

NASCC
THE STEEL CONFERENCE

for Structural Engineers, Detailers, Erectors and Fabricators

Incorporating the Annual Stability Conference



ADVANCE
PROGRAM

TECHNICAL SEMINARS | NETWORKING | PRODUCT SHOWCASE

March 22–24, 2017
SAN ANTONIO

Henry B. Gonzalez Convention Center



cisc  icca
imca

www.aisc.org/nascc

WELCOME TO SAN ANTONIO

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, steel fabricators, erectors and detailers. The Steel Conference offers more than 130 sessions on topics ranging from “Practical Advice for Reviewing Software Generated Connection Designs” to “Lateral Torsional Buckling and its Influence on the Strength of Beams” to “Keeping OSHA out of your Bank Account.” 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, as well as plentiful networking opportunities. And one low registration fee gains you access to all of the technical sessions, the keynote address, the T.R. Higgins Lecture and the exhibition hall.

2017 Conference Location

Henry B. Gonzalez
Convention Center
900 E Market Street
San Antonio, Texas 78205

www.sahbgcc.com



Who Attends?

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

What's New this Year?

- In order to provide additional education opportunities, seminars will start at 8:30 a.m. on Wednesday rather than our traditional afternoon opening, giving attendees the opportunity to earn a total of 17 PDHs plus an additional 4 PDHs if they attend the optional Tuesday afternoon Short Course.
- 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 preregister for specific tracks, and we encourage you to explore a wide range of seminars.
- Sometimes, one session just doesn't go deep enough into a particular subject. So this year, we're offering two special tracks that provide a deeper dive into their respective topics. SSPC: The Society for Protective Coatings, has developed a four-hour program to provide bridge designers with valuable information on specifying coatings. Our second special track is a series of related seminars on legal issues impacting the design and construction of steel buildings and bridges.
- Workplace diversity is increasing in both design and construction. In response to this trend, AISC has created a special program to explore “Solutions for Equity in the Workforce.” This special 2.5-hour session will offer a look at what diversity means for the design community and construction industry, with an emphasis on what works—and what doesn't. Because the session includes lunch, there is an additional \$25 fee to attend. (See page 12 for a full description.)

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 220 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 March 22–24. See the back cover for exhibit hall hours.

What is the 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 12 sessions with more than 30 papers, the Stability Conference includes the 2017 Beedle Award and MAJR Medal presentations. SSRC also holds its annual meeting immediately prior to the Conference. Admission to all Annual Stability Conference sessions is included with your registration. See pages 40–42 for session descriptions.



Will there be Conference Proceedings?

The Steel Conference does not offer a conventional proceedings. Instead, approximately 45 days after the conference, we will post slideshows (complete with audio from the presentations) of most of the sessions at www.aisc.org/2017nascconline.

Proceedings for the SSRC Annual Stability Conference will be also be available at AISC's website.

How Many PDHs can I Earn?

Attendees can earn 17 PDHs plus an additional 4 PDHs if they attend the optional Tuesday afternoon short course (see page 36).

Sponsorships

For information regarding sponsorship opportunities, contact Renae Gurthet renae@gurthetmedia.com or 231.995.0637 or visit www.aisc.org/nascc.

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

DISCLAIMER: AISC does not approve, disapprove or guarantee the validity or accuracy of any data, claim or opinion presented by speakers, exhibitors or others making presentations. While the material is believed to be accurate, the information presented should not be relied upon for any specific application without competent professional examination and verification of its accuracy, suitability and applicability by a licensed professional engineer, designer or architect.

TABLE OF CONTENTS

Schedule-at-a-Glance	4-7
Keynote Sessions	8
Bridge Track	9-11
Business Track	12-13
Case Study Track	14-16
Coatings Track	16-17
Connections Track	17-18
Constructability Track	19-20
Design & Analysis Track	21-28
Detailing Track	29
Erection Track	30
Legal Track	31
Project Management Track	32
Quality Track	32-33
Roundtable Track	34
Shop Operations Track	34
Sustainability Track	35
Technology Track	35-36
Short Course	36
Educator & SCIS Track	37
SSRC SESSIONS & Beedle Award	38-43
Networking Events	44
Guest Tours	45
"Of Special Interest to" Lists	46-51
Hotel Reservations	52-53
Exhibitor List	54
Registration Information	55
Registration Form	56-57
Committee Lists	Back Cover
Exhibit Hall & Registration Desk Hours	Back Cover

