer	F					
1.0	Q12	The Real Secret of Calibration			F R			
1.0	B21	New AASHTO ABC Guide Specification & Unique Projects	E F R D					
1.0	B22	Technologies to Assist with Bridge Design, Fabrication, and Construction	E F R D					
1.0	B23	2018 Prize Bridges			E F R D			
1.0	B24	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3			E F R D			
1.0	B25	Rating and Evaluation of Existing Steel Bridges					E	
1.0	B26	Advances in the Design Code & AASHTO Design Code Compared to International Codes					E	
1.0	S11	Stability of Columns	E					
1.0	S12	Stability of Structural Systems			E			
1.0	S13	Special Topics in Structural Stability					E	

Key

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NASCC: THE STEEL CONFERENCE

short courses

The 15th Edition Steel Construction Manual and the 2016 AISC Specification for Structural Steel Buildings

SC1 Tuesday 1:00 p.m. – 5:00 p.m.

Speaker: Louis F. Geschwindner, PE, PhD

$275 members* | $400 non-members
Add $50 if purchased on-site.

*The following qualify for Member pricing:
AISC, CISC, NSBA, IMCA, SSRC, NISD

Registration is required for this short course.
$125 discounted 15th Ed. *Steel Construction Manual* available for additional purchase.
See **PART 5** of the registration form on page 55.

You won't want to miss this half-day seminar clarifying important changes and updates that have been incorporated into the 2016 AISC *Specification* and the 15th Edition *Steel Construction Manual*. The seminar will examine the *Specification* chapter by chapter and highlight changes since the 2010 version. Design examples will be presented to demonstrate changes in the *Specification* and how to apply useful design aids in the *Manual*.

Engineers 4.0 PDHs/AU

Nonlinear Structural Analysis Methods Used in Modern Steel Design

SC2 Tuesday 1:00 – 5:00 p.m.

Speakers: Barry Rosson, Florida Atlantic University

$275 members* | $400 non-members
Add $50 if purchased on-site.

*The following qualify for Member pricing:
AISC, CISC, NSBA, IMCA, SSRC, NISD

Registration is required for this short course.
See **PART 5** of the registration form on page 55

Engineers consistently choose structural steel as a material for achieving efficient designs. Its high strength- and stiffness-to-weight properties propel increasingly slender members to the forefront of modern engineering practice. This course will begin with the fundamentals of stability design and progress towards the stability, and eventually thin-walled steel. Elastic and inelastic flexural, lateral-torsional, flexural-torsional, local, and distortional buckling will be discussed as the course dives deeper and deeper into slenderness. This will be a tool-driven course, and open access software will be emphasized as a means of robustly capturing behavior and aiding the design process.

Engineers 4.0 PDHs/AU

Seismic Design Manual, 3rd Edition, and Applications of the 2016 AISC Seismic Provisions

SC3 Saturday 8:00 a.m. – 5:00 p.m.

Speakers: Thomas A. Sabol, Englekirk Institutional

$375 members* | $600 non-members
Add $50 if purchased on-site.

*The following qualify for Member pricing:
AISC, CISC, NSBA, IMCA, SSRC, NISD

Registration is required for this short course.
See **PART 5** of the registration form on page 55.

This short course introduces the 2019 Louis F. Geschwindner Seminar Series on the 2016 AISC *Seismic Provisions* and the 3rd Edition of the *Seismic Design Manual*. It highlights proper application of key design and detailing requirements and introduces important technical changes in the recently updated *Seismic Provisions*. Design examples from the new 3rd Edition of the *Seismic Design Manual* will be included.

Engineers 8.0 PDHs/AU

NASCC: THE STEEL CONFERENCE

keynote presentations

The Power of Contrarian Thinking

K1 Wednesday 10:30 a.m. – 12:15 p.m.

Speaker: Ozan Varol,
Lewis & Clark Law School

We're genetically programmed to follow the herd. Thousands of years ago, conformity to our tribe was essential to our survival. Not anymore! Continued success in the modern world requires continued innovation. Businesses can't get ahead if they're simply following. Ozan Varol's articles and keynotes on contrarian thinking have been a smash hit with everyone from Silicon Valley entrepreneurs to New York Times bestselling authors. In this talk, Ozan will explain how you can cultivate extraordinary thinking to produce extraordinary results in your life and business.

bio:

Varol is a rocket scientist, award-winning law professor, and bestselling author. A native of Istanbul, Turkey, Ozan grew up in a family of no English speakers. He learned English as a second language and moved to the United States by himself at 17 to attend Cornell University and major in planetary sciences. While there, he served on the operations team for the 2003 Mars Exploration Rovers project that sent two rovers–Spirit and Opportunity–to Mars. He built stuff that went to the red planet and wrote code that snaps photos of the Martian surface. Then, he walked away from it all and became a law professor to influence others to make interplanetary leaps on this planet. He graduated first in his class from law school, earning the highest grade point average in his law school's history since the introduction of the 4-point grading scale. He's currently a professor at Lewis & Clark Law School in beautiful Portland, Oregon. He has written numerous articles that are taught in colleges, graduate schools, and the United States Military Academy. His work has been featured in various domestic and foreign media, including Wall Street Journal, Newsweek, BBC, TIME, CNN, Washington Post, Slate, and Foreign Policy. He has advised the U.S. Department of Defense, given lectures at foreign constitutional courts, and presented at businesses, non-profits, and government institutions, including the U.S. Department of State. He is the author of the book, *The Democratic Coup d'État*, published by Oxford University Press. When he's not teaching, Ozan can be found lecturing or blogging about contrarian thinking, swinging kettlebells, hanging out with his wife Kathy and his dog Einstein, and swearing at his television during Turkish soccer games.

ALL 1.0 AU

Student Steel Bridge Competition on Display

Wednesday 12:15 p.m. – 2:15 p.m.

Did you know that annually, students at over 200 universities across the nation get hands-on, practical experience by participating in AISC's Student Steel Bridge Competition? Join us Wednesday in the exhibit hall on our mock competition floor and see real competition bridges produced via thousands of hours of design, fabrication and practice assembly. Meet some of this year's participants and get a firsthand look at a program that's been engaging students since 1987!

The Joy of Steel... So Many Possibilities

K2 Thursday 10:30 a.m. –11:45 a.m.

Speaker: Jon D. Magnusson, SE, PE, NAE, Magnusson Klemencic Associates

This is the story of one engineer's decades-long journey of discovery of the surprising and almost limitless ways structural steel can be used. Many projects provide new lessons on what is possible. Even "forgotten" solutions from the 1960s still have applicability today. Many recent projects have succeeded by creating new approaches ranging from inventing new structural systems to advanced construction methodology to seismic isolation. What does all of this mean for the future of steel construction? The most important discovery of this personal journey is that while it may appear to be about steel, it is really about people. People working together to create incredible structures.

bio:

Magnusson is Senior Principal at Magnusson Klemencic Associates consulting structural/civil engineers with offices in Seattle and Chicago. The 185-person firm has provided engineering services for projects in 48 states and 54 countries. Jon earned his BSCE at the University of Washington and then his MSCE at the University of California, Berkeley. Immediately after graduation in 1976, he joined the 36-person firm Skilling Helle Christiansen Robertson, which 27 years later would ultimately be renamed Magnusson Klemencic Associates. At the age of 30 he was promoted to Principal, then elected CEO at the age of 34 and served in that capacity for the next 25 years. His whole career has been focused on the engineering of "architectural" structures. Jon is a licensed professional engineer in 24 states. He is an Honorary Member of the national American Institute of Architects, a Distinguished Member of ASCE, and a member of the both the National Academy of Engineering and the National Academy of Construction. He has received the AISC Designer Lifetime Achievement Award, the Fritz Medal, and the 2014 ASCE OPAL for Design.

ALL 1.0 PDHs/AU

T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide Your Judgment

K3 Friday noon. – 1:30 p.m.

Speaker: Ronald D. Ziemian, BSCE, MENG, PhD, Bucknell University

One of the great things about working with structural steel is that most design provisions are based on first principles and fairly predictable experimental test results. This is especially true when assessing structural stability. The primary objective of this lecture is to show how most stability problems can be understood by focusing on the big picture rather than on the details of the seemingly complex mathematics. The presentation will begin by identifying those factors that primarily impact the buckling strength of a system, member, or cross section. Drawing on several example applications, the proper use of today's computational analysis tools will be demonstrated as a means for enhancing engineering judgement. A case will be made for how a fundamental understanding of structural stability is often sufficient for today's steel designers, whether applying the direct analysis method to assess system strength or a column curve to evaluate the strength of a compression member. The lecture will also include an overview of the author's paper "Formulation and Validation of Minimum Brace Stiffness for Systems of Compression Members," which was in part the basis for the T.R. Higgins Award.

bio:

Ronald D. Ziemian is a professor at Bucknell University. He received his BSCE, MENG, and PhD degrees from Cornell University. In addition to authoring papers on the design and analysis of steel and aluminum structures, Ron is co-author of the textbook *Matrix Structural Analysis* (Wiley, 2000), the developer of the educational analysis software MASTAN2, and the editor for the 6th edition of the *Guide to Stability Design Criteria for Metal Structures* (Wiley, 2010). He is the Co-Editor in Chief of Elsevier's *Journal of Constructional Steel Research*. Ron is a member of AISC's Committee on Specifications, chairs AISC's TC3 – Loads, Analysis and Stability, and previously chaired AISC's TG on Inelastic Analysis and Design. He also serves on the AISI and Aluminum Association Specification Committees, is active with the Steel Joist Institute, and the former chair of the Structural Stability Research Council. Ron was awarded the ASCE Norman Medal (1994), the AISC Special Achievement Award (2006), and the ASCE Shortridge Hardesty Award (2013) for his contributions to the profession related to the stability analysis and design of metal structures.

ALL 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

NASCC: THE STEEL CONFERENCE

sessions

designer

Designing for Membrane Architecture

A1 Wednesday 8:00 – 9:00 a.m.

Speaker: Marco Cano, PE, Fractal Structural Engineering

Moderator: Katherine Quigg, AISC

This presentation will provide an overview of the analysis, design and fabrication of membrane structures—with the hope of increasing collaboration between architects and engineers to design successful membrane structures. It will also discuss form-finding to generate the geometry of a membrane structure, as well as design assumptions and fabrication of a membrane's structure, patterning, welding and some typical connections.

Engineers, Fabricators, Architects — 1.0 PDHs/LU/HSW/AU

Trends in Construction for Architects

A2 Wednesday 9:15 – 10:15 a.m.

Speaker: Tabitha Stine, SE, PE, LEED AP, AISC

Moderator: Brian Ward, AISC

As technology marches forward, many trends in construction continue to impact the way we design and construct our built environment. From augmented reality to understanding resilient design, this session will cover trends impacting architects as we take on projects in the near future.

Engineers, Architects — 1.0 PDHs/LU/HSW/AU

Promoting Health and Wellness Through Design

A3 Wednesday 5:00 – 6:00 p.m.

Speaker: Amaya Labrador, AIA, EDAC, Browne McGregor Architects, Inc.

Moderator: Larry Flynn, AISC

Experience an architect's perspective on what it means to design healthy spaces and how design can be used to help achieve healthy environments. This session includes an overview of how steel can be used as an advantageous building block in achieving this design approach.

Engineers, Architects — 1.0 PDHs/LU/HSW/AU

Salesforce Transit Center

A4 Thursday 8:00 – 9:00 a.m.

Speaker: Bruce Gibbons, Thornton Tomasetti

The new Salesforce Transit Center in San Francisco connects 11 transit systems, is pursuing LEED Gold Certification and has a 5.4-acre rooftop park. And thanks to a performance-based approach, the structure is designed to survive a maximum earthquake event without significant loss of function.

Engineers, Architects — 1.0 PDHs/LU/GBCI/AU

Architecturally Exposed Structural Steel (AESS): Communicating for Success

A5 Thursday 9:15 – 10:15 a.m.

Speaker: Terri Meyer Boake, University of Waterloo

This session will look at the new AISC method for specifying architecturally exposed structural steel (AESS), specifically the new method of tiered categories that reflect distance to view, use of space, desired finish and budget. Numerous case studies will illustrate how this new approach has been successfully applied to projects.

Engineers, Fabricators, Erectors, Architects — 1.0 PDHs/LU/HSW/AU

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connections

Engineers: Getting the Welds You Want and Need

C1a Wednesday 3:15 – 4:45 p.m.
C1b Thursday 2:00 – 3:30 p.m.

Speaker: Robert Shaw, PE, Steel Structures Technology Center

Moderator: John Kennedy, Structural Affiliates International

Most practicing structural engineers are familiar with the design provisions for welded structural connections, but many struggle with accurately conveying their design details and ensuring that mechanical properties and quality are achieved. This session will provide guidance on welding symbols, joint details, document submittals, welding procedure specification (WPS) review and specifying inspection and nondestructive testing.

Engineers — 1.5 PDHs/AU

Bracing Success with Delegated Connection Design

C2a Thursday 9:15 – 10:15 a.m.
C2b Friday 9:15 – 10:15 a.m.

Speaker: Carol Drucker, DZSE

Don't waste time showing too much information that isn't used or that can unnecessarily complicate your design. This session will include tips for successful delegated vertical bracing design and what information should be included on drawings, which will help you limit RFIs and resubmittals.

Engineers, Fabricators, Detailers — 1.0 PDHs/AU

Kinked Connections – What Are They and Why Should I Care?

C3a Thursday 8:00 – 9:00 a.m.
C3b Friday 10:45 – 11:45 a.m.

Speaker: Clifford Schwinger, PE, The Harman Group

If not addressed and configured during design, kinked connections—those where loads create secondary moments and stresses as they flow through—can add unnecessary additional cost and complexity to the structure. This session reviews the importance of eliminating kinked connections when possible.

Engineers, Fabricators — 1.0 PDHs/AU

Partially Restrained Connections (25 years later) – Current Views From Past Higgins Award Winners

C4 Friday 8:00 – 9:00 a.m.

Speaker: Roberto Leon, PE, PhD, DM ASCE, Virginia Tech

Over the last 25 years, designers have come to implicitly recognize the behavior and advantages of partially restrained (PR) connections. This presentation will review that progress, with emphasis on how we can apply PR connections in new construction and evaluation of existing structures.

Engineers, Fabricators — 1.0 PDHs/AU

Casting Away and Forging Ahead

C5a Thursday 2:00 – 3:30 p.m.
C5b Thursday 4:00 – 5:30 p.m.

Speakers: Jennifer Pazdon, Cast Connex; David Poweleit, Steel Founders Society of America

Steel casting and forging technologies present an opportunity to create structures, particularly connections, that meet aesthetic and performance standards previously inconceivable with traditional fabrication methods. Castings offer geometric freedom while forgings offer high quality in heavy sections. These technologies are readily available in North America and are currently in use on small to super-tall projects. Learn more about practical casting and forging applications as well as current research and an upcoming design guide.

Engineers, Fabricators, Architects — 1.5 PDHs/LU/AU

Thermal Steel Bridging Quantification and Solutions in Steel-Framed Structures

C6a Wednesday 3:15 – 4:45 p.m.
C6b Thursday 4:00 – 5:30 p.m.

Speakers: Jerome Hajjar, Northeastern University; Kara Peterman, University of Massachuetts Amherst; Mark Webster, Simpson Gumpertz & Heger; James D'Aloisio, Klepper, Hahn & Hyatt

This presentation summarizes research efforts at Northeastern University focusing on experimental tests and thermal analyses of composite fiber-reinforced polymer thermal shim plies within steel connections such as shelf angles, roof posts and canopy beams. Topics covered include quantifying the structural performance of thermal break solutions using these polymer shims, quantifying the typical magnitude of thermal loss reduction, identifying which conditions of thermal bridging represent significant energy loss that should be mitigated or avoided and addressing creep in thermoplastic shim elements.

Engineers, Architects — 1.5 PDHs/LU/GCBI/AU

1.0 PDH = 0.1 CEU; AIA credits = LU, HSW; GBCI = eligible for GBCI CE credits; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

30+ Good Rules of Connection Design: Round 2

C7a Wednesday 3:15 – 4:45 p.m.
C7b Thursday 2:00 – 3:30 p.m.

Speakers: Carol Drucker, DZSE; William Thornton, Cives; Patrick Fortney, University of Cincinnati; Dominick D'Antonio, W&W Steel; Supe Snehal, Pan Gulf Technology

Moderator: Carrie Warner, WSP

A panel of industry experts—a connection engineer, detailer, educator, erector and fabricator—give their best rules on cost-effective, buildable connections. This presentation updates and expands upon the oft-cited 2004 *Modern Steel Construction* article on the rules on connection design.

Engineers, Fabricators, Erectors, Detailers — 1.5 PDHs/AU

What I Didn't Have Time to Say in Baltimore

C8a Wednesday 1:30 – 3:00 p.m.
C8b Thursday 4:00 – 5:30 p.m.

Speaker: Duane Miller, The Lincoln Electric Company

At last year's conference in Baltimore, Duane Miller presented a keynote lecture, "Important Lessons I've Learned in the Past Forty Years," and a second lecture on the new edition of Design Guide 21 on welding. In St. Louis, material from "the cutting room floor" from both sessions will be repurposed for this session. A mixture of welding-related lessons and managerial principles will be discussed. This session promises to offer everyone at least one lesson that will be career- and life-changing.

Engineers, Fabricators, Erectors, Detailers — 1.5 PDHs/AU

case study

The Structural Stability Game Show

CS1 Wednesday 1:30 – 3:00 p.m.

Speakers: Cliff Bishop, Exponent, Inc.; Patricia Clayton, UT Austin; John Hooper, MKA; Larry Griffis, Walter P Moore; Ronald Ziemian, Bucknell

This session is a game show format where a panel of engineers and academics will present their views on the root cause of a structure collapse. The audience then votes on which cause was the most likely. Finally, the moderator will explain the true nature of the collapse.

Engineers, Fabricators, Erectors, Detailers — 1.5 PDHs/AU

The Gateway Arch – Unique Perspectives

CS2 Wednesday 9:15 – 10:15 a.m.

Speakers: Christine Freisinger, Wiss, Janney, Elstner Associates, Inc.; Joshua Freeland, Wiss, Janney, Elstner Associates, Inc.

Moderator: Luke Johnson, AISC

The National Park Service and WJE investigated the Gateway Arch, including the visible stains on the stainless steel skin from 2005 to 2014. The team used a combination of traditional techniques such as field microscopy and high-powered spotter scopes and innovative technologies such as casting molds of the surface, helmet-mounted video cameras and cloud-based real-time communication to facilitate the challenging investigation. This presentation will discuss development of the access program, the staining assessment, cleaning trials and the overall conclusions of the investigation.

Engineers, Fabricators, Erectors, Detailers, Architects — 1.0 PDHs/LU/HSW/AU

detailing

Training Your Detailers for Quality

D1 Thursday 8:00 – 9:00 a.m.

Speaker: Brain Cobb, PE, Structural Detailing, LLC

Moderator: James Stever, Virtual Steel Technologies, Inc.

Training detailers is much different today than it was even 10 or 20 years ago. Too many detailers and detailing firms think it is just about software. As we now move toward a model-based steel design, detailing, manufacturing and construction paradigm, the questions become: How do you bring new human resources into your operations? What is your training program for your detailers? And how are you ensuring quality in the final data and drawings? This session will address these concerns and others.

Engineers, Fabricators, Detailers — 1.0 AU

Intro to AISC Design Guide 34: Steel Framed Stairway Design

D2 Thursday 2:00 – 3:30 p.m.

Speaker: Adam Friedman, CSD

Moderator: Ross Jones, Delta Structural Steel Svcs.

Typically, there is not much information given in the contract documents for stairs defined as delegated design components, and much is left to the delegated designer and detailer. This session will present best practices and help define an approach for the set-up, design and detailing of steel framed stairways, as well as help ensure that your designs meet the contract document, applicable building code and OSHA and ADA requirements.

Engineers, Fabricators, Detailers, Architects — 1.5 PDHs/LU/HSW/AU

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Detailing: It's Not Just That Anymore

D3 Thursday 9:15 – 10:15 a.m.

Speaker: Mark Turman, Southern New Jersey Steel

Moderator: Bray Bourne, Universal Steel, Inc.

What is detailing today? What software is needed? What does the fabricator/detailer relationship look like today? Attend this session for a discussion of all of these questions and more.

Fabricators, Detailers 1.0 AU

Connection Design Efficiency Loss

D4 Friday 8:00 – 9:00 a.m.

Speakers: David Wright, Carpenter Wright Engineers; David McBride, McGill Engineering Inc.; Robert Johnson, McGill Engineering Inc.

Moderator: Sam Boykin, SteelFab Inc.

Many projects with delegated connection design responsibilities hit roadblocks that derail the schedule early in detailing process. This forces the delegated connection design engineer to send RFIs requesting essential information from the EOR so they can complete their design—which in turn delays the detailing schedule and possibly the project. The end result is a project that is behind schedule with significant efficiency loss. The concept of a pre-detailing conference, which can help avoid these types of issues, is presented in this session.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

What Erectors Love to Hate about Steel Detailers

D5 Wednesday 5:00 – 6:00 p.m.

Speakers: David Deem, Deem Structural Services, LLC.; Colby Tribble, Deem Structural Services, LLC

Moderator: Joel Hicks, Blackstone Group

The course is intended to help educate detailers on best practices for enhancement of erection productivity and safety, while staying in compliance with industry regulations as well as budgetary restraints.

Fabricators, Erectors, Detailers 1.0 AU

ethics

Ethical Cultures of High-Performance Organizations

E1 Wednesday 8:00 – 9:00 a.m.

Speaker: Daniel Murphy, PE, Meyer Borgman Johnson

Ethical breaches are reported daily in the media, and design and construction professionals face challenges of operating ethically every day. The course will explore the basics of ethical behavior and the benefits that can be enjoyed by individuals and firms that develop a strong ethical brand.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Engineering Ethics: When to Report Violations

E2a Thursday 9:15 – 10:15 a.m.
E2b Friday 8:00 – 9:00 a.m.

Speaker: Brent Wright, PE, Wright Engineering, LLC

Moderator: Bray Bourne, Universal Steel, Inc.

When is it appropriate to report a violation? This session will dive into this very important question.

Engineers 1.0 PDHs/AU

sustainability

Whole-Building Life-Cycle Assessment

G1 Friday 8:00 – 9:00 a.m.