SCHEDULE-AT-A-GLANCE WEDNESDAY

PDH*	WEDNESDAY SESSIONS 3.22.17		8:30– 9:30a	9:45– 11:15a	12:30– 2:30p	☰	3:15– 4:15p	4:30– 6:00p
1.0	K1	The Neuroscience of Decision Making			ALL	COFFEE BREAK IN THE EXHIBIT HALL 2:30 p.m.–3:15 p.m.		
1.0	B1	NSBA Welcome—Resources and Consideration for Steel Bridges	E					
1.5	B2	Understanding and Reevaluating Fracture Critical: Existing and Future Policy—Part 1		E				
1.0	B3	Understanding and Reevaluating Fracture Critical: Research and Strategies—Part 2					E	
1.5	B4	Long Span Steel Bridges						E
1.5	CA1a	More Welding Questions Answered		ALL				
1.5	CA2a	50 Tips for Designing Constructable Steel Buildings		E				
1.5	CA6	What Engineers Need to Know about What Fabricators Can Do (Bending and Rolling)		E F				
1.5	CN1a	Secrets of the <i>Manual</i> to Get it Done						E
1.0	CN6	How the 2016 <i>Code of Standard Practice</i> Makes Delegated Connection Design Safe and Workable for Everyone					ALL	
1.0	CS1	San Antonio Medical Center	ALL					
1.5	CS2	The Little Site That Could: 150 N Riverside		ALL				
1.0	CS3	Circuit of the Americas Observation Tower and Amphitheater					ALL	
1.5	CS4	Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System						ALL
1.0	D1	What's New with the NISD? Individual Detailer Certification and other Programs, Webinars on Pertinent Topics, BIM Certification and More	D F					
1.0	E1a	The AISC 15th Edition <i>Steel Construction Manual</i>	E					
1.0	E2a	The Good, the Bad, and the Ugly of Drawing Notes	E					
1.0	E2b	The Good, the Bad, and the Ugly of Drawing Notes					E	
1.0	E3a	Case Studies in Structural Fire Engineering	E					
1.0	E4a	The New HSS Design Manuals: Volumes 1, 2, 3 and 4	E					
1.5	E5a	The New and Improved Design Guide 11, 2nd ed.— <i>Vibrations of Steel-Framed Systems Due to Human Activity</i>						E
1.5	E6a	Designing Castellated and Cellular Beams Using AISC Design Guide 31		ALL				
1.5	E7a	Everything You Wanted to Know About Diaphragms (But Were Afraid to Ask)		E				
1.5	E8a	Current Views from Past Higgins Award Winners: Michael Engelhardt		D E				
1.5	E9a	Can Staggered Trusses Be Used in Seismic Zones?		E				
1.5	E10a	Load Paths—There is Not Always a Yellow Brick Road		E				
1.0	E11a	Building Design—The Intelligent Approach					E	
1.0	E12a	Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures					ALL	
1.5	E13a	NEW Design Guide 32: AISC N690 Appendix N9— Design of Modular Composite Walls for Safety Related Nuclear Facilities		E F				
1.5	E14a	Steel Castings in Architecture—Do You Know How to Design Them?						ALL
1.5	E15a	What Makes a “Special Moment Frame” Special?					E	
1.5	E16a	Retrofitting Design and Analysis of Existing Steel Joist-Framed Buildings					E	
1.5	E17a	ASCE 37: <i>Design Loads on Structures During Construction</i>					E R	
n/a	J1	AISC University Programs—What More Can We Do for Faculty and Students	J ¹					
1.5	L6	How Your Contracts Stack Up Against Other Structural Engineering Firms’					E	
1.0	P1	What Estimators/Sales Managers Need to Know about Project Management	R F					
1.5	P2	Improving Project Management Effectiveness		R F				
1.0	Q1	How to Integrate Multiple Certifications in the Structural Steel Industry?	E F					
1.5	Q2	AISC Certification: New Building Fabricator and Hydraulic Steel Structures Requirements		F				
1.0	Q3	How can Certified Fabricators get Building Code Officials to Waive 3rd Party Inspections?				F		
1.5	Q4	How Do I Encourage Quality as Management?					E F	
1.0	R1	Introducing the Ironworker Contractor University	R					
1.0	R2	The “Art” of Sequencing Steel	ALL					
1.0	R3	Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?				ALL		
1.0	S1	Stability of Steel Bridges	E					
1.5	S2	Seismic Stability of Members and Systems		E				
1.0	S3	Advances in Stability Bracing				E		
1.5	S4	Stability of Beam-Columns					E	
1.0	T1a	Rise Up—Atlanta Falcons Stadium Roof	ALL					
1.0	T1b	Rise Up—Atlanta Falcons Stadium Roof				ALL		
1.0	T2	Understanding and Working with BIMXP’s	D F					
1.5	T3	3D Model Review and Approval Really Works!		ALL				
1.5	Z2	Solutions for Equity in the Workplace (\$25 includes lunch register on page 55)		ALL ²				
1.0	Z3	Going Outside to Get Expertise: Is a Freelancer Right for You?				ALL		
1.5	Z4	Transforming Conflict into Collaboration					ALL	
1.5	Z10	Sharpen your SPEAKability					ALL	
1.0	Z11	Innovations in Steel	ALL					
N/A	WR	Welcome Reception (in Exhibit Hall)	6:00 p.m. – 7:30 p.m.					