Speaker: Mark Thimons, Steel Market Development Institute

Moderator: Ben Pitchford, New Millenium Building Systems

Several codes, standards and building rating systems now require or encourage the development of a whole-building life-cycle assessment (LCA) for new building designs. This session will investigate how these assessments are achieved, including identification of some of the potential pitfalls in the process.

Engineers, Architects 1.0 PDHs/LU/HSW/GBCI/AU

Overview of the Steel Forming Process

G2 Thursday 9:15 – 10:15 a.m.

Speaker: Casimaro Liborio, Gerdau

Moderator: Bray Bourne, Universal Steel, Inc.

This session will provide an in-depth look at how steel scrap is sourced, processed at the mill and recycled again for continual use.

Engineers, Fabricators, Erectors, Detailers, Architects 1.0 PDHs/LU/GBCI/AU

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innovation

Retractable Stadium Roofs – Challenges in Design and Construction of Large Mechanized Structures

H1a Wednesday 8:00 – 9:00 a.m.
H1b Friday 8:00 – 9:00 a.m.

Speaker: Andrew Agosto, SE, PE, Uni-Systems Engineering

Moderator: Jerod Hoffman, Meyer Borgman Johnson

Through case studies of retractable roofs such as AT&T Stadium, Marlins Park and Mercedes-Benz Stadium, the speaker will share the unique challenges of designing and constructing large mechanized structures. The presentation will include an overview of retractable roof drive systems, a detailed look at mechanized structure versus static structure stiffness considerations and imposed loads including braking, skewing and impact.

Engineers, Architects — 1.0 PDHs/LU/HSW/AU

Designing with Complex Geometries

H2a Wednesday 9:15 – 10:15 a.m.
H2b Thursday noon – 1:00 p.m.

Speaker: Robert Baxter, MKA

Moderator: Ben Klingenstein, MKA

Complex geometries require complex structural solutions. However, finding a solution that is affordable and constructible is the difference between making the architect's vision a reality or not. This session will identify tools that can be used to work with complex geometries, as well as show examples of how complex geometry problems were solved/simplified and brought to life.

Engineers, Fabricators, Erectors, Detailers, Architects — 1.0 PDHs/LU/AU

AISC Research: Seismic Evaluation and Retrofit of Concentrically Braced Frames

H3a Wednesday 1:30 – 3:00 p.m.
H3b Thursday 4:00 – 5:30 p.m.

Speakers: Charles Roeder, University of Washington; Dawn Lehman, University of Washington

Moderator: Jim Malley, Degenkolb Engineers

Prior to around 1988, concentrically braced frames (CBFs) used for seismic lateral force-resisting systems were not designed to promote ductile response using capacity-based design of the braced-frame beams. AISC recently sponsored a study at the University of Washington to investigate weaker beams in these frames, both to evaluate existing structures and to develop more efficient beam designs. This session discusses the seismic behavior of these systems, recent research and a seismic retrofit design example of a braced-frame system.

Engineers — 1.5 PDHs/AU

Lessons From the First SpeedCore Project

H4a Wednesday 1:30 – 3:00 p.m.
H4b Thursday 4:00 – 5:30 p.m.

Speaker: Ron Klemencic, SE, PE, Hon. AIA, MKA; Amit Varma, Purdue University; Michel Bruneau, University at Buffalo

Rainier Square in Seattle is the first project to use the new SpeedCore system (also called a concrete-filled composite plate shear wall). This session will look at how the project is proceeding and the lessons learned from its design, fabrication and erection. Ongoing research will also be examined.

Engineers, Fabricators, Erectors, Detailers, Architects — 1.5 PDHs/LU/HSW/AU

SpeedCore and Composite Plate Shear Walls: Current Research and Developments

H5a Wednesday 3:15 – 4:45 p.m.
H5b Thursday 2:00 – 3:30 p.m.

Speakers: Soheil Shafaei, Purdue University; Morgan Broberg, Purdue University; Emre Kizilarslan, University at Buffalo; Saahas Bhardwaj, Purdue University

This session will showcase findings from the latest research in composite plate shear walls and their application to the innovative SpeedCore system. Research projects funded by the Charles Pankow Foundation and AISC are ongoing at Purdue University and the University at Buffalo on various topics including experimental behavior, numerical analysis, seismic design and fire-resistant design. Graduate students from Purdue and the Universtity at Buffalo will present their findings.

Engineers, Fabricators, Erectors, Detailers — 1.5 PDHs/AU

1.0 PDH = 0.1 CEU; AIA credits = LU, HSW; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

educator

Fostering Innovation in Structural Steel

J1 Wednesday 7:00 – 9:00 a.m.
breakfast at 7:00 a.m., program at 7:30 a.m.

Open to AISC educator members ONLY.

See **PART 6** of the registration form on p. 55.

Join fellow educators for a breakfast, presentation, and discussion on how to foster innovation in students when it comes to structural steel design.

note: Full-time faculty members who teach at U.S. universities that attend the Educator Session can be eligible to receive **up to $300 in travel assistance** from AISC. Travel reimbursement requests are submitted following the conference. Receipts are required for reimbursement. Registration is required for this complimentary session.

students connecting with industry sessions

Afternoon Session and Lunch

J2 Thursday noon – 1:30 p.m.

Speakers: John Hooper, Magnusson Klemencic Associates; Shelley Finnigan, ArcelorMittal

Open to AISC student members ONLY.

See **PART 6** of the registration form on p. 55.

Students will have the opportunity to hear career insights from two distinguished construction industry and design professionals. This two part session will provide upcoming graduates with unique perspectives on the professional world they will soon enter. Students attending the SCIS Afternoon Session will receive a complimentary lunch.

Direct Connect

J3 Thursday 1:30 – 3:00 p.m.

Open to AISC student members ONLY.

See **PART 6** of the registration form on p. 55.

Ever wish you could grab a cup of coffee with the top designers of the leading SE firms? At this event, students will have the opportunity to connect and interact with leading industry experts from design and construction companies around North America in a relaxed setting. While most firms at this event may not be hiring, this is a great opportunity to meet significant designers and make key contacts at major firms.

note: AISC Student Members who are full-time students at U.S. universities that attend SCIS can be eligible to receive **up to $175 in travel assistance** from AISC. Travel reimbursement requests are submitted following the Conference. Receipts are required for reimbursement. Additionally, AISC Student Members that attend SCIS can be eligible to join us at the Conference Dinner. Tickets are distributed upon the close of SCIS. Registration is required for these complimentary student sessions.

design & analysis

Structural Fire Engineering: A Powerful Sanctioned Design Option

L1a Wednesday 8:00 – 9:00 a.m.
L1b Thursday noon – 1:00 p.m.

Speaker: Kevin LaMalva, Simpson Gumpertz & Heger Inc.

Moderator: Ken Charles, Steel Joist Institute

Structural fire protection is often viewed by structural engineers as a nuisance. However, it represents one of the most promising opportunities for structural engineers to provide value-added services moving forward. ASCE/SEI 7 now permits designers to use structural fire engineering as an alternative to the code-default prescriptive method. This alternative approach must be in conducted in accordance with the new Appendix E section of ASCE/SEI 7, which requires analysis of structural performance under fire exposure. In this context, a structural system may be optimized for ambient and fire loads, which presents nearly endless possibilities in terms of design freedom, as well as enhanced intrinsic structural fire safety.

Engineers — 1.0 PDHs/AU

Design Column Reinforcement

L2a Wednesday 9:15 – 10:15 a.m.
L2b Thursday 8:00 – 9:00 a.m.

Speaker: Bo Dowswell, ARC International, LLC

Moderator: Troy Dye, ARW Engineers

This session is your practical guide to designing reinforced columns with the 2016 AISC *Specification*! It will primarily focus on the Effective Length Method, which has traditionally been used for the design of reinforced columns. It will also present a new method, similar to the Direct Analysis Method. The effect of pre-load, a stepped-member approach for the design of columns with partial-length reinforcement, the local buckling of stitch-welded reinforcing plates, and the required weld strength connecting the reinforcement to the existing column will also be discussed.

Engineers — 1.0 PDHs/AU

Proactive Fracture and Fatigue Design in Steel

L3a Wednesday 5:00 – 6:00 p.m.
L3b Friday 9:15 – 10:15 a.m.

Speaker: Paul McMullin, Ingenium Design

Moderator: Troy Dye, ARW Engineers

This session will offer a holistic structural integrity approach to fracture control, based on fracture mechanics and inspection.

Engineers — 1.0 PDHs/AU

Insidious Thermal Forces in Steel Structures: What You Need to Know

L4a Thursday 8:00 – 9:00 a.m.
L4b Friday 10:45 – 11:45 a.m.

Speaker: Barry Arnold, ARW Engineers

Moderator: Troy Dye, ARW Engineers

This session will boost your knowledge of how changes in temperature and structural detailing of members and systems adversely affect individual members and entire buildings. Attendees will leave with a better understanding of how damage and failures from thermal forces can be minimized and how damage can be economically repaired.

Engineers, Architects — 1.0 PDHs/LU/HSW/AU

The Learning Never Stops: Going Beyond a College Education

L5 Wednesday 1:30 – 3:00 p.m.

Speakers: Michael Chisholm, Degenkolb Engineers; Adam Friedman, SE, PE, CSD

Moderator: Jules Van de Pas, CSD

An engineering degree prepares an engineer to kick off their career, but some of the best lessons don't come from textbooks. In this session two young engineers share the most important lessons they have learned since graduating and embarking on their careers.

Engineers — 1.5 PDHs/AU

RFIs and the Waiting Game

L6a Thursday 9:15 – 10:15 a.m.
L6b Friday 8:00 – 9:00 a.m.

Speaker: Michael Herriges, PE, DZSE

On projects where every day counts, RFIs can easily chip away at the schedule and reducing the need for RFIs can have a big impact. This session will provide tips on writing RFIs with the right information to limit the number of submitted RFIs and get information as soon as possible.

Engineers, Fabricators, Detailers — 1.0 PDHs/AU

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Properly Specifying Steel Deck

L7a Thursday noon – 1:00 p.m.
L7b Wednesday 9:15 – 10:15 a.m.

Speaker: Tom Sputo, Sputo & Lammert Engineering, Steel Deck Institute

Moderator: Bob Paul, Steel Deck Institute

There is a right way to specify steel deck products in your project. And there are many wrong ways. Properly specifying the steel floor and roof deck is actually quite simple, and properly specifying the deck is one way to gain economy in your project. That is the Good Way. Then there are the Bad and the Just Plain Ugly ways, which cost the project in time, money, and performance. This session will show how to properly specify steel deck using information from the SDI Standards and other publications, and provide other tips and ideas to make specifying steel deck easy, including various architectural, acoustical, and fire resistance related topics.

Engineers — 1.0 PDHs/AU

Your Code of Standard Practice – Sections 3 and 4

L8a Wednesday 5:00 – 6:00 p.m.
L8b Friday 8:00 – 9:00 a.m.

Speaker: Michael West, CSD

Moderator: David Ratterman, Stites & Harbison

Like any industry, those involved in the design, purchase, fabrication and erection of structural steel have developed trade practices. The AISC *Code of Standard Practice* provides the framework for a common understanding of the acceptable standards when contracting for structural steel, making it useful for anyone associated with construction in structural steel. This session will present the COSP sections 3 and 4.

Engineers — 1.0 PDHs/AU

Properly Specifying Steel Joists

L9a Wednesday 3:15 – 4:45 p.m.
L9b Thursday 2:00 – 3:30 p.m.

Speakers: Tim Holtermann, Canam Buildings; Keith Juedemann, Valley Joist

Moderator: Michael Whittle, Vulcraft - SC

Open web steel joists are an efficient, economical method of framing a building, but there are some basics that should be covered before you set off down that trail. This presentation will highlight the current codes and specifications that apply to steel joist construction and give you insight into the best way to plan your project.

Engineers — 1.5 PDHs/AU

New Design Guide 35: Storm Shelter and Safe-Room Design

L10a Wednesday 1:30 – 3:00 p.m.
L10b Thursday 2:00 – 3:30 p.m.

Speakers: Roger A. LaBoube, PhD, PE, Missouri University of Science & Technology; Marc S. Barter, SE, PE, SECB, Barter & Associates

Moderator: Margaret Matthew, AISC

High-wind events such as hurricanes and tornadoes have created a call for storm shelters or safe rooms to be provided in schools and other critical-occupancy buildings. This session will offer an introduction to a new design guide on the topic, covering load criteria, building envelope considerations, framing systems, design considerations and design examples.

Engineers — 1.5 PDHs/AU

Design Guide 7: Industrial Buildings – Roofs to Anchor Rods

L11a Wednesday 1:30 – 3:00 p.m.
L11b Thursday 4:00 – 5:30 p.m.

Speaker: James M. Fisher, PhD, PE

Moderator: Margaret Matthew, AISC

This session highlights the updates and new material in the third edition of Design Guide 7, which provides guidance for the design of both light and heavy industrial buildings with and without overhead cranes. Desgin Guide 7 has been updated to the current 2016 AISC *Specification* and the 15th Edition *Steel Construction Manual*.

Engineers, Fabricators, Detailers — 1.5 PDHs/AU

Lateral Load Transfer – From Diaphragm to Resisting Elements

L12a Thursday 9:15 – 10:15 a.m.
L12b Friday 10:45 – 11:45 a.m.

Speaker: Thomas Meyer, SE, PE, MKA

Moderator: Jon Beier, SMBH, Inc.

This session looks at various ways to transfer loads from diaphragms and collectors to the vertical elements of the lateral force-resisting system. Using examples from real projects, this course will address the challenges that arise when making connections from steel framing to resisting elements of other materials such as concrete or masonry.

Engineers — 1.0 PDHs/AU

Retrofit of Existing Building With Steel Joists

L13a Wednesday 1:30 – 3:00 p.m.
L13b Thursday 2:00 – 3:30 p.m.

Speakers: Bruce Brothersen, Vulcraft - Nucor; Walter Worthley, Valley Joist
Moderator: Walter Worthley, Valley Joist; Martin Madison, New Millennium Building Systems

In this session, learn methods to evaluate and modify existing open web steel joists for revised loading conditions.

Engineers — 1.5 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

What Not to Draw

L14 Wednesday 3:15 – 4:45 p.m.

Speakers: Amanda Dean, PE, Associate AIA, Huitt-Zollars; Michael Mass, Turner Construction; Amaya Labrador, AIA, EDAC, Browne McGregor Architects, Inc.

Moderator: Alex Morales, AISC

For AEC professionals, drawings are everything and communication is key. This interactive panel discussion shares anecdotal experiences from the perspective of an architect, engineer, and general contractor on factors that can either make or break drawings that are instrumental to a successful project. The discussion is meant to be casual and informational, with questions from the audience taken at the end.

Engineers, Fabricators, Erectors, Architects — 1.5 PDHs/LU/HSW/AU

Traditional and Advanced Methods for Assessing Ponding Instability

L15a Wednesday 8:00 – 9:00 a.m.
L15b Thursday noon – 1:00 p.m.

Speaker: Mark Denavit, University of Tennessee, Knoxville

Ponding, the accumulation of water on roofs that can cause progressively increasing deformations and even collapse, is a design consideration for all buildings. The most common method of assessing roofs for ponding was developed over 50 years ago and has many limitations. A new design method uses computer analysis to capture the behavior of roofs under ponding conditions more accurately. This presentation will review ponding requirements in current design specifications, introduce the new method of analysis, and compare the traditional and advanced methods through examples.

Engineers — 1.0 PDHs/AU

Structural Vibration Serviceability: FAQs and More

L16a Wednesday 1:30 – 3:00 p.m.
L16b Thursday 2:00 – 3:30 p.m.

Speakers: Thomas Murray, Virginia Tech; Brad Davis, University of Kentucky

Moderator: Jon Skinner, McLaren Engineering Group

Human-induced vibration is an important limit state for floors, stairs, and other structures. This session will address the most common questions and misconceptions about structural vibration serviceability. It will also answer questions about the updated evaluation methods for sensitive equipment and several other applications featured in the second edition of Desgin Guide 11.

Engineers — 1.5 PDHs/AU

Drawing Details: The Good, the Bad, and the Ugly

L17a Wednesday 9:15 – 10:15 a.m.
L17b Thursday noon – 1:00 p.m.

Speakers: Matthew Kawczenski, SE, PE, F.SEI, McLaren Engineering Group; Mike Kempfert, CSD

All contract documents have details to convey information, but not all details are created equal. This session will review examples of drawing details for clarity and simplification, identify issues such as load path, and explore potential corrections to bad details.

Engineers — 1.0 PDHs/AU

Distortion of Curved Members

L18a Wednesday 3:15 – 4:45 p.m.
L18b Thursday 4:00 – 5:30 p.m.

Speakers: Ken Pecho, Chicago Metal Rolled Products; Bo Dowswell, ARC International

The cross-sectional distortion of curved members can occur both during the forming process and when the member is subjected to service loads. In this session, Ken Pecho will describe the mechanics of the forming process and its effect on the final properties of curved members. Bo Dowswell will then discuss the effect of distortion on the member design strength under service loads, including the effect of distortion caused by the forming process. This session will focus on practical methods for reducing distortion and calculating its effect on the member strength, with design examples showing applications of the equations from AISC Design Guide 33.

Engineers — 1.5 PDHs/AU

HSS: What Designers Should Know about HSS Dimensions and Material Availability

L19a Thursday 9:15 – 10:15 a.m.
L19b Friday 8:00 – 9:00 a.m.

Speaker: Kim Olson, PE, FORSE Consulting

Many architects want HSS sections with particular sizes and appearances when designing their buildings. Are the shapes they want always available? Do the members have visible seams? This session will review the differences between HSS and pipe sections, explain how HSS are formed, and discuss the availability and minimum quantity orders for various HSS shapes.

Engineers, Fabricators, Erectors, Detailers — 1.0 PDHs/AU

Concrete Filled HSS

L20a Thursday 8:00 – 9:00 a.m.
L20b Friday 10:45 – 11:45 a.m.

Speaker: Jason McCormick, PhD, PE, University of Michigan

Concrete filled tubes provide several advantages over an equivalent steel or steel-reinforced concrete member. Fire resistance, construction efficiency and buckling resistance are all increased when a cementitious material is placed in the void of a tube. These advantages have led to their increased used over the past decades and recent developments with concrete filled tubes. This session will explore the design and practical implications of using concrete filled HSS on your next project.

Engineers — 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; AIA credits = LU, HSW; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

legal

What You Need to Know About Defending and Prosecuting Claims–Before You Get into a Dispute

LL1 Wednesday 8:00 – 9:00 a.m.

Speaker: Angela Richie, Gordon & Rees

What do you do when you need to pursue payment for work you have performed or when someone says that steel doesn't work? This session will teach you everything you need to know about prosecuting and defending claims before you find yourself in a dispute.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Defending and Prosecuting Delay Claims

LL2 Wednesday 1:30 – 3:00 p.m.

Speaker: Angela Richie, Gordon & Rees

Have you ever had a project where the design changed or was late? Did the late design or change push your fabrication schedule into a period where you already had other work scheduled? Did you know that you may be entitled to compensation for such changes? Have you ever been accused of delaying project? Do you know how to defend yourself against such claims? Learn how in this session!

Engineers, Fabricators, Erectors, Detailers 1.5 AU

It's Time to Take Another Look at Your Subcontracts

LL3 Wednesday 9:15 – 10:15 a.m.

Speaker: Angela Richie, Gordon & Rees

When was the last time you looked at your subcontracts to downstream vendors? Your subcontracts may be the most important document you issue or negotiate if a problem occurs. What would happen if your erector's lack of job site supervision resulted in a significant job-site accident? What would happen if the structural engineer that designed the connection made a significant error resulting in a partial collapse of a structure? What would happen if, after the steel was erected, fireproofing applied to the structure started to fall off? Learn how to evaluate your subcontracts for potential issues in this session.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Due Diligence: Warning Flags Before You Submit Your Bid

LL4 Wednesday 5:00 – 6:00 p.m.

Speakers: David Ratterman, Stites & Harbison; Steven Henderson, Stites & Harbison, PLLC; Gregory Parsons, Stites & Harbison

What if you unwittingly lost all your profit and more on the day you signed the contract for a job? This course covers legal red flags, how to spot them, and how to deal with them.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Avoiding "Bet the Company" Legal Mistakes

LL5 Wednesday 3:15 – 4:45 p.m.

Speakers: David Ratterman, Stites & Harbison; Steven Henderson, Stites & Harbison, PLLC; Gregory Parsons, Stites & Harbison

"Bet the Company" mistakes can occur in two distinct phases of project involvement: during the prebid phase when you are reviewing the bidding documents and during the performance phase when you're dealing with the unexpected. This course will provide practical advice for arming and protecting your company during both of these phases.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

Crisis Management–Workplace Disasters

LL6 Thursday 2:00 – 3:30 p.m.

Speaker: Frank Kollman, Kollman & Saucier, P.A

This session explores the proper responses to the chaos of a workplace disaster from a legal, ethical, and practical viewpoint.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

Legal Implications of Electronic Data Transfer

LL7 Thursday 8:00 – 9:00 a.m.

Speaker: Steven Henderson, Stites & Harbison

Architects, engineers, and contractors increasingly rely on the collaborative exchange of electronic data. This session will explore the legal implications of electronic data transfer (EDT) related to contract documents, electronic data protocols, exchange of data in conjunction with BIM, as well as practical advice on mitigating risks associated with electronic data.

Engineers, Fabricators, Erectors, Detailers, Architects 1.0 LU/AU

1.0 PDH = 0.1 CEU; AIA credits = LU, HSW; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

seismic

Post-Earthquake Reconstruction of Christchurch: Steel City New Zealand

M1a Wednesday 8:00 – 9:00 a.m.
M1b Friday 10:45 – 11:45 a.m.

Speaker: Michel Bruneau, University at Buffalo

After the 2010-2011 Canterbury earthquakes, much of the Christchurch central business district was demolished and a new city has emerged in its place. Where reinforced concrete buildings dominated, new construction features an extensive number of steel structures and new structural systems for seismic resistance. Interviews with key reconstruction professionals along with data collected from various sources has helped identify some of the drivers influencing the choice of structural materials and systems. This session presents the results of this study.

Engineers — 1.0 PDHs/AU

Let's Talk Seismic – In Language We Can All Understand

M2a Wednesday 9:15 – 10:15 a.m.
M2b Friday 10:45 – 11:45 a.m.

Speaker: Brent Maxfield, The Church of Jesus Christ of Latter-day Saints

Moderator: Troy Dye, ARW Engineers

The intent of this session is to help bridge the current seismic communication gap. Intended for both non-technical and technical audiences, this session will help engineers explain seismic concepts to a non-technical audience, and will help the non-technical audience better grasp the intent of modern seismic design. An understanding of these concepts will help facilitate informed decisions regarding earthquake risk.

Engineers — 1.0 PDHs/AU

The AISC 3rd Edition Seismic Design Manual

M3a Wednesday 1:30 – 3:00 p.m.
M3b Thursday 4:00 – 5:30 p.m.

Speakers: James Malley, SE, Degenkolb Engineers; Michael Gannon, SE, American Institute of Steel Construction

The newly released 3rd Edition of the AISC *Seismic Design Manual* addresses new design provisions with updated tables, examples and aids for steel building design and construction in seismic regions. This session will provide an overview of the most important new information contained in the manual. The new design provisions will be summarized, including some discussion of the rationale behind the revisions and the resulting benefits. Design examples will also be presented.

Engineers, Fabricators, Erectors — 1.5 PDHs/AU

Healthcare Design in High Seismic Areas: Old and New

M4 Wednesday 3:15 – 4:45 p.m.

Speakers: Jay Love, SE, Degenkolb Engineers; Daniel Zepeda, SE, Degenkolb Engineers

Seismic design of healthcare facilities has evolved tremendously over the past 50 years. This session will have a two-part focus. The first part will discuss seismic retrofit and rehabilitation design of existing healthcare facilities, taking you through post-Northridge regulations, performance-based analysis and design for retrofit, and agency review processes. The second part explores the design and construction of new hospital facilities using new technologies, drawing from a case study of a recently completed $1.2B medical center featuring an SMF augmented by viscous wall dampers, which dramatically reduced story drifts and overall steel costs.

Engineers, Fabricators, Architects — 1.5 PDHs/LU/HSW/AU

Design of Multi-Tiered Braced Frames

M5a Wednesday 5:00 – 6:00 p.m.
M5b Friday 10:45 – 11:45 a.m.

Speaker: John Rolfes, SE, PE, CSD

Multi-tiered braced frames (MT-BFs) consist of multiple vertically oriented bracing panels that lack intersecting perpendicular framing or diaphragms at the levels between the bracing panels. Due to the ductility demands during a seismic event these frames require special consideration. This presentation will discuss the applicable provisions of the AISC *Seismic Provisions* and the latest developments related to the design and performance of MT-BFs.

Engineers — 1.0 PDHs/AU

Seismic Design for Non-West Coast Engineers – Part 1

M6 Thursday 2:00 – 3:30 p.m.

Speaker: Michael Engelhardt, PhD, PE, University of Texas at Austin

This two-part session will address basic concepts of seismic design. Part 1 will start with a brief historical perspective of earthquakes, followed by a discussion on the basics of earthquake loading, building dynamic response and the use of ductility in resisting earthquakes.

Engineers — 1.5 PDHs/AU

Seismic Design for Non-West Coast Engineers – Part 2

M7 Thursday 4:00 – 5:30 p.m.

Speaker: Michael Engelhardt, PhD, PE, University of Texas at Austin

This two-part session will address basic concepts of seismic design. Part 2 will focus on the performance of steel structures in past earthquakes, computing earthquake loads using the equivalent lateral force method, basic concepts of detailing steel to achieve ductile response, options for structural steel lateral force resisting systems and an overview of the AISC *Seismic Provisions*.

Engineers — 1.5 PDHs/AU

1.0 PDH = 0.1 CEU; AIA credits = LU, HSW; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Alternative Seismic Systems

M8a Thursday 8:00 – 9:00 a.m.
M8b Friday 9:15 – 10:15 a.m.

Speaker: Patrick McManus, Novel Structures

Moderator: Jules Van de Pas, CSD

This session is aimed at demystifying the qualification of alternative systems using ASCE 7-16 and the FEMA P-695 process. The new Re-Fuse Braced Frame system will be used as an example. You will also learn the differences between the qualification of moment-frame and braced-frame systems.

Engineers 1.0 PDHs/AU

Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 1

M9 Wednesday 3:15 – 4:45 p.m.

Speakers: Brandt Saxey, Corebrace; Chia-Ming Uang, University of California at San Diego; Curt Haselton, Haselton Baker Risk Group

This two-part presentation will examine both the performance of the Buckling Restrained Brace (BRB) member itself as well as the performance of BRB framed buildings. Part 1 of the presentation will review the results of recent fatigue testing of BRBs with the goal of being able to determine the remaining life of a BRB member after it has been subjected to an earthquake.

Engineers 1.5 PDHs/AU

Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 2

M10 Wednesday 3:15 – 4:45 p.m.

Speakers: Brandt Saxey, Corebrace; Chia-Ming Uang, University of California at San Diego; Curt Haselton, Haselton Baker Risk Group

This two-part presentation will examine both the performance of the buckling restrained braced frame (BRB) member itself as well as the performance of buckling restrained braced frame (BRBF) buildings. Part 2 will discuss a method for seismic risk assessment of BRBF buildings, including detailed evaluation of residual drifts resulting from a seismic event. This assessment process uses the FEMA P-58 risk assessment framework and includes an updated method to predict seismic structural responses without needing to build a full detailed nonlinear structural model.

Engineers 1.5 PDHs/AU

To 3 or Not to 3

M11a Wednesday 3:15 – 4:45 p.m.
M11b Thursday 2:00 – 3:30 p.m.

Speaker: Patrick Fortney, University of Cincinnati

Moderator: Kim Olson, FORSE Consulting

Specifying a seismic force resisting system (SFRS) with an *R* greater than 3 results in designing for less force. However, it comes at a price! The connections are more expensive due to more stringent strength and detailing requirements. Alternatively, foundations can be sized for smaller loads. This session will examine this trade off and how the selection of a SFRS affects the total building cost, not just the steel tonnage.

Engineers 1.5 PDHs/AU

Seismic Behavior and Design of Steel Diaphragms

M12a Thursday noon – 1:00 p.m.
M12b Friday 9:15 – 10:15 a.m.

Speakers: Jerry Hajjar, Northeastern University; W. Sam Easterling, Virginia Tech; Matt Eatherton, Virginia Tech; Ben Schafer, Johns Hopkins University

For years the focus of seismic design of steel buildings has primarily been on the vertical lateral force resisting system. New design methods in ASCE 7, new findings in 3D models of buildings, and new experimental research are all shedding new light on the role of diaphragms in the seismic performance of steel buildings. The Steel Diaphragm Innovation Initiative (SDII), a cooperative effort between industry, academia, and federal research will provide their latest findings and give the audience a view of the future of steel diaphragm seismic design.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

project management

Understanding Your Assets as a Manager

P1 Wednesday 1:30 – 3:00 p.m.

Speaker: Dan Coughlin, The Coughlin Company

Moderator: Glenn Tabolt, STS Steel Inc.

The first resource you should look to convert into results is yourself as a manager. In this session we will conduct a deep dive into understanding how you're hard-wired, how you process ideas, how you make decisions, how you approach situations, and how to temporarily shift your approach in order to be more effective.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

Effectively Influence Others to Optimize Results

P2 Wednesday 3:15 – 4:45 p.m.

Speaker: Dan Coughlin, The Coughlin Company

Moderator: Glenn Tabolt, STS Steel Inc.

This session focuses on your interactions with other people, how to meet their individual needs, how to communicate effectively with them, and how to influence their thinking to improve results.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

Build Teamwork that Works to Win

P3 Thursday 2:00 – 3:30 p.m.

Speaker: Dan Coughlin, The Coughlin Company

Moderator: Glenn Tabolt, STS Steel Inc.

Learn how you as a manager can create effective group dynamics that emphasize a healthy culture, a meaningful common purpose with measurable outcomes, and the vulnerability necessary to work together to achieve your goals.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

The Art of Negotiation

P4 Thursday 4:00 – 5:30 p.m.

Speaker: Jim Reeves, ClearBridge Consulting

Moderator: Glenn Tabolt, STS Steel Inc.

Negotiating in a high-stakes, fast paced industry is tough and can be stressful. This session will provide tips on how to negotiate effectively, get the results you want, and manage those tough, hard-bargaining negotiators, even when you think you have little leverage. We'll talk about what you bring to the negotiating table, how you can influence others at the table, different styles and approaches, the importance of preparation, and specific table tactics that will help you become a more effective negotiator.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)

P5 Wednesday 1:30 – 3:00 p.m.

Speaker: Jim Reeves, ClearBridge Consulting

Building and maintaining strong business relationships are critical in a world in which we must interact, coordinate, trust and rely on each other in order to succeed. Conflict, if not managed, can cause tremendous damage to those relationships and cost everyone time and money. In this session, we'll look at the top 10 things that people often do to cause and escalate conflict, and explore ways of managing conflict to avoid escalation to build stronger, more productive relationships.

Engineers, Fabricators, Erectors, Detailers 1.5 AU

Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications

P6 Wednesday 8:00 – 9:00 a.m.

Speaker: David Ratterman, Stites & Harbison

The AISC *Code of Standard Practice* is an important legal bulwark of the fabricated structural steel industry in the United States. It protects project owners, architects, structural engineers, fabricators, detailers and erectors alike. All have participated in its formulation, and all benefit from its provisions. This session will discuss important legal implications of the Preface, Glossary, and Sections 1, 2 and 9, and the binding nature of many of its provisions.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Get What You Want from the EOR and GC

P7 Wednesday 9:15 – 10:15 a.m.

Speakers: Nyckey Heath, PE, Bennett Steel, Inc.; Josh Singleton, Bennett Steel, Inc.

Moderator: Ted Sheppard, The DuRoss Group, Inc.

This session will discuss how a fabricator/erector can get what they want from the engineer of record and general contractor by asking the right questions on RFIs, providing solutions they prefer and better communicating what needs to be done in the field.

Fabricators, Erectors 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Effective Project Management

P8 Wednesday 5:00 – 6:00 p.m.

Speaker: Keith Riding, Cives Steel Company

Moderator: Glenn Tabolt, STS Steel, Inc.

Effective project management is crucial to the success of any project, and excellent project management can change your businesses world for the better. In this session you will learn the key steps to being an effective project manager, including how to get a newly awarded project started successfully and seeing it through to completion. You will learn how to handle the dreaded revisions that inevitably always come, as well as what it takes to be an excellent project manager.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Job Preplan

P9 Thursday 8:00 – 9:00 a.m.

Speaker: Chris Landstrom, Cives Steel Company

Your company has just been awarded that new project you have been chasing diligently for months and you have been chosen to manage it. Now what? Having an effective meeting with your team can enable you to build the best possible plan for achieving and exceeding the project goals. In this session you will be provided with information on how to provide an effective pre-planning meeting, who should be involved and some items to consider before it gets started to avoid problems down the road.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Fundamentals of Project Scheduling for Steel Fabrication

P10 Thursday 9:15 – 10:15 a.m.

Speaker: Mark Holland, Paxton & Vierling Steel Co.

This session will provide the basics of planing and scheduling the steel fabrication and erection process from award to final billing. Attendees will learn the fundamentals of Critical Path Scheduling (CPM) and how to determine the level of detail required to predict outcome but still allow efficient updates to the schedule. Attendees will learn practical strategies to manage shop and customer demands including concepts of baseline, resource management, and presentation of the schedule in different forms.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Effective Communication for Project Managers

P11 Friday 8:00 – 9:00 a.m.

Speaker: Mark Holland, Paxton & Vierling Steel Co.

Effective communication is key to successful project management. Learn how to improve your communication skills, when to use an e-mail, a letter, or meet face to face. The session will focus on how to communicate with the shop, the customer, the engineer, the detailer, your owner and others involved in project execution.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Your Code of Standard Practice – Sections 5, 6 and 8

P12 Friday 9:15 – 10:15 a.m.

Speaker: Roger O'Hara, PE, Supreme Steel

Moderator: David Ratterman, Stites & Harbison

Like any industry, those involved in the design, purchase, fabrication and erection of structural steel have developed trade practices. The AISC *Code of Standard Practice* provides the framework for a common understanding of the acceptable standards when contracting for structural steel, making it useful for anyone associated with construction in structural steel. This session will explore AISC *Code of Standard Practice* Section 5: Materials, Section 6: Shop Fabrication and Delivery, and Section 8: Quality Control.

Fabricators 1.0 PDHs/AU

roundtables

Fabricator Roundtable

RT1 Wednesday 1:30 – 3:00 p.m.

Fabricators rarely get to talk with their peers in a non-competitive setting. This workshop allows groups of fabricators from different regions of the country, assisted by a moderator, to sit down in small groups and discuss issues critical to the operation and functioning of a structural steel fabrication shop. Discussions will range from dealing with escalation clauses to implementing quality systems. Take advantage of this annual event to learn and explore opportunities with your peers!

Fabricators Only 1.5 AU

Industry Roundtable

RT2 Thursday 2:00 – 3:30 p.m.

This roundtable is an opportunity for fabricators, erectors, detailers, service centers and producers to talk openly with each other in a non-competitive setting. Expanding on the popular fabricator roundtable, this workshop enables team players to sit down in small groups and discuss common issues encountered when working together. Each group will be moderated and discussions will range from contractual issues to improving communication and working with BIM. Use this opportunity to explore ideas with your peers, customers and vendors.

Fabricators, Erectors, Detailers 1.5 AU

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erection

Heavy and Complicated Lifts – Risks, Uncertainties and What to Look Out For

R1 Wednesday 8:00 – 9:00 a.m.

Speakers: Luiz Macedo, Emasa Engineering; Rafael Macedo, Emasa Engineering

Moderator: Jerod Hoffman, Meyer Borgman Johnson

This session will present key erection engineering design aspects required for successful and economical modularized construction lifts of steel structures. Through the discussion of real cases for landmark projects (World Cup Stadium, Freeform roofs and Industrial projects) this session discusses the practical execution, highlighting the risks, uncertainties and opportunities involved in this strategy of construction.

Engineers, Erectors — 1.0 PDHs/AU

Code of Standard Practice: Section 7 – An Erector's Perspective

R2 Wednesday 9:15 – 10:15 a.m.

Speaker: Philip Torchio, Williams Erection (ret.)

This session explores Section 7 of the AISC Code of Standard Practice from an erector's perspective. This session focuses on what the erector's obligations are as well as the responsibilities and requirements of the owner, engineer, fabricator and controlling contractor.

Engineers, Fabricators, Erectors, Detailers — 1.0 PDHs/AU

Establishing an Effective Field Leadership Mentoring Program for Erectors

R3 Wednesday 5:00 – 6:00 p.m.

Speakers: Nyckey Heath, PE, Bennett Steel, Inc.; Josh Singleton, Bennett Steel, Inc.

Moderator: Harvey C. Swift, IMPACT

This session provides a detailed explanation of how one erection firm established an organized and formal mentoring program for field leadership. You'll delve into how that program allowed the company to grow its market share, backlog and preferred status in the eyes of its customer base, and ultimately its bottom line.

Erectors — 1.0 AU

Filling the Skills Gap for Ironworkers

R4 Thursday noon – 1:00 p.m.

Speaker: Tim Eldridge, Steel Erectors Association of America

Moderator: Mark Yerke, S&R Enterprises LLC

This session will cover the SEAA Ironworker Craft Training Program and why and how you should make ironworker craft training an integral part of your business model.

Fabricators, Erectors — 1.0 AU

What's New in the Realm of Safety?

R5 Friday 9:15 – 10:15 a.m.

Speakers: Wayne Creasap, TAUC

Moderator: Ted Sheppard, The DuRoss Group, Inc.

This session provides an industry safety and health update for engineers, fabricators and erectors. The discussion will focus on regulatory and industry standards to reduce or eliminate workplace hazards.

Engineers, Fabricators, Erectors — 1.0 AU

Don't Be "Rig Poor"! – Understanding the process of sizing the right crane for your steel erection project

R6 Friday 10:45 – 11:45 a.m.

Speakers: Keith Rind, W.O. Grubb

Moderator: Mark Yerke, S&R Enterprises LLC

This session provides an in-depth look at how to properly size cranes for steel erection, including capacity, reach, efficiency, cost etc.

Engineers, Fabricators, Erectors — 1.0 AU

Why Do I Need My Temporary Bracing Plan Stamped?

R7 Thursday 8:00 – 9:00 a.m.

Speaker: Mark Yerke, S&R Enterprises LLC

This session focuses on giving you a better understanding of the erector's responsibility on a project, specifically the temporary bracing of a structure during erection, and why more and more specifications are requiring a PE-stamped bracing plan to be submitted prior to erection.

Engineers, Fabricators, Erectors, Detailers — 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

technology

Get Control of Shop Information

T1 Thursday 8:00 – 9:00 a.m.

Speaker: Rich Steffens, Douglas Steel

Learn how to get control of your records and begin the process of transitioning to digital data storage.

Fabricators 1.0 AU

What Your Detailing Software Wished You Knew

T2 Thursday 9:15 – 10:15 a.m.

Speakers: Ian Coats, AutoDesk; Mark Allphin, Trimble; Doug Evans, SDS/2

Moderator: Luke Faulkner, AISC

This session is a panel discussion with leading detailing software providers. They will field your questions and discuss what separates great users from good users of detailing software.

Engineers, Fabricators, Detailers 1.0 AU

The AISC Guide to BIM/Modeling

T3 Wednesday 5:00 – 6:00 p.m.

Speaker: Luke Faulkner, AISC

This session will provide an introduction to the new AISC guide on BIM/Modeling for the Steel Industry. You will receive a comprehensive overview of the content and learn how to use the new guide, as well as have the opportunity to ask any questions you may have about the guide.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Best Practices for Model Review: An Update

T4 Thursday 4:00 – 5:30 p.m.

Speakers: Andrew Gayer, SE, PE, LEED AP, Jacobs; James Scwartz, SDS/2; Brian Cobb, PE, Structural Detailing, LLC

Moderator: Luke Faulkner, AISC

This session will offer an updated look at shop model review from industry experts and delve into tips and tricks as well as best practices for this rapidly evolving methodology.

Engineers, Fabricators, Detailers 1.5 PDHs/AU

constructability

From Engineer to Field – Eliminating Problems

Y1 Thursday 9:15 – 10:15 a.m.

Speakers: Nyckey Heath, PE, Bennett Steel, Inc.; Victor Miller, Bennett Steel, Inc.

Moderator: Harvey C. Swift, IMPACT

Bennett Steel Inc. (an AISC member and AISC-certified fabricator/erector) shares their firm's experience and explains how the design engineer of record can help eliminate structural steel field problems upfront by providing adequate information on design drawings and approval drawings to the steel fabricator and erector.

Engineers, Erectors 1.0 PDHs/AU

Critical Lift Planning Basics 101

Y2 Thursday noon – 1:00 p.m.

Speakers: Will Jacobs, SE, PE, Stanley D. Lindsey and Associates

Moderator: Matt Messing, Orange County Ironworks, LLC

This session will explore the basics of critical lift planning, focusing on mobile cranes for those who may be unfamiliar with this aspect of the industry. Specific topics will include categorization of critical lifts, a general overview of crane behavior, key concerns for critical lifts and requirements for documenting critical lift plans.

Engineers, Erectors 1.0 PDHs/AU

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business

Working ON Your Business, Not Just IN Your Business

Z1 Friday 10:45 – 11:45 a.m.

Speakers: Brad Bourne, Universal Steel Inc.; David Harwell, Central Texas Iron Works; Rex Lewis, Puma Steel; Jeff Dave, Dave Steel

Moderator: Bray Bourne, Universal Steel, Inc.

Want to learn the secrets of a successful business? With a combined work history of almost 200 years in the steel business, this experienced panel will discuss what has worked for them as they've led their companies over the past 50 years.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

Tackling the Skilled Trade Shortage

Z2 Wednesday 9:15 – 10:15 a.m.

Speakers: Samantha Farr, Women Who Weld; Mariana Ludmer, Operations Manager of Advanced Weldtec, Inc.

Moderator: Jennifer Traut-Todaro, AISC

This session will focus on the skilled trade staffing challenges facing the steel market, the barriers to entry and an incredible effort bringing women into the highly skilled and rewarding field of welding. Women Who Weld is a Detroit-based nonprofit organization with national reach, teaching in-need women how to weld and find employment. You will learn about the intricacies of the skilled trade staffing challenges facing the nation and how you can get involved.

Engineers, Fabricators, Erectors 1.0 AU

Structural Engineering Engagement and Equity (SE3): 2018 Survey Results

Z3 Friday 8:00 – 9:00 a.m.

Speaker: TBD

Moderator: Jennifer Traut-Todaro, AISC

The NCSEA Structural Engineering Engagement and Equity (SE3) Committee's mission is to study and promote engagement and equity in the structural engineering profession. This presentation focuses on the results of the second biennial nationwide survey of structural engineering professionals completed in 2018. The survey investigated overall career satisfaction and equity across metrics such as career development, trajectory and advancement; compensation, benefits and flexibility; work environment and work-life balance; and the effects of caring for children or other dependents.

Engineers 1.0 PDHs/AU

Solutions for Equity in the Design Industry

Z4 Thursday 4:00 – 5:30 p.m.

Speakers: Natalie Tse, Tipping Structural Engineers; Elizabeth Mattfield, New York City Department of Buildings; Jennifer Traut-Todaro, AISC

Moderator: Jennifer Traut-Todaro, AISC

The building and construction industry is at the forefront of progressing towards a more diverse and collaborative workplace as individuals advance change in their own environments. This year's unique panel will share their efforts to promote change outside of their offices with active participation in technical and professional organizations. Committee participation and leadership career benefits, committee diversity and barriers to entry are just a few topics that will be covered.

Engineers, Fabricators, Erectors, Detailers, Architects 1.5 PDHs/LU/AU

The Importance of Project Setup

Z5 Thursday noon – 1:00 p.m.

Speaker: Mark Holland, Paxton & Vierling Steel Co.

Moderator: James Stever, Virtual Steel Technologies, Inc.

The key to a successful project is proper planning and setup before modeling and detailing begins. There is more to good project management than having a schedule, calendar and cell phone. This session will review some of the key points to good and proper project setup, including review of documents, procedures, field vs. shop assembly, sequencing, connection selection, safety, coordination and delivery.