*1.0 PDHs = 0.10 CEUs

¹ Educator Session is
8:00 a.m. – 9:30 a.m.

² Z2 Solutions for Equity in the Workplace takes place Wednesday 9:45 a.m. – 12:15 p.m.
There is a \$25 fee and lunch is provided. To register, see **PART 5** of the registration form on page 57.

Key

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

Lunch

There is no formal lunch on Wednesday.

Thursday and Friday, lunch is served in the exhibit hall from 11:45 a.m. – 1:15 p.m.

SCHEDULE-AT-A-GLANCE THURSDAY

PDH*	THURSDAY SESSIONS 3.23.17		8:00–9:30a	10:15–11:45a	1:15–2:15p	3:00–4:00p	4:15–5:15p
1.5	B5	Competitive Steel Solution for Short Spans	E				
1.5	B6	Tappan Zee Hudson River Crossing		E			
1.0	B7	AASHTO Updates: What's New in the 8th Edition <i>Steel Specification</i> —Part 1			E		
1.0	B8	Understanding and Reevaluating Fracture Critical—Part 3, An Approach to System Analysis				E	
1.0	B9	AASHTO Updates: What's New in the 8th Edition <i>Steel Specification</i> —Part 2					E
1.5	CA1b	More Welding Questions Answered	ALL				
1.5	CA2b	50 Tips for Designing Constructable Steel Buildings		E			
1.5	CA3	The Splice is Right		ALL			
1.0	CA4a	Moving Forward with High-Strength Steel			ALL		
1.0	CA5	Economic Alternative Paths for Progressive Collapse Design			E		
1.0	CA7	What Should Engineers Know about <i>IBC</i> Chapter 17?				E	
1.0	CA8	From One Generation to the Next—Lessons Learned under Duane Miller					ALL
1.0	CA9	Modular Construction Best Practices—When, Where and Why or Why Not					ALL
4.0	CG1-CG5	COATINGS TRACK (see page 16)				1:15 p.m. – 6:15 p.m.	
1.5	CN2a	Design and Detailing Considerations for Cantilever Moment Connections through W Shaped and HSS Columns	E F				
1.5	CN3a	Introduction to Structural Fasteners: Principles, Properties and Provisions		E F			
1.0	CN4a	Practical Advice for Reviewing Software Generated Connection Designs					D E
1.0	CN5a	Field Connections—Safe and Economical Tips			ALL		
1.5	CS5	Design Assist—Case Studies of Successful Design Assist Projects	ALL				
1.5	CS6	181 Fremont Street—A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology		ALL			
1.0	CS7a	Signature Footbridges: Technical and Aesthetic Design Considerations			E A		
1.0	CS8	Winning IDEAS in Steel-framed Building Design—Part 1				ALL	
1.0	CS9	Winning IDEAS in Steel-framed Building Design—Part 2					ALL
1.0	D2	Quality Procedures in Detailing Offices				D F	
1.0	E1b	The AISC 15th Edition <i>Steel Construction Manual</i>			E		
1.0	E3b	Case Studies in Structural Fire Engineering			E		
1.0	E4b	The New HSS Design Manuals: Volumes 1, 2, 3 and 4				E	
1.5	E5b	The New and Improved Design Guide 11, 2nd ed.— <i>Vibrations of Steel-Framed Systems Due to Human Activity</i>	E				
1.5	E6b	Designing Castellated and Cellular Beams Using AISC Design Guide 31		ALL			
1.5	E8b	Current Views from Past Higgins Award Winners: Michael Engelhardt	D E				
1.5	E9b	Can Staggered Trusses Be Used in Seismic Zones?		E			
1.5	E10b	Load Paths—There is Not Always a Yellow Brick Road	E				
1.0	E11b	Building Design—The Intelligent Approach					E
1.0	E12b	Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures				ALL	
1.5	E13b	NEW Design Guide 32: AISC N690 Appendix N9—Design of Modular Composite Walls for Safety Related Nuclear Facilities		E F			
1.5	E17b	ASCE 37: <i>Design Loads on Structures During Construction</i>		E R			
1.5	E18a	Design of Underhung Hoist and Crane Girders	E				
1.5	E19a	Design of Steel Framed Parking Garages	E				
1.5	E20a	Efficient Lateral Load Resisting Systems for Low Rise Buildings	E				
1.5	E21a	Lateral Torsional Buckling and its Influence on the Strength of Beams	D E				
1.5	E22a	Practical Uses of Non-Linear Pushover Analysis	E				
1.0	E23	Steel Quiz Live					E
1.0	E24a	Steel Cable Assembly Systems: What the Fabricator, Erector and EOR Need to Know					ALL