Engineers, Fabricators, Erectors, Detailers 1.0 AU

The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges

Z6 Wednesday 5:00 – 6:00 p.m.

Speakers: Tabitha Stine, AISC

The current economic climate has a great impact on the construction market. By focusing efforts on developing markets, businesses can be better prepared for possible slowdowns in certain geographic areas or by types of projects. You will gain knowledge of the current construction conditions and a sense of design and construction trends that can help your businesses. You will also learn about historical market conditions for both the building and bridge markets and how we are working to increase those markets.

Engineers, Fabricators, Erectors, Detailers, Architects 1.0 LU/AU

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quality

AISC Certification Forum

Q1 Wednesday 8:00 – 9:00 a.m.

Speakers: Mark Trimble, AISC; Todd Alwood, AISC; Larry Martof, QMC

Moderator: Max Puchtel, QMC

Find out about new developments in AISC Certification such as free audit resources, documentation audits being conducted during full-renewal audits, the planned 2020 Quality Construction Symposium, and much more. Attendees will have the opportunity to get answers to their certification and audit-related questions.

Fabricators, Erectors 1.0 AU

What Do AISC Certification Complaints and Appeals Policies Mean to Specifiers and Participants?

Q2 Wednesday 9:15 – 10:15 a.m.

Speaker: Roger Ferch, Ferch Assoc.

Moderator: Mark Trimble, AISC

Often certified participants and the steel industry are unaware these resources exist, but what are they and how are they used? This session will answer these questions and cover several sample cases (while keeping the players confidential).

Fabricators, Erectors 1.0 AU

Let's Set that Goal!

Q3 Wednesday 1:30 – 3:00 p.m.

Speaker: Lee Patza, EQS Services

Moderator: Taylor Cook, QMC

Goals can be a tricky subject for participants, but this session breaks down what makes a good goal and what it includes, like a baseline and associated metrics. Come ready to master your goals (and enjoy an afternoon candy break)!

Fabricators, Erectors 1.5 AU

Teamwork: No One in this Room is Smarter than All of Us

Q4 Wednesday 3:15 – 4:45 p.m.

Speaker: Chris Crosby, Cianbro

Moderator: Art Bustos, AISC

"The cost of active disengagement in the USA is estimated to be more than $500 billion annually." We've heard and read about the importance of teamwork and team engagement in the workplace many times over. How do we build an engaged, effective team? This session will teach managers how to build a team that's just that!

Fabricators, Erectors 1.5 AU

Areas of Concern and Corrective Action Requests: Streamlining the Process and Talking About the Root Cause

Q5 Wednesday 5:00 – 6:00 p.m.

Speakers: Linda Hale, QMC; David Webb, QMC

Moderator: Dennis Haught, QMC

With fabricators converting to the new standard and erectors starting on June 1, 2019, Areas of Concern and Corrective Action Requests are popular topics for certified participants. This session will cover ways to respond and streamline those processes, and investigate how to satisfy your root cause analysis requirements.

Fabricators, Erectors 1.0 AU

What Does "Management Review" Really Mean?

Q6 Thursday 8:00 – 9:00 a.m.

Speaker: Anna Petroski, Atema, Inc.

Moderator: Todd Alwood, AISC

This session takes an interactive look at one approach to conducting a meaningful management review for erectors and fabricators. It will also review the minimum requirements for conducting a management review as required by the AISC *Certification Program Requirements* and *Standard*. So, be sure to attend and move your management review to the next level!

Fabricators, Erectors 1.0 AU

I Have A Quality Manual And Procedures – Now What?

Q7 Thursday 9:15 – 10:15 a.m.

Speaker: Lee Pielaet, Pioneer Steel Services

Moderator: Larry Martof, QMC

We're answering your questions from the ground up! Do I have to follow my procedures? How do I get management/staff buy-in? What do I do with my reports/records, etc.? This session helps you chart your next steps once you have your manual and your procedures are on paper.

Fabricators, Erectors 1.0 AU

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The New Certification Standard: Update for Erectors

Q8 Thursday noon – 1:00 p.m.

Speakers: David Webb, QMC; Dennis Haught, QMC

Moderator: Max Puchtel, AISC

This session explores the new *Certification Standard for Steel Fabrication and Erection, and Manufacturing of Metal Components* (AISC 207-16), which takes effect for erectors on June 1, 2019. This *Standard* brings together provisions from the four individual predecessor standards relating to the four industry segments: steel building fabrication, steel bridge fabrication, steel erection, and metal component manufacturing with the goal of providing consistency and transparency across all industry programs. This session will also discuss the implementation process for erectors.

Erectors 1.0 AU

Steel Erectors Panel Discussion on Quality Control

Q9 Thursday 2:00 – 3:30 p.m.

Speakers: Mark Yerke, S&R Enterprises LLC, Alan Henry, S&R Enterprises LLC; Philip Torchio, Williams Erection Co., Inc.

Moderator: Mark Yerke, S&R Enterprises LLC

Do you think quality control is the job of the special inspector? What about Chapter N or your Quality Control Inspector (QCI)? This lively panel discussion will share the insights of three brilliant erectors with years of experience in the business–it will be worth attending for the stories alone!

Erectors 1.5 AU

Let's Get Down to the Nuts and Bolts (and Welding Electrodes): All About Jobsite Storage

Q10 Thursday 4:00 – 5:30 p.m.

Speaker: Dennis Haught, QMC

Moderator: Loren Thomas, AISC

This may not sound like the most exciting topic, but every year erectors receive Corrective Action Requests for improperly storing structural bolts and welding electrodes. This session will offer solutions to help streamline your daily methods and oversight of field storage.

Erectors 1.5 AU

The Paint Certification Primer

Q11 Friday 8:00 – 9:00 a.m.

Speakers: Zane Keniston, Structural Steel Parts, Inc.

Moderator: Larry Martof, QMC

This session will answer two major paint certification questions: What does the certified fabricator need to include within their procedures for paint requirements? And what do you need to consider if you're thinking about applying for the Sophisticated Paint Endorsement (SPE)? You'll also have the chance to quiz the speaker and moderator about any paint questions you may have!

Fabricators 1.0 AU

The Real Secret of Calibration

Q12 Friday 9:15 – 10:15 a.m.

Speaker: Larry Martof, QMC

Moderator: Todd Alwood, AISC

Lately, AISC & QMC have heard talk about all sorts of calibration issues, and this session is here to clear up some of those misconceptions. Attendees will get examples and learn tricks to help streamline the process at their shop or erection site. Come ready with your questions; we'll have the answers!

Fabricators, Erectors 1.0 AU

WORLD STEEL BRIDGE SYMPOSIUM

sessions

Improving the Quality of Steel Bridge Fabrication Through Communication

B1 Wednesday 8:00 – 9:00 a.m.

Speakers: Brad Dillman, PE, High Steel Structures; Chris Crosby, PE, Cianbro Fabrication

Moderator: Chris Crosby, Cianbro

As project delivery methods evolve and schedules continue to accelerate, clear communication of design intent and requirements in contract documents becomes crucial for successful projects. This session offers insights into common design issues and how bridge fabricators and designers can work together to improve the quality of steel bridges.

Engineers — 1.0 PDHs/AU

Pedestrian Bridges – Unique Design and Analysis

B2 Wednesday 8:00 – 9:00 a.m.

Speakers: William Goulet, SE, STV Incorporated; Marian Barth, PE, STV Incorporated; Dipal Vimawala, PE, AECOM; Jixign He, AECOM;

Moderator: Geoff Swett, SE, PE, WDOT

Bridges that carry people-only sometimes take a back burner to vehicular bridges. We have to case studies to prove that preconceived notion wrong. The Fanny Appleton Bridge is a slender vierendeel arch that was part of the Longfellow Bridge Design-Build project and involved significant vibration analysis. The 41st Street Pedestrian Bridge located just south of downtown Chicago spans over historical Lake Shore Drive and six active railroad tracks and features an elegant S-curve—no small feat for any bridge, especially over Lake Shore Drive.

Engineers, Detailers — 1.0 PDHs/AU

Research and Construction of Press-Brake-Formed Steel Tub Girder Bridges

B3 Wednesday 9:15 – 10:15 a.m.

Speakers: Karl Barth, PhD, West Virginia University; Guy Nelson, SE, PE, TEG Engineering

Moderator: Finn Hubbard, PE, Fickett Structural Solutions

This session presents recent research and case studies construction of press-brake-formed steel tub girders along with lessons learned in the process.

Engineers, Fabricators — 1.0 PDHs/AU

New and Exciting Changes to Welding for Bridges

B4 Wednesday 9:15 – 10:15 a.m.

Speakers: Ronnie Medlock, PE, High Steel Structures; Nina Choy, PE, California Department of Transportation

Moderator: Jeff Carlson, NSBA

A new bridge welding reference will be published in 2019 and this session is a great opportunity to learn about it. This session will also review recent updates to AWS D1.5.

Engineers, Fabricators, Detailers — 1.0 PDHs/AU

Redundancy of Steel Bridges – Part 1

B5 Wednesday 1:30 – 3:00 p.m.

Speakers: Francisco Bonachera Martin, Purdue University; Dave Kiekbusch, Wisconsin DOT; Robert Connor, PhD, Purdue University

Moderator: Matthew Hebdon, Virginia Tech

Two new guide specifications on bridge redundancy have recently been adopted by AASHTO: *Internal Redundancy of Mechanically-fastened Built-up Steel Members* and *Analysis and Identification of Fracture Critical Members and System Redundant Members*. In this first part of a two-part series, speakers will discuss the implementation of the guide specifications to leverage redundancy in the analysis of steel bridges.

Engineers — 1.5 PDHs/AU

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The Steel Advantage in Accelerated Bridge Construction

B6 Wednesday 1:30 – 3:00 p.m.

Speakers: Christian Ray, PE, PEng, PMP, Jacobs; Mike Laviolette, PE, PEng, HDR; Nick Burdette, PE, HDR

Moderator: Eric Myers, Nucor

Owners are experiencing increasing constituent pressure to reduce construction time for infrastructure projects, increasing demand for Accelerated Bridge Construction (ABC). This session will look at case studies where steel was integral to project success.

Engineers, Fabricators, Erectors, Detailers, 1.5 PDHs/AU

It's All in the Details

B7 Wednesday 3:15 – 4:45 p.m.

Speakers: Todd Helwig, PhD, University of Texas at Austin; Gary Prinz, PhD, University of Arkansas; Gary Wisch, PE, DeLong's, Inc

Moderator: John Hastings, NSBA

Efficient and effective details can be the difference between a succesful project. and a not-so-successful one This session will cover cross-frame details, innovative changes to shear studs, and cost-effective steel details.

Engineers, Fabricators, Erectors, Detailers 1.5 PDHs/AU

Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1

B8 Wednesday 3:15 – 4:45 p.m.

Speakers: Brandon Chavel, PhD, PE, HDR; Jacob Wroten, PE, HDR, Inc.; Mark Ennis, PE, STV, Inc.; Alison Love, STV, Inc.; Gregory Kuntz, PE, HDR

Moderator: Ryan Sherman, PhD, University of Nevada, Las Vegas

Faced with challenges of aging inventory, increased loads and limited budgets, steel bridge owners are increasingly adapting their structures to meet current and future demands. This session will present case studies demonstrating the rehabilitation, retrofit,and reuse of steel bridges.

Engineers, Fabricators, Erectors 1.5 PDHs/AU

The Rehabilitation of the Pulaski Skyway Bridge

B9 Wednesday 5:00 – 6:00 p.m.

Speakers: Ruben Gajer, ARORA and Associates

Moderator: Michel Bruneau, University at Buffalo

Located in northeastern New Jersey, the 3.5-mile-long Pulaski Skyway Bridge has been recently rehabilitated. This presentation will include project background, development of project criteria, overview of seismic analysis, and a summary of the steel rehabilitation.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Design and Maintenance of Steel Bridges for Corrosion Control

B10 Wednesday 5:00 – 6:00 p.m.

Speakers: Peter Ault, PE, Elzly Technology; Jason Provines, PE, Virginia Department of Transportation

Moderator: Chris Higgins, Oregon State University

Corrosion can negatively impact the aesthetics, serviceability, and long-term structural integrity of any bridge. Recent innovations in corrosion resistant steels and corrosion control offer new opportunities for corrosion mitigation in steel bridges. This session provides attendees with background information on corrosion of steel bridges, available alternatives and important factors to consider for corrosion control.

Engineers, Fabricators, Detailers 1.0 PDHs/AU

Steel Bridge Design and Practice in Europe and Japan

B11 Thursday 8:00 – 9:00 a.m.

Speakers: Henk Kolstein, PhD, Delft University of Technology; Chitoshi Miki, PhD, Tokyo City University

Moderator: Dayi Wang, PhD, PE, FHWA

Steel bridge design and practice in Europe and Japan will be compared to the practice in the U.S. Topics will include fracture critical design and redundancy, orthotropic deck design, fabrication, detailing and tolerances and quality control with automation.

Engineers, Fabricators, Erectors, Detailers, 1.0 PDHs/AU

Fatigue: Unique Loading & Crack Detection Technology

B12 Thursday 8:00 – 9:00 a.m.

Speakers: William Collins, PhD, PE, University of Kansas; Natalie McCombs, SE, PE, HNTB

Moderator: John Jones, PE, Kansas DOT

Fatigue is an important consideration for steel bridge design. This session explores a unique loading case that resulted in cracking in uncommon locations. It also explores difficulties with digital image correlation as it relates to inspection.

Engineers, Fabricators, Detailers 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Steel Bridge Design Resources: Introduction and Application

B13 Thursday 9:15 – 10:15 a.m.

Speakers: Brandon Chavel, PhD, PE, HDR; Domenic Coletti, PE, HDR, Inc.

Moderator: Ryan Sherman, PhD, University of Nevada, Las Vegas

The first half of this session will provide steel bridge designers with an overview of the most useful design resources available, while the second half will walk attendees through an example of how to use these valuable tools.

Engineers 1.0 PDHs/AU

Challenging and Unique Projects – Part 1

B14 Thursday 9:15 – 10:15 a.m.

Speakers: Soliman Khudeira, PhD, SE, PE, Chicago DOT; Thomas Densford, PE, STANTEC

Moderator: Michel Bruneau, University at Buffalo

Steel lends itself well to unique projects, illustrated by these two case studies: a bridge having a parabolically shaped steel tied-arch and a curved bridge having wedge-shaped girder envelope cross-section.

Engineers 1.0 PDHs/AU

A Second Look at Corrosion: Uncoated Weathering Steel Update & High-Performance Coatings in Florida

B15 Thursday noon – 1:00 p.m.

Speakers: Jennifer McConnell, Phd, PE, University of Delaware; Paul Vinik, PE, Greenman-Pedersen Inc.

Moderator: Jeff Carlson, NSBA

This session takes a fresh look at advances in uncoated weathering steel, specifically how different environments affect performance, and examines the effects of the environment on the service life of structural steel coatings.

Engineers, Fabricators 1.0 PDHs/AU

Challenging and Unique Projects – Part 2

B16 Thursday noon – 1:00 p.m.

Speakers: Irsilia Colletti, PE, HNTB; Herbert Protin, PE, HDR, Inc.

Moderator: Tony Hunley, PhD, SE, PE, Stantec

Steel lends itself well to unique projects. This session discusses a hydraulic transfer bridge in New York and a challenging curved bridge with unique ownership constraints in Chicago.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Redundancy of Steel Bridges – Part 2

B17 Thursday 2:00 – 3:30 p.m.

Speakers: Tony Shkurti, PhD, PE, HNTB; Brian Kozy, PhD, PE, FHWA; Jason Lloyd, PhD, SE, PE, NSBA; Francesco Russo, PhD, PE, Michael Baker, Jr.; Matthew Hebdon, PhD, Virginia Tech

Moderator: Matthew Hebdon, Virginia Tech

Two new guide specifications on bridge redundancy have recently been adopted by AASHTO: *Internal Redundancy of Mechanically-fastened Built-up Steel Members* and *Analysis and Identification of Fracture Critical Members and System Redundant Members*. In this second part of a two-part series, speakers will discuss the implementation of the guide specifications to leverage redundancy in the analysis of steel bridges.

Engineers 1.5 PDHs/AU

Long Span Bridges

B18 Thursday 2:00 – 3:30 p.m.

Speakers: Jeff Smith, PE, HNTB; Robert Magliola, SE, PE, Parsons; Samantha Kevern, PE, HNTB

Moderator: Dayi Wang, PhD, PE, FHWA

Steel's superior strength-to-weight ratio makes it a first choice for long span bridges, helping keep overall projects costs lower. This session will present three case studies: Champ Clark Bridge over the Mississippi River Design-Build Project; Trunk Highway 53 over Rochleau Mine; Anchor Box Design for an Asymmetrical Cable Stayed Bridge.

Engineers, Fabricators, Erectors, Detailers 1.5 PDHs/AU

Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 2

B19 Thursday 4:00 – 5:30 p.m.

Speakers: Francesco Russo, PhD, PE, Michael Baker International; Caroline Bennett, PhD, University of Kansas; Tyler Thomas, Flame-on, Inc.

Moderator: John Jones, PE, Kansas DOT

Refurbishing aging steel bridges is a cost effective solution for owners who want to extend bridge life. Steel is a resilient solution for bridges because of its ability to be repaired when damaged. This session will present case studies for heat straightening and repairing fatigue-induced damage.

Engineers, Fabricators, Detailers 1.5 PDHs/AU

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Challenges Encountered During Construction and Demolition

B20 Thursday 4:00 – 5:30 p.m.

Speakers: Fady Kari, PE, Siefert Associates; Lucas Morgan, PE, Siefert Associates; Paul Biju-Duval, PhD, LUSAS; Telmo Andres Sanchez, PhD, Adstren Cia. Ltda.

Moderator: John Hastings, NSBA

Three case studies will review lessons learned during the construction/demolition phase of projects. The first addresses the stability of long span built-up riveted girders during demolition; the second focuses on haunched girder bridges; and the last addresses launching of steel girder bridges.

Engineers, Erectors 1.5 PDHs/AU

New AASHTO ABC Guide Specification & Unique Projects

B21 Friday 8:00 – 9:00 a.m.

Speakers: Mike Culmo, PE, CME Engineering; Jake Williams, PE

Moderator: Eric Myers, Nucor

AASHTO has recently approved a new guide specification on Accelerated Bridge Construction (ABC). This session will present provisions for ABC that affect steel bridges, review the advantages of steel for ABC technologies, and look at a unique project that leveraged steel's ABC capabilities.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Technologies to Assist with Bridge Design, Fabrication, and Construction

B22 Friday 8:00 – 9:00 a.m.

Speakers: Grant Schmitz, PE, HDR; Hoda Azari, PhD, USDOT-FHWA

Moderator: Justin Ocel, PhD, PE, FHWA

Attendees of this session will learn of two advanced technologies that are new to steel bridge industry: an implementation of building information modeling to a complex interchange of curved steel bridges and an overview of the use of the Total Focus Method/Full Matrix Capture ultrasonic inspection method in steel bridge fabrication.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

2018 Prize Bridges

B23 Friday 9:15 – 10:15 a.m.

Speakers: Bob Goodrich, PE, OBEC Consulting Engineers; Sean Baginski, SE, PE, PND Engineers

Moderator: Geoff Swett, SE, PE, WSDOT

This sessions highlights two 2018 NSBA Prize Bridge Award Winners. The Peter Courtney Minto Island Bicycle and Pedestrian Bridge connects downtown Salem to Minto-Brown Island Park. The Colville River Nigliq Bridge became the first launched bridge constructed in North America north of the Arctic.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3

B24 Friday 9:15 – 10:15 a.m.

Speakers: Gregory Taravella, PE, Modjeski and Masters; James Costigan, Modjeski and Masters; Joshua Pudleiner, PE, STSC, AECOM; Barry Colford, PE, CEng FICE, AECOM

Moderator: Tony Hunley, PhD, SE, PE, Stantec

Preserving existing long-span and unique steel bridges is common given the large number and long life-spans of these types of structures. Two case studies are presented: the first involves the floor system and bottom chord of a bascule bridge and the second covers maintaining various systems of long span bridges.

Engineers, Fabricators, Erectors, Detailers 1.0 PDHs/AU

Rating and Evaluation of Existing Steel Bridges

B25 Friday 10:45 – 11:45 a.m.

Speakers: Pinar Okumus, PhD, University at Buffalo; Christopher Higgins, PhD, PE, Oregon State University

Moderator: Chris Higgins, Oregon State University

While most older bridges were designed with allowable stress design, modern evaluation is now performed using the AASHTO Manual for Bridge Evaluation (MBE) which uses load and resistance factor methods. Existing bridges may exhibit deterioration that can affect their strength, but methods to include condition states in quantitative evaluation tasks are lacking. This session provides new tools for evaluating steel bridge members and connections. It includes MBE-compatible calibration of resistance models for steel pin and hanger connections and details methods to account for corrosion damage in evaluating steel girders.

Engineers 1.0 PDHs/AU

Advances in the Design Code & AASHTO Design Code Compared to International Codes

B26 Friday 10:45 – 11:45 a.m.

Speakers: Michel Bruneau, PEng, PhD, F.CAE, F.ASCE, University at Buffalo; Hadi Kenarangi, PhD, Modjeski and Masters; Steve Rhodes, LUSAS; Terry Cakebread, LUSAS

Moderator: Chris Crosby, Cianbro

Circular reinforced-concrete-filled steel tubes are growing in popularity and have the potential to be a game changer in the steel bridge industry. The AASHTO design code will be compared to the Canadian bridge design dode, the Eurocode, and other international codes to examine which provisions seem most adrift and what assumptions underlie the differences.

Engineers 1.0 PDHs/AU

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2019 SSRC ANNUAL STABILITY CONFERENCE

sessions

Advances in Stability Analysis

S1 Wednesday 8:00 a.m. – 9:00 a.m

Moderator: Ronald D. Ziemian, Bucknell University

Welcome to the 2019 SSRC Annual Stability Conference
Todd A. Helwig, University of Texas at Austin, Austin, TX

Accurate Direct Strength Method (DSM) Prediction of Column Flexural-Torsional Failure Loads
Pedro B. Dinis and Dinar Camotim, University of Lisbon, Lisbon, Portugal; Alexandre Landesmann, COPPE - Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

Design by Advanced Elastic Analysis - An Investigation of Beam-Columns Resisting Minor-Axis Bending
Yunfei (Phoebe) Wang, Cornell University, Ithaca, NY; Ronald D. Ziemian, Bucknell University, Lewisburg, PA

Application of Geometrically Exact Beam Finite Elements in the Advanced Analysis of Steel and Steel-Concrete Beam-Columns
Rodrigo M. Gonçalves, Guilherme M. C. O. Carvalho, José T. O. P. de Silveira, and Manuel J. L. de Sousa, Nova University of Lisbon, Lisbon, Portugal

Validation Study of a New Inelastic Material Model for Steel W-Shapes
Barry T. Rosson, Florida Atlantic University, Boca Raton, FL; Ronald D. Ziemian, Bucknell University, Lewisburg, PA

Engineers 1.0 PDHs/AU

Stability of Beams and Girders

S2 Wednesday 9:15 a.m. – 10:15 a.m.

Moderator: Anjan K. Bhowmick, Concordia University

Torsional Bracing Requirements on the Stability of Steel I-Girders
Yangqing Liu, Tongji University, Shanghai, China; Todd A. Helwig, University of Texas at Austin, Austin, TX

Large-scale lateral-torsional buckling tests of welded girders
Xiao Lin Ji, Robert G. Driver, and Ali Imanpour, University of Alberta, Edmonton, Canada

On the Interaction Between Local and Lateral-Torsional Buckling of I-Shaped Slender Section Beams
Carlos Couto, Bruno Madureira, and Paulo V. Real, RISCO University of Aveiro, Aveiro, Portugal

Distortional Buckling Behavior and Design Consideration of Castellated Steel Beams Considering Residual Stresses
Xuhong Zhou, Ziqi He, Peng Chen, and Jingchao Li, Chongqing iversity, Chongqing, China; Zhanjie Li, SUNY Polytechnic Institute, Utica, NY

Engineers 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Stability under Seismic Loading

S3 Wednesday 1:30 p.m. – 3:00 p.m.

Moderator: Matthew R. Eatherton, Virginia Tech

Seismic Performance Assessment of Special Concentrically Braced Frames in a Moderate Seismic Region
Kelley D. M. Grabner, KPFF, Seattle, WA; Larry A. Fahnestock, University of Illinois at Urbana-Champaign, Urbana, IL

Seismic Performance of Corrugated Double-Skin Composite Shear Walls with Different Aspect Ratios
Qiuhong Zhao and Yikang Li, Tianjin University, Tianjin, China; Ying Tian, University of Nevada, Las Vegas, NV

Seismic Performance and Impact of Geometric Nonlinearity on 3D Steel Braced Frame Building Models
Hamid Foroughi and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Gengrui Wei and Matthew R. Eatherton, Virginia Tech, Blacksburg, VA

Design of Fixed-Base Hollow Structural Section Subjected to Large Seismic Drift
Hyeeun Kong and Matthew R. Eatherton, Virginia Tech, Blacksburg, VA; Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Uncertainties in Collapse Analysis of Framed Structures Due to Seismic Excitation
Kevin K.F. Wong, National Institute of Standards and Technology, Gaithersburg, MD

Stability Evaluation of Cold Formed Steel Pallet Racks under Seismic Condition – A Numerical and Shake Table Study
Arul Jayachandran Sanjeevi, Indian Institute of Technology, Chennai, India

Engineers 1.0 PDHs/AU

Presentation Session for Beedle and McGuire Awards

S4 Wednesday 3:15 p.m. – 4:45 p.m.

Moderator: Todd A. Helwig, University of Texas at Austin

Beedle Award Presentation: A Stability Journey – Diaphragms, Cold-Formed Steel and the SSRC
W. Samuel Easterling, Virginia Tech, Blacksburg, VA

MAJR Medal Presentation: Ten Years of Stability of Structural-Steel Research: The Hot, the Cold, and the Ugly
Mina Seif, National Institute of Standards and Technology (NIST), Gaithersburg, MD

Engineers 1.5 PDHs/AU

Stability at Elevated Temperatures

S5 Wednesday 5:00 p.m - 6:00 p.m.

Moderator: Mina Seif, National Institute of Standards and Technology (NIST)

Influence of Simple Connection Restraint on the Lateral-Torsional Buckling Behavior of Restrained Beams under Fire Conditions
Erica C. Fischer, Oregon State University, Corvallis, OR

Time-Dependent Buckling of Steel Plates Exposed to Fire
Mohammed A. Morovat, Michael D. Engelhardt, and Todd A. Helwig, University of Texas at Austin, Austin, TX

Comparison of Steady-State and Transient Thermo-Mechanical Responses of Unprotected Aluminum Columns at Elevated Temperatures
Jean C. Batista Abreu and Tyler D. Spinello, Elizabethtown College, Elizabethtown, PA; Nicholas A. Soares and Ronald D. Ziemian, Bucknell University, Lewisburg, PA

Evaluating Critical Temperatures of Axially Loaded I-Shaped Steel Members Using ANSI/AISC-360 Appendix 4
Ana Sauca, Chao Zhang, Mina Seif, and Lisa Choe, National Institute of Standards and Technology (NIST), Gaithersburg, MD

Engineers 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Stability Considerations for Localized Conditions

S6 Thursday 8:00 a.m. – 9:00 a.m.

Moderator: Kara D. Peterman, University of Massachusetts Amherst

Web Compression Buckling Strength of Wide Flange Members: On the Influence of Bearing Length
Kadir C. Sener and Amit H. Varma, Purdue University, West Lafayette, IN

The Impact of Bearing Conditions on the Stability Behavior of Cold-Formed Steel Stud Assemblies
Abbas Joorabchian and Kara D. Peterman, University of Massachusetts Amherst, Amherst, MA; Zhanjie Li, The SUNY Polytechnic Institute, Utica, NY

Compression Capacity of Short Cold-Formed Steel Built-Up Columns with Double Lacing Configuration and Low Sectional Compactness
M. Adil Dar, Dipti Ranjan Sahoo, and Arvind K. Jain, Indian Institute of Technology Delhi, New Delhi, India

Influence of the Length of Patch Load on the Ultimate Load of Longitudinally Stiffened Plate Girders
Sasa Kovacevic, Washington State University, Pullman, WA; Nenad Markovic, University of Belgrade, Belgrade, Serbia

Engineers 1.0 PDHs/AU

Stability of Plates and Shells

S7 Thursday, 9:15 a.m. – 10:15 a.m.

Moderator: Simos Gerasimidis, University of Massachusetts Amherst

Influence of Boundary Conditions on the Shear Post-Buckling Behavior of Thin Web Plates
Spencer E. Quiel and Kevin Augustyn, Lehigh University, Bethlehem, PA; Maria E. Moreyra Garlock and Peter Wang, Princeton University, Princeton, NJ

Design of Archetype 3-MW Spirally Welded Wind Turbine Tower
Abdullah Mahmoud, Shahbeddin Torabian, and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Angelina Jay, Fariborz Mirzaie, and Andrew Myers, Northeastern University, Boston, MA; Eric Smith, Keystone Tower Systems, Westminster, CO

Imperfection Insensitive Thin Steel Tubular Shells under Bending
Kshitij Kumar Yadav and Simos Gerasimidis, University of Massachusetts Amherst, Amherst, MA

Analytical and Numerical Buckling Analysis of Rectangular Functionally-Graded-Material Plates under Uni-Axial Compression Load
Elias Ali and Yared Shifferaw, Drexel University, Philadelphia, PA

Engineers 1.0 PDHs/AU

Stability of Connections and Assemblages

S8 Thursday, noon – 1:00 p.m.

Moderator: Cliff D. Bishop, Exponent, Inc.

Stability of Apex Connections in Cold-Formed Steel Portal Frames
Hannah B. Blum, University of Wisconsin-Madison, Madison, WI; Zhanjie Li, SUNY Polytechnic Institute, Utica, NY

Buckling of Unstiffened Extended Shear Tab Connections
Mohammad Motallebi and Colin A. Rogers, McGill University, Montreal, Canada; Dimitrios G. Lignos, Swiss Federal Institute of Technology, Lausanne (EPFL), Lausanne, Switzerland

Topology Optimization of Steel Shear Fuses to Resist Buckling
Javier A. Avecillas and Matthew R. Eatherton, Virginia Tech, Blacksburg, VA

Modal Buckling Analysis of Trapezoidal Sheeting
Sandor Adany, Budapest University of Technology and Economics, Budapest, Hungary

Engineers 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Topics in Lateral-Torsional Buckling

S9 Thursday 2:00 p.m. – 3:30 p.m.

Moderator: Lakshmi Subramanian, Indian Institute of Technology Madras

Moment Gradient Factor for Lateral-Torsional Buckling of T-Shaped Beams
Michael Manarin, Robert Driver and Yong Li, University of Alberta, Edmonton, Canada

Moment Gradient Factors for Singly-Symmetric I-Sections
Matt Reichenbach, Todd A. Helwig, and Michael D. Engelhardt , University of Texas at Austin, Austin, TX; Yangqing Liu, Tongji University, Shanghai, China

Experimental Study on the LTB Resistance of Trapezoidally Corrugated Web Girders
Bence Jáger, Balázs Kövesdi, and László Dunai, Budapest University of Technology and Economics, Budapest, Hungary

A Modified Approach Towards Estimating The Lateral Torsional Buckling Effective Length
Joel Ben John and Lakshmi Subramanian, Indian Institute of Technology Madras, Chennai, India

Strength and Stability of Point-Symmetric Cold-Formed Steel Members Undergoing Lateral-Torsional Buckling
Samuel Baer and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Robert Glauz, RSG Software, St. Louis, MO

Lateral Stability and Design of Gerber Systems
Amir Elmaraghy, Kévin Silva, Valentin Manaud, and Nicolas Boissonnade, Laval University, Québec City, Canada

Engineers 1.5 PDHs/AU

Topics in Local Stability

S10 Thursday 4:00 p.m. – 5:30 p.m.

Moderator: Perry Green, Bechtel Corporation

Issues of Scale on Experimental Buckling Results for Circular Steel Tubes in Bending
Angelina Jay, Exponent Inc., New York, NY; Andrew T. Myers, Northeastern University, Boston, MA; Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Experiments and Computations on Steel Bridge Corroded Beam Ends
George Tzortzinis, Brendan Knickle, Simos Gerasimidis, and Sergio Breña, University of Massachusetts Amherst, Amherst, MA; Alexander Bardow, Massachusetts Department of Transportation, Boston, MA

Experimental and Numerical Investigation of Local Stability of Flexural Cold Formed High Strength Steel Hollow Section Profiles
Ieva Misiunaite, Ronaldas Jakubovskis, Aleksandr Sokolov, Arvydas Rimkus, and Viktor Gribniak, Vilnius Gediminas Technical University, Vilnius, Lithuania

Structural Stability Condition Assessment of Corroded Steel Trusses in Operating Industrial Facilities
Hunter Brown, Martin/Martin Consulting Engineers, Lakewood, CO; Damon G. Reigles, Structural Technologies, Columbia, MD; Perry Green, Bechtel Corporation, Reston, VA

Local Buckling of SHS Members with Moderate-to-Large Corner Radii under Combinations of Axial Force and Biaxial Bending
Luís Vieira and Dinar Camotim, University of Lisbon, Lisbon, Portugal; Rodrigo M. Gonçalves, Nova University of Lisbon, Lisbon, Portugal

The Role of Local Buckling in the Determination of H.S.S. Rotational Capacity
Elsy Saloumi and Marielle Hayeck, University of Applied Sciences of Western Switzerland – Fribourg, Fribourg, Switzerland; Joanna Nseir, Saint-Joseph University, Beirut, Lebanon; Nicolas Boissonnade, Laval University, Québec City, Canada

Engineers 1.5 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

Stability of Columns

S11 Friday 8:00 a.m. – 9:00 a.m.

Moderator: Dinar Camotim, University of Lisbon

Post-Buckling Behavior of Thin-Walled Regular Polygonal Tubular Columns Undergoing Local-Distortional Interaction
André D. Martins and Dinar Camotim, University of Lisbon, Lisbon, Portugal; Rodrigo M. Gonçalves, Nova University of Lisbon, Lisbon, Portugal

Characterization of the Monotonic and Cyclic Collapse Behavior of Built-Up CFS Columns
Smail Kechidi and José M. Castro, University of Porto, Porto, Portugal; Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Stiffness Matrix for Buckling Analysis of Tapered Steel Members
Emad S. Salem, Al-Azhar University, Cairo, Egypt

Spherically-Hinged Cold-Formed Steel Equal-Leg Angle Columns: Experimental Investigation and DSM Design
Kathleen G. Santana and Alexandre Landesmann, COPPE, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; Dinar Camotim and Pedro B. Dinis, University of Lisbon, Lisbon, Portugal

Engineers 1.0 PDHs/AU

Stability of Structural Systems

S12 Friday 9:15 a.m. – 10:15 a.m.

Moderator: Benjamin W. Schafer, Johns Hopkins University

Stability Analysis of Unbraced Steel Storage Racks: Discussions and Alternatives
Maria A. Branquinho and Maximiliano Malite, University of São Paulo, São Carlos, São Paulo, Brazil; Luiz C. M. Vieira Jr., University of Campinas, São Paulo, Brazil

Simulation of Steel Sheathed Cold-Formed Steel Framed Shear Walls and Wall Lines
Zhidong Zhang and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Capturing Cold-Formed Steel Shear Wall Behavior Through Nonlinear Spring Modeling
Fani Derveni, Simos Gerasimidis, and Kara D. Peterman, University of Massachusetts Amherst, Amherst, MA

Stability of Aboveground Open-Top Storage Tanks Subjected to Wind Loading: Static and Dynamic Analyses
Yen-Chen Chiang and Sukru Guzey, Purdue University, West Lafayette, IN

Engineers 1.0 PDHs/AU

Special Topics in Structural Stability

S13 Friday 10:45 a.m. – 11:45 a.m.

Moderator: Nicolas Boissonnade, Laval University

On the Buckling Behavior of Thin-Walled Steel Tubes Subjected to Combinations of Axial Compression and External Lateral Pressure
Cilmar Basaglia, University of Campinas, Campinas, Brazil; Dinar Camotim and Nuno Silvestre, University of Lisbon, Lisbon, Portugal

Investigation on the Effect of Warping on the Behavior of Cold Formed Steel Beam-Columns
Sevugan Rajkannu and Arul Jayachandran, Indian Institute of Technology Madras, Chennai, India

Strengthening Beam Sections of Industrial Buildings against Lateral Torsional Buckling
Sepehr Movaghati, Poe Engineering Inc., Memphis, TN

Stability of Stainless Steel Sections under Simple Loading
Anne-Sophie Gagné, Lucile Gérard, and Nicolas Boissonnade, Laval University, Québec City, Canada

Engineers 1.0 PDHs/AU

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

2019 SSRC annual meeting

Welcome Tuesday 1:00 p.m. – 1:10 p.m. | Larry A. Fahnestock, University of Illinois, Urbana, IL

Stability of Structural Members

SS1 Tuesday 1:10 p.m. – 2:30 p.m.

Moderator: Erica Fischer, Oregon State University

The Strength of Rotary-Straightened Steel Columns
Xiaomeng Ge and Joseph A Yura, The University of Texas at Austin, Austin, TX

Local Buckling of I-Shape Members Bent about Their Weak Axis
Anjan K. Bhowmick, Concordia University, Montreal, Quebec, Canada; Gilbert Y. Grondin, AECOM Canada Ltd, Edmonton, Canada

Flexural-Torsional Deformations of Imperfect Thin-Walled Columns with Continuous Bracing
Raymond H. Plaut, Virginia Tech, Blacksburg, VA; Cristopher D. Moen, NBM Technologies, Inc., Baltimore, MD

Topology Optimization of Top Lateral Bracing for Steel Tub Girder Systems Using Genetic Algorithm
Liwei Han, CHI Consulting Engineers, Summit, NJ; Yang Wang, the University of Texas at Austin, Austin, TX

Experimental and Numerical Studies on the M-V-N Interaction of Longitudinally Stiffened I-Girders
André Biscaya and José O. Pedro, University of Lisbon, Lisbon, Portugal; Ulrike Kuhlmann, Universität Stuttgart, Institut für Konstruktion und Entwurf, Stuttgart, Germany

Engineers 1.0 PDHs/AU

Yoon Duk Kim Memorial Session

SS2 Tuesday 3:00 p.m. – 4:20 p.m.

Moderator: Larry A. Fahnestock, University of Illinois at Urbana-Champaign

Global Lateral – Torsional Buckling of Steel I-Girder Bridges
T. Andres Sanchez, Andres F. Robalino, and Santiago P. Zaruma, ADSTREN, Quito, Ecuador

Streamlined Design of Nonprismatic I-Section Members
Ryan Slein and Donald W. White, Georgia Institute of Technology, Atlanta, GA

Application of Inelastic Buckling Analysis for Design Assessment of Frames Using Nonprismatic I-section Members
Oguzhan Togay, Ryan Slein, and Donald W. White, Georgia Institute of Technology, Atlanta, GA

Stability of a Tapered Power Pole under Extreme Loading
Cliff D. Bishop, Exponent Inc., Atlanta, GA; Morgan Griffith, Brian M. McDonald, and Joel M. Wolf, Exponent Inc., Menlo Park, CA

Engineers 1.0 PDHs/AU

Overview of Task Group Objectives

Tuesday 4:20 p.m. – 4:30 p.m.

Moderator: Todd A. Helwig, University of Texas at Austin

Task Group Meetings

parallel breakout sessions for task groups

SS3 Tuesday 4:45 p.m. – 5:30 p.m.

TG02 Members: Stability of Steel Members
Chair: Craig E. Quadrato, Wiss, Janney, Elstner Associates, Inc., Austin, TX

TG03 Systems: Stability of Steel Systems, Especially Frames
Chair: Graham Cranston, Simpson Gumpertz & Heger, Inc., Waltham, MA

Task Group Meetings

parallel breakout sessions for task groups

SS4 Tuesday 5:45 p.m. – 6:30 p.m.

TG04 Stability of Metal Bridges and Bridge Components
Chair: T. Andrés Sánchez, ADSTREN, Quito, Ecuador

TG05 Thin-Walled Structures
Chair: Kara Peterman, University of Massachusetts Amherst, Amherst, MA

TG06 Extreme Loads: Stability under Extreme Loads
Chair: Mina Seif, National Institute of Standards and Technology, Gaithersburg, MD

1.0 PDH = 0.1 CEU; Attendance credits = AU (check with your state licensing board for eligibility for professional credits)

2019 SSRC annual meeting

SSRC Annual Business Meeting

SS5 Tuesday 6:30 p.m. – 7:00 p.m.

- SSRC Business Meeting
- Presentation of the 2018 Vinnakota Award
- Presentation of the 2017 MAJR Medal
- Presentation of the 2018 Beedle Award

SSRC Social Hour

SS6 Tuesday 7:00 p.m. – 8:00 p.m.

McGuire Award for Junior Researchers (MAJR Medal)

The award has been established in honor of the late William "Bill" McGuire to recognize promising young researchers in structural stability. Bill was a long-term member of SSRC who always emphasized that state-of-the-art research is instrumental to improve the quality of stability design. Having served on the faculty at Cornell University for over fifty years, he was the author of the well-known textbooks Steel Structures and Matrix Structural Analysis. In recognition of his many research and educational contributions to the structural engineering profession, Bill was elected to the US National Academy of Engineering. Recipients of the MAJR Medal must meet the following criteria:

- Member of SSRC.
- Holder of a PhD degree in a stability related topic obtained within the past ten years.
- Have presented at least one paper at an SSRC Annual Stability Conference after obtaining his/her PhD degree.
- Have not previously received the MAJR Medal.

The award committee is appointed by the SSRC Executive Committee. The award is presented at the SSRC Annual Stability Conference. It consists of a bronze medal with the SSRC logo and the lettering "MAJR Medal" engraved on the front side – the back side will show the year of the award and the name of the awardee. The award committee may decide to also recognize an "Honorable Mention," which will consist of a certificate signed by the SSRC Chair.

Dr. Mina Seif is a licensed Professional Engineer working as research structural engineer in the National Fire Research Laboratory (NFRL) at the National Institute of Standards and Technology (NIST). Seif's primary research interests relate to the assessment of structural performance under extreme loads, particularly under fire-induced heating. Prior to joining NIST, Seif received a MSc followed by a PhD in Structural Engineering from the Johns Hopkins University, where his research focused on the cross-sectional stability of high strength structural steel. Seif has also earned a MSc degree in Structural Engineering from Cairo University where his thesis focused on seismic assessment of reinforced concrete buildings. In addition to his research work, Seif has held multiple adjunct professor positions as well as design/consulting positions over the years.

Beedle Award

The award has been established in honor of the late Lynn S. Beedle, an international authority on stability and the development of code criteria for steel and composite structures. He was a leader and outstanding contributor to the work of the Structural Stability Research Council for a period of more than 50 years, establishing the council as the preeminent organization worldwide in the area of structural stability. Through Lynn Beedle's dedicated work and leadership in the national and international arenas, the structural engineering profession has seen advanced concepts developed into practical engineering tools. He consistently and successfully endeavored to advance collaboration between researchers, engineers and code writers worldwide. Recipients of the Lynn S. Beedle Award must meet the following criteria:

- Longtime member of SSRC.
- A worldwide leading stability researcher or designer of structures with significant stability issues.
- A leader in fostering cooperation between professionals worldwide.
- Significant contributions to national and international design code development.

The SSRC Executive Committee serves as the award committee. The award may be presented as frequently as annually. An individual can only receive the award once. The award is presented at the SSRC Annual Stability Conference. It consists of a framed certificate, signed by the SSRC Chair and Vice Chair.