*1.0 PDHS = 0.10 CEUS

more THURSDAY SESSIONS on page six →

SCHEDULE-AT-A-GLANCE THURSDAY

PDH*	THURSDAY SESSIONS 3.23.17	8:00–9:30a	10:15–11:45a	1:15–2:15p	3:00–4:00p	4:15–5:15p	
1.0	E25a Do Standardized, Symmetric Loading Protocols Accurately Predict the Performance of BRB under Real Earthquake Motions?				E F		
1.0	E26a Lateral Drift and Facade Attachment				E		
1.0	E27a Structural Design of Staircases—Don't Get Tripped Up				D E		
1.5	E28a AISC Research: The Chevron Effect: Shear and Bending Moment Demands for Beams in Concentrically Braced Frames		E F				
1.0	E29a Transfer Forces—What Are They and Why Should I Care?					ALL	
1.5	E30a Wind Design Considerations for Joist and Joist Girders		E				
1.0	E31a AISC Research: Sloped Connections and Connections with Fillet Welded Continuity Plates for Seismic Applications			E F			
1.0	E32a Passive Fire Protection for Floor Systems in Steel-Framed Buildings: A Performance-Based Approach			E			
1.0	E33a How the 360-16 Chapter K Changes Affect HSS Design			E			
1.0	E34a Transfer Structures that Work for Big and Complicated Load Paths			E F			
1.0	E37 AESS: Categorized by Design		ALL				
1.0	E38 Composite Design: Past, Present, and Future				E		
1.0	E39 Making Steel Fire Protection Easy					E	
1.0	G1a What's the New Shade of Green?					ALL	
1.5	L1 Bet the Company Contract Clauses and How to Avoid Them	ALL					
1.5	L2 We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute		ALL				
1.0	L3 The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation			ALL			
1.0	L4 Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs				ALL		
1.0	L5 Keeping OSHA Out of Your Bank Account					ALL	
1.5	N1 Fabricator Roundtable		F				
1.5	Q5 What Have We Learned from the Erector Conversion Audits?	R					
1.5	Q6 An Erector's Point of View about Preparing for the Program Conversion and Element 13 (Chapter N)		R				
1.0	Q7 Quality and Safety Management: A Practical Approach for Erectors			R			
1.0	Q8 What Did We Do as an Erector Applicant?				R		
1.0	R4 Minimizing Hazards by Design					R F	
1.0	R6 Developing Erection Schedules for Projects				R F		
1.0	R7 Complex Erection Bracing					R	
1.5	S5 Stability of Flexural Members	E					
1.5	S6 Stability of Assemblages and Systems		E				
1.0	S7 Stability of Columns			E			
1.0	S8 Stability of Wall Systems				E		
1.0	S9 Stability of Shells					E	
1.0	SO1 Understanding What Lean Really Means					F	
1.0	T4 "To the Cloud or Not" Project Document Management in 2017			ALL			
1.0	T5 SteelXML Demo				F		
1.0	T6 Least Weight Does Not Equal Least Cost					E F	
1.0	T7 Levels of Development (LOD): What it Means for Steel Construction					D E F	
1.0	Z1 Managing your Company's Health Care Program				ALL		
1.0	Z5 What's New with the 2016 Code of Standard Practice				E F		
N/A	J2–J4 Morning Meetup Morning Session & Lunch Direct Connect	S 9:00 a.m. – 2:30 p.m.					
N/A	CD Conference Dinner—Passport to Texas!	7:00 p.m. – 10:00 p.m.					