W. Samuel Easterling is the Montague-Betts Professor of Structural Steel Design and Department Head in the Via Department of Civil and Environmental Engineering at Virginia Tech. Easterling received his BSCE and MSCE from West Virginia University and his PhD in Structural Engineering from Iowa State University. He is a registered professional engineer in Virginia. Easterling has taught courses in structural steel design and cold-formed steel design. He has directed research and consulted on projects dealing with a variety of steel-concrete composite and cold-formed steel structures, including composite and non-composite diaphragms. He has been active professionally within AISC, AISI, ASCE and SSRC. His leadership roles have included serving as Chair of the SSRC from 2006-2009.

award details from session S4

NASCC: THE STEEL CONFERENCE

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architect's program

AIA LU	CODE	SESSION TITLES	DAY(S)
1.0†	A1	Designing for Membrane Architecture	Wed
1.0†	A2	Trends in Construction for Architects	Wed
1.0†	A3	Promoting Health and Wellness Through Design	Wed
1.0*	A4	Salesforce Transit Center	Thu
1.0†	A5	Architecturally Exposed Structural Steel (AESS): Communicating for Success	Thu
1.5	C5	Casting Away & Forging Ahead	Thu
1.5*	C6	Thermal Steel Bridging Quantification and Solutions in Steel-Framed Structures	Wed, Thu
1.0†	CS2	The Gateway Arch – Unique Perspectives	Wed
1.5†	D2	Intro to AISC Design Guide 34: Steel Framed Stairway Design	Thu
1.0*†	G1	Whole-Building Life-Cycle Assessment	Fri
1.0*	G2	Overview of the Steel Forming Process	Thu
1.0†	H1	Retractable Stadium Roofs – Challenges in Design and Construction of Large Mechanized Structures	Wed, Fri
1.0	H2	Designing with Complex Geometries	Wed, Thu
1.5†	H4	Lessons From the First SpeedCore Project	Wed, Thu
1.0†	L4	Insidious Thermal Forces in Steel Structures: What You Need to Know	Thu, Fri
1.5†	L14	What Not to Draw	Wed
1.0	LL7	Legal Implications of Electronic Data Transfer	Thu
1.5†	M4	Healthcare Design in High Seismic Areas: Old and New	Wed
1.0	Z4	Solutions for Equity in the Design Industry	Thu
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges	Wed

* sessions also eligible for GBCI CE credits; † sessions also eligible for HSW credits

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American Institute of Steel Construction (AISC)
American Punch Company
Anatomic Iron Steel Detailing
Applied Bolting Technology, Inc.
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Atlas Tube, A Division of Zekelman Industries
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BDS VirCon
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Bentley Systems, Incorporated
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Birmingham Rail & Locomotive
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Hypertherm Inc.
HYTORC
IDEA StatiCa
IdeaNet Solutions Inc
Independence Tube Corporation
INDIANA GRATINGS PVT LTD - INDIA
Industry Lift
Infasco / Ifastgroupe
InfoSight Corporation
Infra-Metals Co.
Inovatech Engineering
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KTA-Tator
LAP Laser LLC
Lapeyre Stair
LARSA, Inc.
LeJeune Bolt Company
Lincoln Electric Company
Lindapter
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LNA Solutions
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Nitto Kohki U.S.A., Inc.
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SKM Industries, Inc.
SkyCiv Engineering
SlipNOT Metal Safety Flooring
SRG Onesource LLC
SSPC: The Society for Protective Coatings
St. Louis Screw & Bolt
Stainless Structurals America
Steel Deck Institute
Steel Dynamics Structural and Rail Division
Steel Erectors Association of America
Steel Founders Society of America
Steel Joist Institute
Steel Projects Corp.
Steel Studio, Inc.
Steel Tek Unlimited
Steel Tube Institute
Steelmax Tools LLC
Strand7 Pty Ltd
Structural Engineering Institute of ASCE
Structural Stability Research Council
STRUMIS LLC
Sugar Steel Corporation
Taylor Devices, Inc.
Techflow Inc.
Tectonix Steel, Inc.
Tennessee Galvanizing
Tnemec Company, Inc.
Torchmate, A Lincoln Electric Company
Trilogy Machinery, Inc.
Trimble
Triple S Steel Holdings
TurnaSure, LLC
TUTTLE A Dant Clayton Division
TUV Rheinland Industrial Solutions, Inc.
Unibor
United Rentals, Inc.
Unytite, Inc.
V & S Galvanizing
Valmont Coatings
Valmont Industries, Inc.
VERNON Tool, A Lincoln Electric Company
VET Dessin Steel Detailing
Viking Blast & Wash Systems
Voortman Steel Group
Voss Engineering, Inc.
West Motor Freight
Wurth House of Threads
Z Modular

NASCC: THE STEEL CONFERENCE

"of special interest to" lists

of special interest to FABRICATORS

HRS.	SESSIONS—FABRICATORS		DAY & TIME
1.0	K1	KEYNOTE: The Power of Contrarian Thinking	W 10:30 a.m. – 12:15 p.m.
1.0	K2	KEYNOTE: The Joy of Steel...So Many Possibilities	Th 10:30 – 11:45 a.m.
1.0	K3	KEYNOTE: T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide Your Judgment	F noon – 1:30 p.m.
1.0	A1	Designing for Membrane Architecture	W 8:00 – 9:00 a.m.
1.0	A5	Architecturally Exposed Structural Steel (AESS): Communicating for Success	Th 9:15 – 10:15 a.m.
1.0	C2	Bracing Success with Delegated Connection Design	Th 9:15 – 10:15 a.m. | F 9:15 – 10:15 a.m.
1.0	C3	Kinked Connections – What are They and Why Should I Care?	Th 8:00 – 9:00 a.m. | F 10:45 – 11:45 a.m.
1.0	C4	Partially Restrained Connections (25 years later) – Current Views From Past Higgins Award Winners	F 8:00 – 9:00 a.m.
1.5	C5	Casting Away and Forging Ahead	Th 4:00 – 5:30 p.m. | F 9:15 – 10:15 a.m.
1.5	C7	30+ Good Rules of Connection Design: Round 2	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.5	C8	What I Didn't Have Time to Say in Baltimore	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	CS1	The Structural Stability Game Show	W 1:30 – 3:00 p.m.
1.0	CS2	The Gateway Arch – Unique Perspectives	W 9:15 – 10:15 a.m.
1.0	D1	Training Your Detailers for Quality	Th 8:00 – 9:00 a.m.
1.5	D2	Introduction to AISC Design Guide 34: Steel Framed Stairway Design – Understanding How to Eliminate Pitfalls and Problems During the Design and Detailing Process	Th 2:00 – 3:30 p.m.
1.0	D3	Detailing: It's Not Just That Anymore	Th 9:15 – 10:15 a.m.
1.0	D4	Connection Design Efficiency Loss	F 8:00 – 9:00 a.m.
1.0	D5	What Erectors Love to Hate about Steel Detailers	W 5:00 – 6:00 p.m.
1.0	E1	Ethical Cultures of High-Performance Organizations	W 8:00 – 9:00 a.m.
1.0	G2	Overview of the Steel Forming Process	Th 9:15 – 10:15 a.m.
1.0	H2	Designing with Complex Geometries	W 9:15 – 10:15 a.m. | Th noon – 1:00 p.m.
1.5	H4	Lessons From the First SpeedCore Project	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.5	H5	SpeedCore and Composite Plate Shear Walls: Current Research and Developments	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.0	L6	RFIs and the Waiting Game	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.5	L11	Design Guide 7: Industrial Buildings – Roofs to Anchor Rods	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	L14	What Not To Draw	W 3:15 – 4:45 p.m.
1.0	L19	HSS: What Designers Should Know about HSS Dimensions and Material Availability	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	LL1	What You Need to Know About Defending and Prosecuting Claims – Before You Get into a Dispute	W 8:00 – 9:00 a.m.
1.5	LL2	Defending and Prosecuting Delay Claims	W 1:30 – 3:00 p.m.
1.0	LL3	It's Time to Take Another Look at Your Subcontracts	W 9:15 – 10:15 a.m.
1.0	LL4	Due Diligence: Warning Flags Before You Submit Your Bid	W 5:00 – 6:00 p.m.
1.5	LL5	Avoiding "Bet the Company" Legal Mistakes	W 3:15 – 4:45 p.m.
1.5	LL6	Crisis Management – Workplace Disasters	Th 2:00 – 3:30 p.m.
1.0	LL7	Legal Implications of Electronic Data Transfer	Th 8:00 – 9:00 a.m.
1.5	M3	The AISC 3rd Edition Seismic Design Manual	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	M4	Healthcare Design in High Seismic Areas: Old and New	W 3:15 – 4:45 p.m.
1.0	M12	Seismic Behavior and Design of Steel Diaphragms	Th noon – 1:00 p.m. | F 9:15 – 10:15 a.m.
1.5	P1	Understanding Your Assets as a Manager	W 1:30 – 3:00 p.m.
1.5	P2	Effectively Influence Others to Optimize Results	W 3:15 – 4:45 p.m.
1.5	P3	Build Teamwork that Works to Win	Th 2:00 – 3:30 p.m.
1.5	P4	The Art of Negotiation	Th 4:00 – 5:30 p.m.
1.5	P5	The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)	W 1:30 – 3:00 p.m.
1.0	P6	Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications	W 8:00 – 9:00 a.m.
1.0	P7	Get What You Want from the EOR and GC	W 9:15 – 10:15 a.m.
1.0	P8	Effective Project Management	W 5:00 – 6:00 p.m.
1.0	P9	Job Preplan	Th 8:00 – 9:00 a.m.

more fabricator sessions on page 47 →

HRS.	SESSIONS—FABRICATORS		DAY & TIME
1.0	P10	Fundamentals of Project Scheduling for Steel Fabrication	Th 9:15 – 10:15 a.m.
1.0	P11	Effective Communication for Project Managers	F 8:00 – 9:00 a.m.
1.0	P12	Your Code of Standard Practice – Sections 5, 6 and 8	F 9:15 – 10:15 a.m.
1.0	R2	Code of Standard Practice: Section 7 – An Erector's Perspective	W 9:15 – 10:15 a.m.
1.0	R4	Filling the Skills Gap for Ironworkers	Th noon – 1:00 p.m.
1.0	R5	What's New in the Realm of Safety?	F 9:15 – 10:15 a.m.
1.0	R6	Don't be "Rig Poor"! – Understanding the process of sizing the right crane for your steel erection project	F 10:45 – 11:45 a.m.
1.0	R7	Why Do I Need My Temporary Bracing Plan Stamped?	Th 8:00 – 9:00 a.m.
1.0	RT1	Fabricator Roundtable	W 1:30 – 3:00 p.m.
1.5	RT2	Industry Roundtable	Th 2:00 – 3:30 p.m.
1.0	T1	Get Control of Shop Information	Th 8:00 – 9:00 a.m.
1.0	T2	What Your Detailing Software Wished you Knew	Th 9:15 – 10:15 a.m.
1.0	T3	The AISC Guide to BIM/Modeling	W 5:00 – 6:00 p.m.
1.5	T4	Best Practices for Model Review – An Update	Th 4:00 – 5:30 p.m.
1.0	Z1	Working ON Your Business, Not Just IN Your Business	F 10:45 – 11:45 a.m.
1.0	Z2	Tackling the Skilled Trade Shortage	W 9:15 – 10:15 a.m.
1.5	Z4	Solutions for Equity in the Design Industry	Th 4:00 – 5:30 p.m.
1.0	Z5	The Importance of Project Setup	Th noon – 1:00 p.m.
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges	W 5:00 – 6:00 p.m.
1.0	Q1	AISC Certification Forum	W 8:00 – 9:00 a.m.
1.0	Q2	What Do AISC Certification Complaints and Appeals Policies Mean to Specifiers and Participants?	W 9:15 – 10:15 a.m.
1.5	Q3	Let's Set that Goal!	W 1:30 – 3:00 p.m.
1.5	Q4	Teamwork: No One in this Room is Smarter than All of Us	W 3:15 – 4:45 p.m.
1.0	Q5	Areas of Concern and Corrective Action Requests: Streamling the Process and Talking About the Root Cause	W 5:00 – 6:00 p.m.
1.0	Q6	What Does "Management Review" Really Mean?	Th 8:00 – 9:00 a.m.
1.0	Q7	I Have a Quality Manual and Procedures – Now What?	Th 9:15 – 10:15 a.m.
1.0	Q11	The Paint Certification Primer	F 8:00 – 9:00 a.m.
1.0	Q12	The Real Secret of Calibration	F 9:15 – 10:15 a.m.
1.0	B3	Research and Construction of Press-brake-formed Steel Tub Girder Bridges	W 9:15 – 10:15 a.m.
1.0	B4	New and Exciting Changes to Welding for Bridges	W 9:15 – 10:15 a.m.
1.5	B6	The Steel Advantage in Accelerated Bridge Construction	W 1:30 – 3:00 p.m.
1.5	B7	It's All in the Details	W 3:15 – 4:45 p.m.
1.5	B8	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1	W 3:15 – 4:45 p.m.
1.0	B9	The Rehabilitation of the Pulaski Skyway Bridge	W 5:00 – 6:00 p.m.
1.0	B10	Design and Maintenance of Steel Bridges for Corrosion Control	W 5:00 – 6:00 p.m.
1.0	B11	Steel Bridge Design and Practice in Europe and Japan	Th 8:00 – 9:00 a.m.
1.0	B12	Fatigue: Unique Loading & Crack Detection Technology	Th 8:00 – 9:00 a.m.
1.0	B15	A Second Look at Corrosion: Uncoated Weathering Steel Update & High-Performance Coatings in Florida	Th noon – 1:00 p.m.
1.0	B16	Challenging and Unique Projects – Part 1	Th noon – 1:00 p.m.
1.5	B18	Long Span Bridges	Th 2:00 – 3:30 p.m.
1.5	B19	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 2	Th 4:00 – 5:30 p.m.
1.0	B21	New AASHTO ABC Guide Specification & Unique Projects	F 8:00 – 9:00 a.m.
1.0	B22	Technologies to Assist with Bridge Design, Fabrication, and Construction	F 8:00 – 9:00 a.m.
1.0	B23	2018 Prize Bridges	F 9:15 – 10:15 a.m.
1.0	B24	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3	F 9:15 – 10:15 a.m.

of special interest to FABRICATORS

of special interest to ENGINEERS

HRS.	SESSIONS—ENGINEERS		DAY & TIME
1.0	K1	KEYNOTE: The Power of Contrarian Thinking	W 10:30 a.m. – 12:15 p.m.
1.0	K2	KEYNOTE: The Joy of Steel...So Many Possibilities	Th 10:30 – 11:45 a.m.
1.0	K3	KEYNOTE: T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide Your Judgment	F noon – 1:30 p.m.
1.0	A1	Designing for Membrane Architecture	W 8:00 – 9:00 a.m.
1.0	A2	Trends in Construction for Architects	W 9:15 – 10:15 a.m.
1.0	A3	Promoting Health and Wellness Through Design	W 5:00 – 6:00 p.m.
1.0	A4	Salesforce Transit Center	Th 8:00 – 9:00 a.m.
1.0	A5	Architecturally Exposed Structural Steel (AESS): Communicating for Success	Th 9:15 – 10:15 a.m.
1.5	C1	Engineers: Getting the Welds You Want and Need	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.0	C2	Bracing Success with Delegated Connection Design	Th 9:15 – 10:15 a.m. | F 9:15 – 10:15 a.m.
1.0	C3	Kinked Connections – What are They and Why Should I Care?	Th 8:00 – 9:00 a.m. | F 10:45 – 11:45 a.m.
1.0	C4	Partially Restrained Connections (25 years later) – Current Views From Past Higgins Award Winners	F 8:00 – 9:00 a.m.
1.5	C5	Casting Away and Forging Ahead	Th 4:00 – 5:30 p.m. | F 9:15 – 10:15 a.m.
1.5	C6	Thermal Steel Bridging Quantification and Solutions in Steel-Framed Structures	W 1:30 – 3:00 p.m. | Th 2:00 – 3:30 p.m.
1.5	C7	30+ Good Rules of Connection Design: Round 2	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.5	C8	What I Didn't Have Time to Say in Baltimore	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	CS1	The Structural Stability Game Show	W 1:30 – 3:00 p.m.
1.0	CS2	The Gateway Arch – Unique Perspectives	W 9:15 – 10:15 a.m.
1.0	D1	Training Your Detailers for Quality	Th 8:00 – 9:00 a.m.
1.5	D2	Introduction to AISC Design Guide 34: Steel Framed Stairway Design – Understanding How to Eliminate Pitfalls and Problems During the Design and Detailing Process	Th 2:00 – 3:30 p.m.
1.0	D4	Connection Design Efficiency Loss	F 8:00 – 9:00 a.m.
1.0	E1	Ethical Cultures of High-Performance Organizations	W 8:00 – 9:00 a.m.
1.0	E2	Engineering Ethics: When to Report Violations	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	G1	Whole-Building Life-Cycle Assessment	F 8:00 – 9:00 a.m.
1.0	G2	Overview of the Steel Forming Process	Th 9:15 – 10:15 a.m.
1.0	H1	Retractable Stadium Roofs – Challenges in Design and Construction of Large Mechanized Structures	W 8:00 – 9:00 a.m. | F 8:00 – 9:00 a.m.
1.0	H2	Designing with Complex Geometries	W 9:15 – 10:15 a.m. | Th noon – 1:00 p.m.
1.5	H3	AISC Research: Seismic Evaluation and Retrofit of Concentrically Braced Frames	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	H4	Lessons From the First SpeedCore Project	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.5	H5	SpeedCore and Composite Plate Shear Walls: Current Research and Developments	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.0	L1	Structural Fire Engineering: A Powerful Sanctioned Design Option	W 8:00 – 9:00 a.m. | Th noon – 1:00 p.m.
1.0	L2	Design Column Reinforcement	W 9:15 – 10:15 a.m. | Th 8:00 – 9:00 a.m.
1.0	L3	Proactive Fracture and Fatigue Design in Steel	W 5:00 – 6:00 p.m. | F 9:15 – 10:15 a.m.
1.0	L4	Insidious Thermal Forces in Steel Structures: What You Need to Know	Th 8:00 – 9:00 a.m. | F 10:45 – 11:45 a.m.
1.5	L5	The Learning Never Stops: Going Beyond a College Education	W 1:30 – 3:00 p.m.
1.0	L6	RFIs and the Waiting Game	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	L7	Properly Specifying Steel Deck	Th noon – 1:00 p.m. | W 9:15 – 10:15 a.m.
1.0	L8	Your Code of Standard Practice – Sections 3 and 4	W 5:00 – 6:00 p.m. | F 8:00 – 9:00 a.m.
1.5	L9	Properly Specifying Steel Joists	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.5	L10	New Design Guide 35 – Storm Shelter and Safe-Room Design	W 1:30 – 3:00 p.m. | Th 2:00 – 3:30 p.m.
1.5	L11	Design Guide 7: Industrial Buildings – Roofs to Anchor Rods	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.0	L12	Lateral Load Transfer – From Diaphragm to Resisting Elements	Th 9:15 – 10:15 a.m. | F 10:45 – 11:45 a.m.
1.5	L13	Retrofit of Existing Building With Steel Joists	W 1:30 – 3:00 p.m. | Th 2:00 – 3:30 p.m.
1.5	L14	What Not To Draw	W 3:15 – 4:45 p.m.
1.0	L15	Traditional and Advanced Methods for Assessing Ponding Instability	W 8:00 – 9:00 a.m. | Th noon – 1:00 p.m.
1.5	L16	Structural Vibration Serviceability: FAQs and More	W 1:30 – 3:00 p.m. | Th 2:00 – 3:30 p.m.
1.0	L17	Drawing Details: The Good, the Bad, and the Ugly	W 9:15 – 10:15 a.m. | Th noon – 1:00 p.m.
1.5	L18	Distortion of Curved Members	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.0	L19	HSS: What Designers Should Know about HSS Dimensions and Material Availability	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	L20	Concrete Filled HSS	Th 8:00 – 9:00 a.m. | F 10:45 – 11:45 a.m.
1.0	LL1	What You Need to Know About Defending and Prosecuting Claims – Before You Get into a Dispute	W 8:00 – 9:00 a.m.
1.5	LL2	Defending and Prosecuting Delay Claims	W 1:30 – 3:00 p.m.
1.0	LL3	It's Time to Take Another Look at Your Subcontracts	W 9:15 – 10:15 a.m.
1.0	LL4	Due Diligence: Warning Flags Before You Submit Your Bid	W 5:00 – 6:00 p.m.
1.5	LL5	Avoiding "Bet the Company" Legal Mistakes	W 3:15 – 4:45 p.m.
1.5	LL6	Crisis Management – Workplace Disasters	Th 2:00 – 3:30 p.m.
1.0	LL7	Legal Implications of Electronic Data Transfer	Th 8:00 – 9:00 a.m.
1.0	M1	Post-Earthquake Reconstruction of Christchurch: Steel City New Zealand	W 8:00 – 9:00 a.m. | F 10:45 – 11:45 a.m.
1.0	M2	Let's Talk Seismic – In Language We Can All Understand	W 9:15 – 10:15 a.m. | F 10:45 – 11:45 a.m.
1.5	M3	The AISC 3rd Edition Seismic Design Manual	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	M4	Healthcare Design in High Seismic Areas: Old and New	W 3:15 – 4:45 p.m.
1.0	M5	Design of Multi-Tiered Braced Frames	W 5:00 – 6:00 p.m. | F 10:45 – 11:45 a.m.
1.5	M6	Seismic Design for Non-West Coast Engineers – Part 1	Th 2:00 – 3:30 p.m.
1.5	M7	Seismic Design for Non-West Coast Engineers – Part 2	Th 4:00 – 5:30 p.m.
1.0	M8	Alternative Seismic Systems	Th 8:00 – 9:00 a.m. | F 9:15 – 10:15 a.m.
1.5	M9	Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 1	W 3:15-4:45 p.m.

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HRS.	SESSIONS—ENGINEERS		DAY & TIME
1.5	M10	Seismic Risk Assessment of Buckling Restrained Braces – Including Evaluation of Brace Residual Capacity and Building Performance – Part 2	W 3:15 – 4:45 p.m.
1.5	M11	To 3 or Not to 3	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.0	M12	Seismic Behavior and Design of Steel Diaphragms	Th noon – 1:00 p.m. | F 9:15 – 10:15 a.m.
1.5	P1	Understanding Your Assets as a Manager	W 1:30 – 3:00 p.m.
1.5	P2	Effectively Influence Others to Optimize Results	W 3:15 – 4:45 p.m.
1.5	P3	Build Teamwork that Works to Win	Th 2:00 – 3:30 p.m.
1.5	P4	The Art of Negotiation	Th 4:00 – 5:30 p.m.
1.5	P5	The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)	W 1:30 – 3:00 p.m.
1.0	P6	Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications	W 8:00 – 9:00 a.m.
1.0	P8	Effective Project Management	W 5:00 – 6:00 p.m.
1.0	P9	Job Preplan	Th 8:00 – 9:00 a.m.
1.0	P10	Fundamentals of Project Scheduling for Steel Fabrication	Th 9:15 – 10:15 a.m.
1.0	P11	Effective Communication for Project Managers	F 8:00 – 9:00 a.m.
1.0	R1	Heavy and Complicated Lifts – Risks, Uncertainties and What to Look Out For	W 8:00 – 9:00 a.m.
1.0	R2	Code of Standard Practice: Section 7 – An Erector's Perspective	W 9:15 – 10:15 a.m.
1.0	R5	What's New in the Realm of Safety?	F 9:15 – 10:15 a.m.
1.0	R6	Don't be "Rig Poor"! – Understanding the process of sizing the right crane for your steel erection project	F 10:45 – 11:45 a.m.
1.0	R7	Why Do I need my Temporary Bracing Plan Stamped?	Th 8:00 – 9:00 a.m.
1.0	T2	What Your Detailing Software Wished you Knew	Th 9:15 – 10:15 a.m.
1.0	T3	The AISC Guide to BIM/Modeling	W 5:00 – 6:00 p.m.
1.5	T4	Best Practices for Model Review – An Update	Th 4:00 – 5:30 p.m.
1.0	Y1	From Engineer to Field – Eliminating Problems	Th 9:15 – 10:15 a.m.
1.0	Y2	Critical Lift Planning Basics 101	Th noon – 1:00 p.m.
1.0	Z1	Working ON Your Business, Not Just IN Your Business	F 10:45 – 11:45 a.m.
1.0	Z2	Tackling the Skilled Trade Shortage	W 9:15 – 10:15 a.m.
1.0	Z3	Structural Engineering Engagement and Equity (SE3): 2018 Survey Results	F 8:00 – 9:00 a.m.
1.5	Z4	Solutions for Equity in the Design Industry	Th 4:00 – 5:30 p.m.
1.0	Z5	The Importance of Project Setup	Th noon – 1:00 p.m.
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges	W 5:00 – 6:00 p.m.
1.0	B1	Improving the Quality of Steel Bridge Fabrication Through Communication	W 8:00 – 9:00 a.m.
1.0	B2	Pedestrian Bridges – Unique Design and Analysis	W 8:00 – 9:00 a.m.
1.0	B3	Research and Construction of Press-brake-formed Steel Tub Girder Bridges	W 9:15 – 10:15 a.m.
1.0	B4	New and Exciting Changes to Welding for Bridges	W 9:15 – 10:15 a.m.
1.5	B5	Redundancy of Steel Bridges – Part 1	W 1:30 – 3:00 p.m.
1.5	B6	The Steel Advantage in Accelerated Bridge Construction	W 1:30 – 3:00 p.m.
1.5	B7	It's All in the Details	W 3:15 – 4:45 p.m.
1.5	B8	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1	W 3:15 – 4:45 p.m.
1.0	B9	The Rehabilitation of the Pulaski Skyway Bridge	W 5:00 – 6:00 p.m.
1.0	B10	Design and Maintenance of Steel Bridges for Corrosion Control	W 5:00 – 6:00 p.m.
1.0	B11	Steel Bridge Design and Practice in Europe and Japan	Th 8:00 – 9:00 a.m.
1.0	B12	Fatigue: Unique Loading & Crack Detection Technology	Th 8:00 – 9:00 a.m.
1.0	B13	Steel Bridge Design Resources: Introduction and Application	Th 9:15 – 10:15 a.m.
1.0	B14	Challenging and Unique Projects – Part 1	Th 9:15 – 10:15 a.m.
1.0	B15	A Second Look at Corrosion: Uncoated Weathering Steel Update & High-Performance Coatings in Florida	Th noon – 1:00 p.m.
1.0	B16	Challenging and Unique Projects – Part 2	Th noon – 1:00 p.m.
1.5	B17	Redundancy of Steel Bridges – Part 2	Th 2:00 – 3:30 p.m.
1.5	B18	Long Span Bridges	Th 2:00 – 3:30 p.m.
1.5	B19	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 2	Th 4:00 – 5:30 p.m.
1.5	B20	Challenges Encountered During Construction and Demolition	Th 4:00 – 5:30 p.m.
1.0	B21	New AASHTO ABC Guide Specification & Unique Projects	F 8:00 – 9:00 a.m.
1.0	B22	Technologies to Assist with Bridge Design, Fabrication, and Construction	F 8:00 – 9:00 a.m.
1.0	B23	2018 Prize Bridges	F 9:15 – 10:15 a.m.
1.0	B24	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3	F 9:15 – 10:15 a.m.
1.0	B25	Rating and Evaluation of Existing Steel Bridges	F 10:45 – 11:45 a.m.
1.0	B26	Advances in the Design Code & AASHTO Design Code Compared to International Codes	F 10:45 – 11:45 a.m.
1.0	S1	Advances in Stability Analysis	W 8:00 – 9:00 a.m.
1.0	S2	Stability of Beams and Girders	W 9:15 – 10:15 a.m.
1.5	S3	Stability under Seismic Loading	W 1:30 – 3:00 p.m.
1.5	S4	Presentation Session for Beedle and McGuire Awards	W 3:15 – 4:45 p.m.
1.0	S5	Stability at Elevated Temperatures	W 5:00 – 6:00 p.m.
1.0	S6	Stability Considerations for Localized Conditions	Th 8:00 – 9:00 a.m.
1.0	S7	Stability of Plates and Shells	Th 9:15 – 10:15 a.m.
1.0	S8	Stability of Apex Connections in Cold-Formed Steel Portal Frames	Th noon – 1:00 p.m.
1.5	S9	Topics in Lateral-Torsional Buckling	Th 2:00 – 3:30 p.m.
1.5	S10	Topics in Local Stability	Th 4:00 – 5:30 p.m.
1.0	S11	Stability of Columns	F 8:00 – 9:00 a.m.
1.0	S12	Stability of Structural Systems	F 9:15 – 10:15 a.m.
1.0	S13	Special Topics in Structural Stability	F 10:45 – 11:45 a.m.

of special interest to DETAILERS

HRS.	SESSIONS—DETAILERS		DAY & TIME
1.0	K1	KEYNOTE: The Power of Contrarian Thinking	W 10:30 a.m. – 12:15 p.m.
1.0	K2	KEYNOTE: The Joy of Steel...So Many Possibilities	Th 10:30 – 11:45 a.m.
1.0	K3	KEYNOTE: T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide Your Judgment	F noon – 1:30 p.m.
1.0	C2	Bracing Success with Delegated Connection Design	Th 9:15 – 10:15 a.m. | F 9:15 – 10:15 a.m.
1.5	C7	30+ Good Rules of Connection Design: Round 2	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.5	C8	What I Didn't Have Time to Say in Baltimore	W 1:30 – 3:00 p.m. |Th 4:00 – 5:30 p.m.
1.5	CS1	The Structural Stability Game Show	W 1:30 – 3:00 p.m.
1.0	CS2	The Gateway Arch – Unique Perspectives	W 9:15 – 10:15 a.m.
1.0	D1	Training Your Detailers for Quality	Th 8:00 – 9:00 a.m.
1.5	D2	Introduction to AISC Design Guide 34: Steel Framed Stairway Design – Understanding How to Eliminate Pitfalls and Problems During the Design and Detailing Process	Th 2:00 – 3:30 p.m.
1.0	D3	Detailing: It's Not Just That Anymore	Th 9:15 – 10:15 a.m.
1.0	D4	Connection Design Efficiency Loss	F 8:00 – 9:00 a.m.
1.0	D5	What Erectors Love to Hate about Steel Detailers	W 5:00 – 6:00 p.m.
1.0	E1	Ethical Cultures of High-Performance Organizations	W 8:00 – 9:00 a.m.
1.0	G2	Overview of the Steel Forming Process	Th 9:15 – 10:15 a.m.
1.0	H2	Designing with Complex Geometries	W 9:15 – 10:15 a.m. | Th noon – 1:00 p.m.
1.5	H4	Lessons From the First SpeedCore Project	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.5	H5	SpeedCore and Composite Plate Shear Walls: Current Research and Developments	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.0	L6	RFIs and the Waiting Game	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.5	L11	Design Guide 7: Industrial Buildings – Roofs to Anchor Rods	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.0	L19	HSS: What Designers Should Know about HSS Dimensions and Material Availability	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	LL1	What You Need to Know About Defending and Prosecuting Claims – Before You Get into a Dispute	W 8:00 – 9:00 a.m.
1.0	LL2	Defending and Prosecuting Delay Claims	W 1:30 – 3:00 p.m.
1.0	LL3	It's Time to Take Another Look at Your Subcontracts	W 9:15 – 10:15 a.m.
1.0	LL4	Due Diligence: Warning Flags Before You Submit Your Bid	W 5:00 – 6:00 p.m.
1.5	LL5	Avoiding "Bet the Company" Legal Mistakes	W 3:15 – 4:45 p.m.
1.5	LL6	Crisis Management – Workplace Disasters	Th 2:00 – 3:30 p.m.
1.0	LL7	Legal Implications of Electronic Data Transfer	Th 8:00 – 9:00 a.m.
1.0	M12	Seismic Behavior and Design of Steel Diaphragms	Th noon – 1:00 p.m. | F 9:15 – 10:15 a.m.
1.5	P1	Understanding Your Assets as a Manager	W 1:30 – 3:00 p.m.
1.5	P2	Effectively Influence Others to Optimize Results	W 3:15 – 4:45 p.m.
1.5	P3	Build Teamwork that Works to Win	Th 2:00 – 3:30 p.m.
1.5	P4	The Art of Negotiation	Th 4:00 – 5:30 p.m.
1.5	P5	The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)	W 1:30 – 3:00 p.m.
1.0	P6	Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications	W 8:00 – 9:00 a.m.
1.0	P8	Effective Project Management	W 5:00 – 6:00 p.m.
1.0	P9	Job Preplan	Th 8:00 – 9:00 a.m.
1.0	P10	Fundamentals of Project Scheduling for Steel Fabrication	Th 9:15 – 10:15 a.m.
1.0	P11	Effective Communication for Project Managers	F 8:00 – 9:00 a.m.
1.0	R2	Code of Standard Practice: Section 7 – An Erector's Perspective	W 9:15 – 10:15 a.m.
1.0	R7	Why do I need my Temporary Bracing Plan Stamped?	Th 8:00 – 9:00 a.m.
1.5	RT2	Industry Roundtable	Th 2:00 – 3:30 p.m.
1.0	T2	What Your Detailing Software Wished You Knew	Th 9:15 – 10:15 a.m.
1.0	T3	The AISC Guide to BIM/Modeling	W 5:00 – 6:00 p.m.
1.5	T4	Best Practices for Model Review – An Update	Th 4:00 – 5:30 p.m.
1.0	Z1	Working ON Your Business, Not Just IN Your Business	F 10:45 – 11:45 a.m.
1.5	Z4	Solutions for Equity in the Design Industry	Th 4:00 – 5:30 p.m.
1.0	Z5	The Importance of Project Setup	Th noon – 1:00 p.m.
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges	W 5:00 – 6:00 p.m.
1.0	B2	Pedestrian Bridges – Unique Design and Analysis	W 8:00 – 9:00 a.m.
1.0	B4	New and Exciting Changes to Welding for Bridges	W 9:15 – 10:15 a.m.
1.5	B6	The Steel Advantage in Accelerated Bridge Construction	W 1:30 – 3:00 p.m.
1.5	B7	It's All in the Details	W 3:15 – 4:45 p.m.
1.0	B9	The Rehabilitation of the Pulaski Skyway Bridge	W 5:00 – 6:00 p.m.
1.0	B10	Design and Maintenance of Steel Bridges for Corrosion Control	W 5:00 – 6:00 p.m.
1.0	B11	Steel Bridge Design and Practice in Europe and Japan	Th 8:00 – 9:00 a.m.
1.0	B12	Fatigue: Unique Loading & Crack Detection Technology	Th 8:00 – 9:00 a.m.
1.0	B16	Challenging and Unique Projects – Part 1	Th noon – 1:00 p.m.
1.5	B18	Long Span Bridges	Th 2:00 – 3:30 p.m.
1.5	B19	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 2	Th 4:00 – 5:30 p.m.
1.0	B21	New AASHTO ABC Guide Specification & Unique Projects	F 8:00 – 9:00 a.m.
1.0	B22	Technologies to Assist with Bridge Design, Fabrication, and Construction	F 8:00 – 9:00 a.m.
1.0	B23	2018 Prize Bridges	F 9:15 – 10:15 a.m.
1.0	B24	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3	F 9:15 – 10:15 a.m.

HRS.	SESSIONS—ERECTORS		DAY & TIME
1.0	K1	KEYNOTE: The Power of Contrarian Thinking	W 10:30 a.m. – 12:15 p.m.
1.0	K2	KEYNOTE: The Joy of Steel...So Many Possibilities	Th 10:30 – 11:45 a.m.
1.0	K3	KEYNOTE: T.R. Higgins Lecture: Structural Stability – Letting the Fundamentals Guide Your Judgment	F noon – 1:30 p.m.
1.0	A5	Architecturally Exposed Structural Steel (AESS): Communicating for Success	Th 9:15 – 10:15 a.m.
1.5	C7	30+ Good Rules of Connection Design: Round 2	W 3:15 – 4:45 p.m. | Th 2:00 – 3:30 p.m.
1.5	C8	What I Didn't Have Time to Say in Baltimore	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.5	CS1	The Structural Stability Game Show	W 1:30 – 3:00 p.m.
1.0	CS2	The Gateway Arch – Unique Perspectives	W 9:15 – 10:15 a.m.
1.0	D4	Connection Design Efficiency Loss	F 8:00 – 9:00 a.m.
1.0	D5	What Erectors Love to Hate about Steel Detailers	W 5:00 – 6:00 p.m.
1.0	E1	Ethical Cultures of High-Performance Organizations	W 8:00 – 9:00 a.m.
1.0	G2	Overview of the Steel Forming Process	Th 9:15 – 10:15 a.m.
1.0	H2	Designing with Complex Geometries	W 9:15 – 10:15 a.m. | Th noon – 1:00 p.m.
1.5	H4	Lessons from the First SpeedCore Project	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.5	H5	SpeedCore and Composite Plate Shear Walls: Current Research and Developments	W 3:15 – 4:45 p.m. | Th 4:00 – 5:30 p.m.
1.5	L14	What Not To Draw	W 3:15 – 4:45 p.m.
1.0	L19	HSS: What Designers Should Know about HSS Dimensions and Material Availability	Th 9:15 – 10:15 a.m. | F 8:00 – 9:00 a.m.
1.0	LL1	What You Need to Know About Defending and Prosecuting Claims – Before You Get into a Dispute	W 8:00 – 9:00 a.m.
1.5	LL2	Defending and Prosecuting Delay Claims	W 1:30 – 3:00 p.m.
1.0	LL3	It's Time to Take Another Look at Your Subcontracts	W 9:15 – 10:15 a.m.
1.5	LL4	Due Diligence: Warning Flags Before You Submit Your Bid	W 5:00 – 6:00 p.m.
1.5	LL5	Avoiding "Bet the Company" Legal Mistakes	W 3:15 – 4:45 p.m.
1.5	LL6	Crisis Management – Workplace Disasters	Th 2:00 – 3:30 p.m.
1.0	LL7	Legal Implications of Electronic Data Transfer	Th 8:00 – 9:00 a.m.
1.5	M3a	The AISC 3rd Edition Seismic Design Manual	W 1:30 – 3:00 p.m. | Th 4:00 – 5:30 p.m.
1.0	M12a	Seismic Behavior and Design of Steel Diaphragms	Th noon – 1:00 p.m. | F 9:15 – 10:15 a.m.
1.5	P1	Understanding Your Assets as a Manager	W 1:30 – 3:00 p.m.
1.5	P2	Effectively Influence Others to Optimize Results	W 3:15 – 4:45 p.m.
1.5	P3	Build Teamwork that Works to Win	Th 2:00 – 3:30 p.m.
1.5	P4	The Art of Negotiation	Th 4:00 – 5:30 p.m.
1.5	P5	The Top 10 Things Guaranteed to Escalate Conflict (And How to Avoid Them)	W 1:30 – 3:00 p.m.
1.0	P6	Code of Standard Practice: Preface, Glossary, and Sections 1, 2, & 9 – Understanding Their Legal Implications	W 8:00 – 9:00 a.m.
1.0	P7	Get What You Want from the EOR and GC	W 9:15 – 10:15 a.m.
1.0	P8	Effective Project Management	W 5:00 – 6:00 p.m.
1.0	P9	Job Preplan	Th 8:00 – 9:00 a.m.
1.0	P10	Fundamentals of Project Scheduling for Steel Fabrication	Th 9:15 – 10:15 a.m.
1.0	P11	Effective Communication for Project Managers	F 8:00 – 9:00 a.m.
1.0	R1	Heavy and Complicated Lifts – Risks, Uncertainties and What to look out for	W 8:00 – 9:00 a.m.
1.0	R2	Code of Standard Practice: Section 7 – An Erector's Perspective	W 9:15 – 10:15 a.m.
1.0	R4	Filling the Skills Gap for Ironworkers	Th noon – 1:00 p.m.
1.0	R5	What's New in the Realm of Safety?	F 9:15 – 10:15 a.m.
1.0	R6	Don't be "Rig Poor"! – Understanding the process of sizing the right crane for your steel erection project	F 10:45 – 11:45 a.m.
1.0	R7	Why Do I Need My Temporary Bracing Plan Stamped?	Th 8:00 – 9:00 a.m.
1.5	RT2	Industry Roundtable	Th 2:00 – 3:30 p.m.
1.0	T3	The AISC Guide to BIM/Modeling	W 5:00 – 6:00 p.m.
1.0	Y1	From Engineer to Field – Eliminating Problems	Th 9:15 – 10:15 a.m.
1.0	Y2	Critical Lift Planning Basics 101	Th noon – 1:00 p.m.
1.0	Z1	Working ON Your Business, Not Just IN Your Business	F 10:45 – 11:45 a.m.
1.0	Z2	Tackling the Skilled Trade Shortage	W 9:15 – 10:15 a.m.
1.5	Z4	Solutions for Equity in the Design Industry	Th 4:00 – 5:30 p.m.
1.0	Z5	The Importance of Project Setup	Th noon – 1:00 p.m.
1.0	Z6	The Crystal Ball: Construction Market Conditions and Forecasting for Both Buildings and Bridges	W 5:00 – 6:00 p.m.
1.0	Q1	AISC Certification Forum	W 8:00 – 9:00 a.m.
1.0	Q2	What Do AISC Certification Complaints and Appeals Policies Mean to Specifiers and Participants?	W 9:15 – 10:15 a.m.
1.5	Q3	Let's Set that Goal!	W 1:30 – 3:00 p.m.
1.5	Q4	Teamwork: No One in this Room is Smarter than All of Us	W 3:15 – 4:45 p.m.
1.0	Q5	Areas of Concern and Corrective Action Requests: Streamling the Process and Talking About the Root Cause	W 5:00 – 6:00 p.m.
1.0	Q6	What Does "Management Review" Really Mean?	Th 8:00 – 9:00 a.m.
1.0	Q7	I Have a Quality Manual and Procedures – Now What?	Th 9:15 – 10:15 a.m.
1.0	Q8	The New Certification Standard: Update for Erectors	Th noon – 1:00 p.m.
1.5	Q9	Steel Erectors Panel Discussion on Quality Control	Th 2:00 – 3:30 p.m.
1.5	Q10	Let's Get Down to the Nuts and Bolts (and Welding Electrodes): All About Jobsite Storage	Th 4:00 – 5:30 p.m.
1.0	Q12	The Real Secret of Calibration	F 9:15 – 10:15 a.m.
1.5	B6	The Steel Advantage in Accelerated Bridge Construction	W 1:30 – 3:00 p.m.
1.5	B7	It's All in the Details	W 3:15 – 4:45 p.m.
1.5	B8	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 1	W 3:15 – 4:45 p.m.
1.0	B9	The Rehabilitation of the Pulaski Skyway Bridge	W 5:00 – 6:00 p.m.
1.0	B11	Steel Bridge Design and Practice in Europe and Japan	Th 8:00 – 9:00 a.m.
1.0	B16	Challenging and Unique Projects – Part 2	Th noon – 1:00 p.m.
1.5	B18	Long Span Bridges	Th 2:00 – 3:30 p.m.
1.5	B20	Challenges Encountered During Construction and Demolition	Th 4:00 – 5:30 p.m.
1.0	B21	New AASHTO ABC Guide Specification & Unique Projects	F 8:00 – 9:00 a.m.
1.0	B22	Technologies to Assist with Bridge Design, Fabrication, and Construction	F 8:00 – 9:00 a.m.
1.0	B23	2018 Prize Bridges	F 9:15 – 10:15 a.m.
1.0	B24	Steel Bridge Rehabilitation, Retrofit, and Reuse – Part 3	F 9:15 – 10:15 a.m.

NASCC: THE STEEL CONFERENCE
hotel reservations

Our Official Registration and Housing Partner, MCI USA

If you have questions about an unauthorized solicitation, the online system or housing in general, please contact MCI USA.

nascc@mcievents.com | p: 800.830.5812 (within U.S.) 972.349.5930 (outside U.S.) | fax: 972.349.7715

Advantages of Booking with The Steel Conference

- **Location.** All our hotels are located within a 10-minute walk of the convention center. View housing map.
- **Deep discounts.** Buy-in-bulk rates, with savings passed on to you.
- **Best rate package.** We comparison shop to ensure our rates remain the lowest.
- **Hotel reward points.** Add to your hotel loyalty program.
- **Support the industry.** Our group buying allows us to keep convention costs down and pass savings along to you with lower registration rates.

Reserve your room as soon as possible and secure the hotel room of your choice!

Deadline for reservations: Friday, March 8, 2019.

Room Deposit Guarantee

All housing requests require a first night's stay plus tax deposit guarantee in the form of a credit card, checks will not be accepted. If you are mailing a housing request, the deposit guarantee must accompany the housing request form. If the deposit guarantee does not accompany the form, your reservation will not be processed until the deposit guarantee is received. This delay could mean the loss of your hotel choice. Deposit guarantees may be made with one of the following credit cards: MasterCard, VISA or American Express.