*1.0 PDHS = 0.10 CEUS

Key

D | Detailers

E | Engineers

R | Erectors

F | Fabricators

S | Students

SCHEDULE-AT-A-GLANCE **FRIDAY**

PDH*	FRIDAY SESSIONS 3.24.17		8:00–9:30a	10:15–11:45a	1:00–2:00p	2:15–3:15p
1.5	B10	Corrosion Protection Strategies for Steel Bridges	E			
1.5	B11	Steel Bridge Erection Made Simple		E		
1.0	B12	Engineering for Stability in Bridge Construction—An NHI Course Overview			E	
1.0	B13	Three-Dimensional Finite Element Analysis Software for Straight or Curved Steel Bridges During Construction				E
1.0	CA4b	Moving Forward with High-Strength Steel			ALL	
1.5	CA10	Safe and Efficient Installation of Steel Joists and Metal Deck	ALL			
1.5	CA11	Why Not Steel?		ALL		
1.5	CN1b	Secrets of the <i>Manual</i> to Get it Done		E		
1.5	CN2b	Design and Detailing Considerations for Cantilever Moment Connections through W Shaped and HSS Columns		E F		
1.5	CN3b	Introduction to Structural Fasteners: Principles, Properties and Provisions		E F		
1.0	CN4b	Practical Advice for Reviewing Software Generated Connection Designs			D E	
1.0	CN5b	Field Connections—Safe and Economical Tips			ALL	
1.0	CS7b	Signature Footbridges: Technical and Aesthetic Design Considerations				E
1.0	CS10	Winning IDEAS in Steel-framed Building Design—Part 3			ALL	
1.0	D3	Laser Scanning and Workflow			D R F	
1.5	E7b	Everything You Wanted to Know About Diaphragms (But Were Afraid to Ask)		E		
1.5	E14b	Steel Castings in Architecture—Do You Know How to Design Them?	ALL			
1.5	E15b	What Makes a “Special Moment Frame” Special?	E			
1.5	E16b	Retrofitting Design and Analysis of Existing Steel Joist-Framed Buildings	E			
1.5	E18b	Design of Underhung Hoist and Crane Girders	E			
1.5	E19b	Design of Steel Framed Parking Garages		E		
1.5	E20b	Efficient Lateral Load Resisting Systems for Low Rise Buildings	E			
1.5	E21b	Lateral Torsional Buckling and its Influence on the Strength of Beams	D E			
1.5	E22b	Practical Uses of Non-Linear Pushover Analysis	E			
1.0	E24b	Steel Cable Assembly Systems: What the Fabricator, Erector and EOR Need to Know			ALL	
1.0	E25b	Do Standardized, Symmetric Loading Protocols Accurately Predict the Performance of BRB under Real Earthquake Motions?				E F
1.0	E26b	Lateral Drift and Facade Attachment			E	
1.0	E27b	Structural Design of Staircases—Don’t Get Tripped Up			D E	
1.5	E28b	AISC Research: The Chevron Effect: Shear and Bending Moment Demands for Beams in Concentrically Braced Frames	E F			
1.0	E29b	Transfer Forces—What Are They and Why Should I Care?			ALL	
1.5	E30b	Wind Design Considerations for Joist and Joist Girders	E			
1.0	E31b	AISC Research: Sloped Connections and Connections with Fillet Welded Continuity Plates for Seismic Applications			E F	
1.0	E32b	Passive Fire Protection for Floor Systems in Steel-Framed Buildings: A Performance-Based Approach				E
1.0	E33b	How the 360-16 Chapter K Changes Affect HSS Design				E
1.0	E34b	Transfer Structures that Work for Big and Complicated Load Paths			E F	
1.5	E35	Design Practicum 1: Special Moment Frame Connections	E			
1.5	E36	Design Practicum 2: Special Concentrically Braced Frame		E		
1.5	E40	Prevention through Design	E			
1.0	G1b	What’s the New Shade of Green?				ALL
1.0	K2	T.R. Higgins Lecture: Effective Bracing of Flexural Members and Systems in Steel Buildings and Bridges				E
1.5	N2	Industry Roundtable		D F R		
1.5	Q9	Audit Findings Aren’t Just Non-Conformances	E F			
1.5	Q10	Causes (and Solutions) for Corrective Action Requests		E F		
1.0	R5	Erectors and Anchor Rods				F R
1.5	S10	Stability of Plates	E			
1.5	S11	Presentation Session for Beedle and McGuire Awards		E		
1.0	S12	Advances in Stability Analysis			E	
1.0	SO3	How Technology Affects the Steel Fabricator’s Business Practice				D E F
1.5	Z6	Case Studies in How to Use the <i>Code of Standard Practice</i> to Prevent and Resolve Disputes	ALL			
1.5	Z7	Building Team Dynamics and Positive Corporate Culture	ALL			
1.5	Z8	Increase Your Value with Effective Communication		ALL		
1.0	Z9	U.S. Construction Market Update			ALL	

*1.0 PDHs = 0.10 CEUs

KEYNOTES



The Neuroscience of Decision Making

K1 Wednesday 12:30 p.m. – 2:30 p.m.

Speaker: Carmen Simon

Impacting people's decisions is vital to the success of you and your company. Whether it's an email, brochure or presentation, a well-crafted message needs to be informative, reusable and adaptable. But according to Carmen Simon, it also needs to be memorable. Audiences typically only remember 10% of your presentation—and what 10% they remember varies from person-to-person. Using lessons learned from neuroscience, this session provides a unique approach to controlling what audiences remember about your message. Whether it's helping "Dilbert" creator Scott Adams develop a successful presentation to sell more books or helping a company develop a memorable sales presentation, Simon provides a blueprint to creating a message that's impossible to ignore.

You will take the first steps to getting people to do what you want by recognizing that you must help them remember what you want them to. Join this evidence-based session to discover how the brain decides—and learn how to stay on people's minds long enough to spark action!

Bio: Carmen Simon, PhD, is a best-selling author, cognitive neuroscientist and the creator of the #1 presentation app on iTunes in 2010. Her expertise combines her passion for the mind and utilizes the information garnered from her doctorate degrees in Instructional Technology and Cognitive Psychology. She is the co-founder of Rexi Media which provides consulting services to help improve presentation skills by enabling communicators to attract attention and create memorable content so their audiences can make decisions quickly. Or as she explains, "I aim to reduce PowerPoint amnesia."

ALL

1.0 PDHs/LU



T.R. Higgins Lecture: Effective Bracing of Flexural Members and Systems in Steel Buildings and Bridges

K2 Friday 2:15 p.m. – 3:15 p.m.

Speaker: Todd Helwig,
University of Texas (Austin)

This lecture will focus on the stability of flexural systems in steel buildings and bridges with a particular emphasis on bracing requirements. The presentation will highlight the results from large-scale experiments and computational studies on I-shaped beams and box girders. Discussions on lean-on bracing techniques, system buckling of narrow girder systems, and other bracing applications will be highlighted. Several factors that impact the effectiveness of bracing will be emphasized along with simple design methodologies for various bracing system applications.

Bio: Todd Helwig, PhD, a professor at the University of Texas at Austin, is the 2017 recipient of the T.R. Higgins Lectureship Award. His lecture will focus on the stability of flexural systems in steel buildings and bridges with a particular emphasis on bracing requirements. The presentation will highlight the results from large-scale experiments and computational studies on I-shaped beams, trusses, and box girders. Discussions on lean-on techniques, system buckling of narrow girder systems, and other bracing applications will be highlighted. Several factors that impact the effectiveness of bracing will be emphasized along with simple design methodologies for various bracing system applications. Helwig currently holds the J. Neils Thompson Teaching Fellowship in Civil Engineering at the University of Texas at Austin. He has also co-developed and taught a number of courses for the Structural Stability Research Council (SSRC), AISC, and the National Highway Institute (since 1994, more than 5,000 practicing engineers have attended his lectures). Among his awards are the ASCE Collingwood Research Prize, the ASCE Moisseiff Award, and the ASCE Shortridge Hardesty Award. He was recognized in 2005 with a top innovation award by the TxDOT for his work related to lateral bracing of bridge girders on permanent metal deck forms. In 2010, his work on stability bracing systems in steel bridges was recognized by AISC with a Special Achievement Award. He is currently the chair of SSRC.