Four Easy Ways to Reserve Your Hotel Room

- **Internet.*** **www.aisc.org/nascc/housing**
- **Mail.** Mail a completed reservation form to our Official Registration and Housing Partner, MCI USA. 6100 West Plano Parkway, Suite 3500, Plano, Texas 75093
- **Fax.*** Fax a completed reservation form to 972.349.7715
- **Phone.*** 800.830.5812 (within U.S.) or 972.349.5930 (outside U.S.)

Visit **www.aisc.org/nasccregister** to download a registration form.

*credit card only

Hotel Room Cancellations

All hotel room cancellations can be submitted online or in writing by email, fax, or mail to our Official Registration and Housing Partner, MCI USA. The cancellation policy will be stated on your confirmation per the hotel's contracted cancellation policy. For all groups (10 or more rooms) please contact MCI USA to receive information regarding your hotel cancellation policy.

Hotel Room Changes

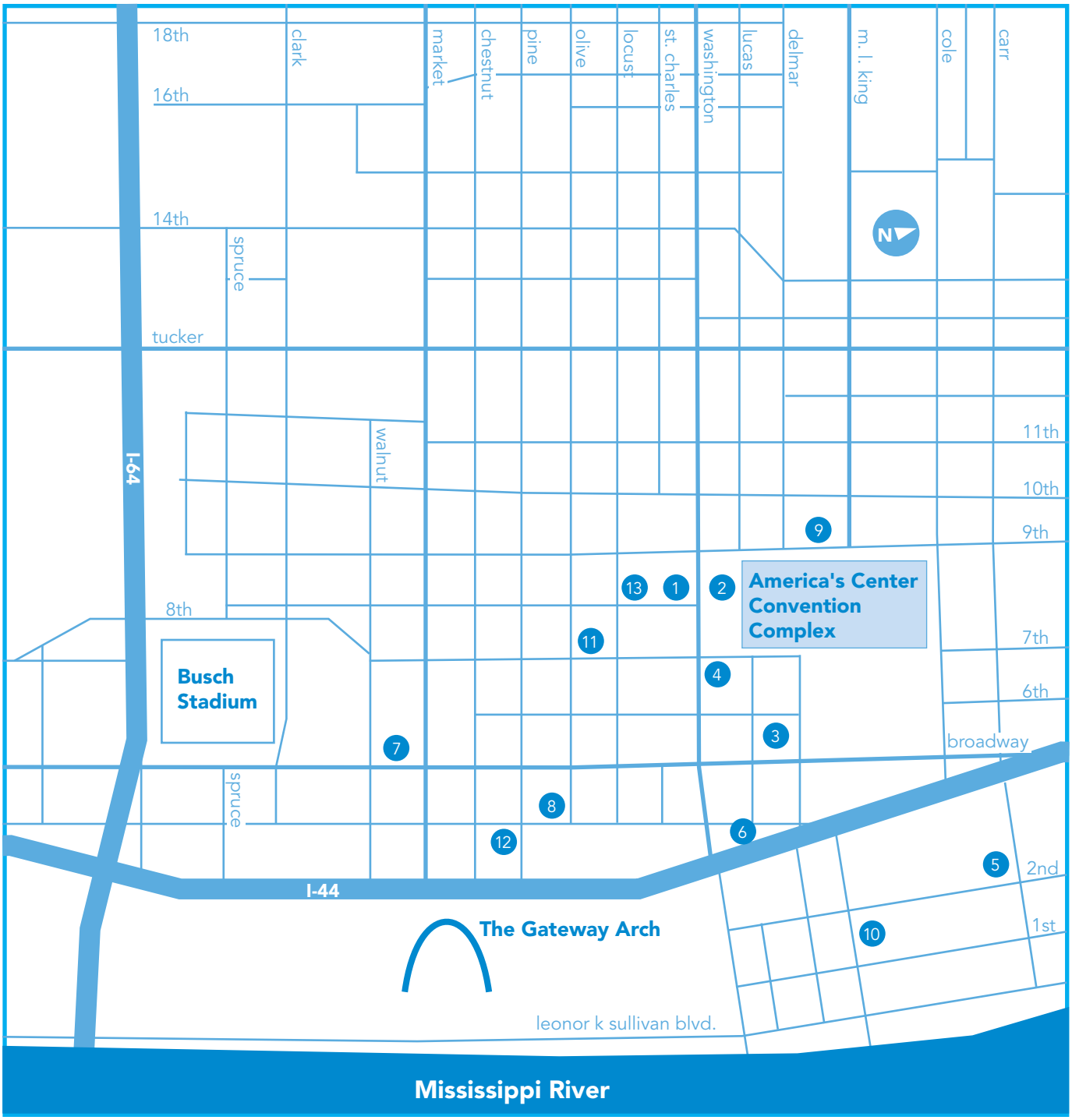
Contact MCI USA directly with any hotel room changes prior to **Wednesday, March 20, 2019**. Changes after the deadline should be made directly with the hotel, Please give the hotels at least 72 hours to input the final rooming list from MCI USA. Hotels may apply an early departure fee equal to one night's stay for changes made on site. Please contact your hotel directly for early departure policies.

The Fine Print for Hotels

All hotel rates are per room night, and are subject to a **19%** tax per room per night depending on the property, which can change without notice. Please check the housing website for details. When making a reservation, please provide room and bedding preferences. The hotel will assign specific room types, based upon availability, upon check-in. Room type, bed type and special requests are not guaranteed until check-in.

Confirmations

The Steel Conference will send you a reservation confirmation immediately after your reservation has been processed. Fax and mailed reservation acknowledgemnts will be sent within 14 days. If you do not receive your acknowledgment within two weeks, please contact MCI USA.



1. **Marriott St. Louis Grand**
   Headquarter Hotel
   800 Washington Avenue $219
2. **Courtyard St. Louis Downtown/ Convention Center**
   823-827 Washington Avenue $189
3. **Drury Inn & Suites St. Louis Convention Center**
   711 N Broadway $162
4. **Embassy Suites St. Louis Downtown**
   610 N 7th Street $199
5. **Four Seasons Hotel St. Louis**
   999 N 2nd Street $219
6. **Hampton Inn at the Gateway Arch**
   333 Washington Avenue $159
7. **Hilton St. Louis at the Ballpark**
   1 S Broadway $189
8. **Hilton St. Louis Downtown at the Arch**
   400 Olive Street $195
9. **Holiday Inn St. Louis Downtown**
   811 N 9th Street $155
10. **HoteLumière at the Arch**
    999 E Second Street $139
11. **Hotel St. Louis**
    705 Olive Street $209
12. **Hyatt Regency St. Louis at the Arch**
    315 Chestnut Street $199
13. **Magnolia Hotel**
    421 N 8th Street $219

NASCC: THE STEEL CONFERENCE

conference extras

networking events

Welcome Reception

Time: Wednesday, 5:30 p.m. – 7:00 p.m.

Location: Exhibit Hall

Cost: Included in all full registration options. Single ticket option also available. See **PART 6** of the registration form on page 55.

Don't miss this valuable networking opportunity in the exhibit hall! The Steel Conference Welcome Reception is a great way to kick off the conference and get a special preview of what exhibitors will offer at the show. Stroll through the aisles and experience the industry's latest trends in structural software, coatings, connection products and more! Live demonstrations from equipment manufacturers will be ongoing. Mingle with your peers while you enjoy drinks, hors-d'oeuvres and the excitement of the exhibit hall.

Conference Dinner – Anheuser-Busch Brewery

Time: Thursday, 7:00 p.m. – 10:00 p.m.

Location: Anheuser-Busch Brewery

Price: Included in all full registration options

Note: Attendees and guests of all ages are welcome to register for the event! Single ticket option also available. See **PART 6** of the registration form on page 55.

This year's event takes place at the home to the King of Beers—the Anheuser-Busch Brewery. Situated in a complex with over 70 red brick structures on 100 acres, the brewery buildings are known for their unique architecture and several are National Historic Landmarks. The brewery is located next to the Anheuser-Busch North America Headquarters and is the oldest of the company's breweries. Guests will enjoy tours of the brewery and have a photo opportunity with one of the world-famous Clydesdales. Anheuser-Busch Flight Masters will be on hand during the event to talk about the unique pairings and give insight into how these beers are brewed. Cheers!

Guest Tours

For information about guest tours offered at The Steel Conference in St. Louis, visit **www.aisc.org/nascc/schedule**.

Women Who Weld Workshops

AISC, in partnership with Lincoln Electric, is presenting two Women Who Weld Workshops live on the exhibit hall floor. These half-day introductory workshops are for women interested in learning the basics of MIG welding. **Thursday morning** participants are female conference attendees and **Friday morning** participants are women from the local St. Louis area. Women Who Weld is a 501(c)(3) nonprofit organization that teaches women how to weld and find employment in the welding industry. Interested in registering for this event? Email **nascc@aisc.org** to register.

THE STEEL CONFERENCE mobile app

Put NASCC: The Steel Conference in the palm of your hand! Stay organized with the session schedule tool, navigate the exhibit hall, learn about exhibitors and network with attendees during the conference with our mobile app, exclusively designed for The Steel Conference. Visit **www.aisc.org/nascc** to download the app in early 2019.

Make it social by networking with attendees and joining the Twitter conversation by using #NASCC19 #AISC. Enhance your conference experience and download the app today!

Register for the Conference

Register early! Please note registration fees increase each week.

- **Internet: www.aisc.org/nasccregister**
- **Fax or Mail:** Complete the registration form on pages 54-55 (or download one from **www.aisc.org/nasccregister**). Fax or mail the completed form (see **PART 10** of the form) no later than Friday, March 8, 2019.
- **On-Site:** You may register in person at the convention center at the increased rates. See the back cover for registration hours.

Our Official Registration and Housing Partner, MCI USA

For questions about registration please contact MCI USA:

- p: 800.830.5812 (within U.S.) | 972.349.5930 (outside U.S)
- f: 972.349.7715
- **nascc@mcievents.com**

Cancellation Policy

Requests for registration cancellation must be received no later than Friday, March 8, 2019 in order to receive a refund, less a $25 processing fee. Please send cancellation requests to **nascc@mcievents.com**. Attendee substitutions will be accepted at any time.

Badges and Tickets

Upon your arrival to The Steel Conference, please bring your registration confirmation, or your handheld device/mobile phone with the included barcode, to the Badge Print station located at the registration area within the convention center. There you will be provided with all of your badge materials, as well as your complimentary conference bag.

note: Badges will not be mailed in advance of the conference.

Special Needs

Please contact the AISC Meetings Department if you have special needs or dietary restrictions for the conference. All requests should be e-mailed to **nascc@aisc.org**.

Exhibitors

Exhibitor registration is handled differently than the registration of attendees. Visit **www.aisc.org/nascc/exhibitors** for more information.

What's Included in Your Registration Type?

REGISTRATION TYPE	FULL REGISTRATION Also includes architect, educator, public agency employee, and recent grad registration types	STUDENT	FULL DAY WED	FULL DAY THURS	FULL DAY FRI	EXHIBIT HALL W–TH–F	EXHIBIT HALL WED	EXHIBIT HALL THUR	EXHIBIT HALL FRI	GUEST
All Technical Sessions (W–F)	✓	✓	W	Th	F	N/A	N/A	N/A	N/A	N/A
Entrance to Exhibit Hall (W–F)	✓	✓	W	Th	F	✓	✓	Th	F	✓
Exhibit Hall Coffee Breaks	✓	✓	W	Th	F	✓	W	Th	F	✓
Wednesday Lunch (in Exhibit Hall)	✓	✓	✓	N/A	N/A	$	$	N/A	N/A	✓
Wednesday's Welcome Reception	✓	✓	✓	N/A	N/A	✓	✓	N/A	N/A	✓
Thursday Lunch (in Exhibit Hall)	✓	$*	N/A	✓	N/A	$	N/A	$	N/A	$
Thursday Conference Dinner	✓	$*	$	✓	$	$	$	$	$	$
Online access to NASCC presentations following the conference	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A

*Students receive complimentary conference dinner tickets if they attend SCIS. SCIS will provide lunch on Thursday

Key

- ✓ | Included in Registration
- $ | Sold Separately (see page 54–55)
- W | On Wednesday ONLY
- Th | On Thursday ONLY
- F | On Friday ONLY
- N/A | Unavailable with Registration Category

NASCC: THE STEEL CONFERENCE registration form

1 Attendee Information

Badge Name _____ Last Name _____

Company _____

Mailing Address _____

City _____ State _____ Zip _____ Country _____

Phone _____ Cell* _____

Email** _____

*For on-site use, only if necessary. **PDH certificates will be sent via email following the conference. Please print clearly.

❒ I hereby acknowledge my registration is consent to NASCC: The Steel Conference that any photographs/videos taken by The Steel Conference or its vendors are the property of AISC and available for AISC to use for advertisements and promotions in print or electronically, as well as publish in webinars and use for advertising and marketing or educational purposes.

❒ Please remove my email address from the list of attendees that is distributed to exhibitors for pre-show marketing. I understand, however, that my mailing address will be shared in the advance and post-show mailing list.

❒ Please remove my name and contact information from the list of attendees shared with those who have registered for the conference.

❒ I am a first-time attendee ❒ I am interested in being a mentor to a first-time attendee

2 Guest Registration

i.e., significant other

Guest Name _____ $50 = $ _____

$55 on-site (USD)

Registration Fees (USD)

THE SOONER YOU REGISTER, THE MORE YOU SAVE!

Registration prices increase each week. Please refer to your registration type and date in the grid on the right to calculate your registration price. 3

Please see chart on previous page to see what is included for each registration type.

Mailed registration forms will receive the price that corresponds with the postmarked date on the envelope.

Please **circle** the fee that applies in the chart below. **Weekly prices valid from 12:00 a.m. CST Monday through 11:49 p.m. CST Sunday.** (i.e., 12:00 a.m. CST Wednesday, 1.2.19–11:59 p.m. Sunday, 1.6.19)

REGISTRATION TYPE		Date Purchased by 1.2.19	1.7.19	1.14.19	1.21.19	1.28.19	2.4.19	2.11.19	2.18.19	2.25.19	3.4.19	3.11.19	3.18.19	3.25.19	on-site
MEMBER* (price per person)	1st and 2nd registrant from firm	**$420**	$430	$440	$450	$460	$470	$480	$490	$500	$510	$520	$530	$540	$560
	3rd or more registrant from firm	**$270**	$280	$290	$300	$310	$320	$330	$340	$350	$360	$370	$380	$390	$410
NON-MEMBER (price per person)	1st and 2nd registrant from firm	**$605**	$620	$635	$650	$665	$680	$695	$710	$725	$740	$775	$770	$785	$815
	3rd or more registrant from firm	**$455**	$470	$485	$500	$515	$530	$545	$560	$575	$590	$605	$620	$635	$665
RECENT GRADS obtained degree in last 5 years	Member*	**$270**	$280	$290	$300	$310	$320	$330	$340	$350	$360	$370	$380	$390	$410
	Non-member	**$455**	$470	$485	$500	$515	$530	$545	$560	$575	$590	$605	$620	$635	$665

*The following qualify for Member pricing: AISC, NSBA, CISC, IMCA, SSRC, NISD. Member Number: _____

The following registration types offer the flat rate below for pre-registration with an increased on-site registration fee.

Public Agency Employee (e.g. DOT)	# tickets _____	× $225 = $	$225 on-site
Student Member	# tickets _____	× $0 = $	$0 on-site
Student Non-Member	# tickets _____	× $225 = $	$225 on-site
Educator	# tickets _____	× $225 = $	$225 on-site
Full Day Wednesday	# tickets _____	× $375 = $	$395 on-site
Full Day Thursday	# tickets _____	× $375 = $	$395 on-site
Full Day Friday	# tickets _____	× $125 = $	$150 on-site
Exhibit Hall Only Wednesday	# tickets _____	× $50 = $	$60 on-site
Exhibit Hall Only Thursday	# tickets _____	× $25 = $	$35 on-site
Exhibit Hall Only Friday	# tickets _____	× $15 = $	$25 on-site
Exhibit Hall Only: W, Th, F	# tickets _____	× $75 = $	$85 on-site

SUBTOTAL: Registration Fees (2, 3) $ _____

Name _____

4 Primary Type of Business

Please select only one.

❒ Structural Engineer ❒ Civil Engineer ❒ Building Owner/Developer ❒ Educator ❒ Detailer
❒ General Contractor/CM ❒ Architect ❒ Steel Product Manufacturer ❒ Student ❒ Erector
❒ Other _____ ❒ Steel Mill ❒ Public Agency Employee (e.g. DOT) ❒ Fabricator ❒ Service Center
❒ Exhibitor

5 Short Courses (USD)

SC1 The 15th Edition *Steel Construction Manual* and the 2016 AISC *Specification for Structural Steel Buildings*
Tuesday 1:00 p.m. – 5:00 p.m.
❒ Member $275 $325 on-site ❒ Non-member $400 $450 on-site
❒ 15th Ed. *Steel Construction Manual* $125 **offered to preregistered SC1 participants ONLY**

SC2 Nonlinear Structural Analysis Methods Used in Modern Steel Design
Tuesday 1:00 p.m. – 5:00 p.m.
❒ Member $275 $325 on-site ❒ Non-member $400 $450 on-site

SC3 Seismic Design Manual, 3rd Edition, and Applications of the 2016 AISC Seismic Provisions
Saturday 8:00 a.m. – 5:00 p.m.
❒ Member $375 $425 on-site ❒ Non-member $600 $650 on-site

*The following qualify for Member pricing: AISC, CISC, NSBA, IMCA, SSRC, NISD

6 À la Carte Pricing (USD)

SCIS Sessions	# tickets___	× $0 = $	
Educator Session*	# tickets___	× $0 = $	
Wednesday Welcome Reception	# tickets___	× $0 = $	
Wednesday Lunch**	# tickets___	× $30 = $	$45 on-site
Thursday Lunch**	# tickets___	× $30 = $	$45 on-site
Conference Dinner	# tickets___	× $60 = $	$85 on-site

*Limited to AISC educator members ONLY.
**Located in Exhibit Hall. Lunch tickets are included in some registration types—see page 53 for details.

7 Tours (USD)

GT1 Gateway to St. Louis Intro Tour
Wednesday 8:30 a.m. – 12:30 p.m.
tickets ____ × $65 = $

GT2 Majestic St. Louis
Thursday 9:00 a.m. – 2:00 p.m.
tickets ____ × $75 = $

GT3 Little Taste of St. Louis
Friday 9:00 a.m. – 1:00 p.m.
tickets ____ × $75 = $

8 Optional Entries

AISC Education Foundation Donation

I would like to make a donation to the AISC Education Foundation scholarship program in the amount of:
❒ $5 ❒ $10 ❒ $20 ❒ Other _____

The AISC Education Foundation sponsors an educational scholarship program to assist qualified students and to further creativity, interest and proficiency in the fabricated structural steel and engineering design industries. For information, visit **www.aisc.org/scholarships**.

SUBTOTAL: À La Carte | Short Courses | Tours | Optional (5, 6, 7, 8) $ _____

TOTAL AMOUNT ENCLOSED add totals of shaded boxes **$** _____

9 Emergency Contact Information

For on-site use, only if needed.

Contact Name _____
Relationship _____ Phone _____

10 Payment Information

NS-9

When complete, please submit pages 54 and 55 of this form.

Check, money order, VISA, Mastercard or American Express are the only payment methods accepted.

1. If paying by check, mail payment (U.S. funds only; payable to AISC) and completed registration form to: American Institute of Steel Construction LLC, P.O. Box 8761, Carol Stream, IL 60197-8761
2. If paying by credit card, fax completed registration form to 972.349.7715.
   ❒ VISA ❒ Mastercard ❒ American Express

Credit Card Number (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16) Expiration Date (M M Y Y) Security Code (1 2 3 4)

Billing Address of Card Holder _____ Zip _____
Name of Card Holder _____ Signature _____
I authorize charges to my credit card as indicated.

NASCC: THE STEEL CONFERENCE

2019 NASCC Planning Committee

Glenn R. Tabolt, PE (Chair), STS Steel, Inc.
David E. Eckmann, SE, PE, FAIA (Vice Chair), Magnusson Klemencic Associates
Todd Alwood, AISC
Jon T. Beier, PE, LEED AP BD+C, SMBH, Inc.
William B. Bourne, IV, Universal Steel, Inc.
Sam M. Boykin, III, Steelfab, Inc. of AL
Jeff Carlson, PE, AISC
Kenneth Charles, Steel Joist Institute
Christian B. Crosby, Cianbro Corporation
Troy Dye, ARW Engineers
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Alan W. Henry, S&R Enterprises
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Jerod Hoffman, Meyer Borgman & Johnson, Inc.
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Carrie L. Warner, SE, PE, LEED AP, WSP
Alfred F. Wong, CISC
Mark A. Yerke, S&R Enterprises
Ronald D. Ziemian, PE, PhD, Bucknell University
Scott Melnick (Secretary), AISC

Registration Desk Hours

Tuesday | 4.2.19	noon – 6:00 p.m.
Wednesday | 4.3.19	7:00 a.m.– 5:30 p.m.
Thursday | 4.4.19	7:00 a.m.– 5:00 p.m.
Friday | 4.5.19	7:30 a.m.– 2:00 p.m.

2019 SSRC Planning Committee

Larry A. Fahnestock, PE, PhD (Chair), University of Illinois at Urbana-Champaign
Erica Fischer, PE, PhD, Oregon State University
Todd A. Helwig, PE, PhD, University of Texas at Austin
Ronald D. Ziemian, PE, PhD, Bucknell University
Rachel H. Jordan, SSRC Coordinator

Exhibit Hall Hours

Wednesday | 4.3.19
noon – 7:00 p.m.

Lunch
noon – 2:00 p.m.

Welcome Reception
5:30 p.m. – 7:00 p.m.

Thursday | 4.4.19
9:30 a.m. – 5:30 p.m.

Lunch
noon – 2:00 p.m.

Coffee Break
3:15 p.m. – 4:15 p.m.

Friday | 4.5.19
9:00 a.m. – 1:00 p.m.

Snack Break
10:15 a.m. – 10:45 a.m.

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