ENGINEERS

1.0 PDHs



NASCC SESSIONS

The Steel Conference SESSIONS | BRIDGE TRACK

NSBA Welcome— Resources and Consideration for Steel Bridges

B1 Wednesday 8:30 a.m. – 9:30 a.m.

Speakers: Danielle Kleinhans, NSBA;
Gregg Freeby, Texas Department
of Transportation; Roger Wade, QK4

Moderator: Bill McEleney, NSBA

In its dedication to advancing steel bridge design and construction, the National Steel Bridge Alliance (NSBA) continually strives to assist with the development, construction and promotion of cost-effective steel bridges. This session will include a welcome of the NASCC bridge attendees by the NSBA and the Texas Department of Transportation.

Additionally, this session will include an overview of a unique project from Bullitt County, KY where crossing even the most seemingly routine terrain posed its own special challenges for construction. In the case of Kentucky 61 over the CSX Railroad, steel provided the best solution with respect to economy, constructability and schedule.

ENGINEERS

1.0 PDHs

Understanding and Reevaluating Fracture Critical: Existing and Future Policy—Part 1

B2 Wednesday 9:45 a.m. – 11:15 a.m.

Speakers: Rob Connor, Purdue University;
Jamie Farris, Texas Department
of Transportation

Moderator: John Holt, HDR Engineering, Inc.

The current criteria that bridge designers and owners use for determining the fracture critical status of a steel bridge design are fundamentally based on assessing redundancy of the structure and its resistance to failure. However, there are no clear, concise, generally accepted, science-based methods of determining structural redundancy in a bridge structure and no consensus agreement of failure.

Part 1 of this series will look at current policy and future practices regarding fracture critical structures. This session all also feature one owner's perspective on two-girder bridge today and how they view the future.

ENGINEERS

1.5 PDHs

Understanding and Reevaluating Fracture Critical: Research and Strategies—Part 2

B3 Wednesday 3:15 p.m. – 4:15 p.m.

Speakers: Ryan Sherman,
University of Nevada-Las Vegas;
Matthew Hebdon, Virginia Tech

Moderator: Danielle Kleinhans, NSBA

The current criteria that bridge designers and owners use for determining the fracture critical status of a steel bridge design are fundamentally based on assessing redundancy of the structure and its resistance to failure. However, there are no clear, concise, generally accepted, science-based methods of determining structural redundancy in a bridge structure and no consensus agreement of failure.

Part 2 of this series will present new research which will hopefully lead to fewer bridges being deemed fracture critical and thereby reducing the in-service inspection demand on bridge owners.

ENGINEERS

1.0 PDHs

Long Span Steel Bridges

B4 Wednesday 4:30 p.m. – 6:00 p.m.

Speakers: Gregor Wollmann, HNTB;
Thad Kosmicki and Martin Furrer, Parsons

Moderator: Brian Raff, Canam-Bridges

Steel exists today as the aesthetic and competitive solution for long span bridges. This session will feature three projects that have implemented unique design elements and accelerated bridge strategies. Included in the discussion will be the Columbia, Missouri I-70 Design Build Accelerated Bridge Project, the John Greenleaf Whittier Memorial Replacement Bridge located in Massachusetts and the 2016 NSBA Prize Bridge Winning Hasting Bridge in Minnesota.

ENGINEERS

1.5 PDHs

Competitive Steel Solution for Short Spans

B5 Thursday 8:00 a.m. – 9:30 a.m.

Speakers: Karl Barth, West Virginia University;
Doug Davis, Muskingum County – Ohio;
Scott Uhl, Bartlett & West

Moderator: Jeff Carlson, NSBA

The short-span bridge market, up to 140-ft span, is a very competitive place to do business, with other structural material alternatives available to bridge owners. This session will include new design approaches for short span steel bridges, successful projects and also an owner's perspective on utilizing a steel versus concrete for a short span bridge replacement projects.

ENGINEERS

1.5 PDHs

Tappan Zee Hudson River Crossing

B6 Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Ken Wright, HDR Engineering, Inc.;
Tom Ziemann, Ziemann Engineering, LLC;
Preston Vineyard, COWI-New York

Moderator: Jonathan Hirschfeld,
Hirschfeld Industries

The existing Tappan Zee Bridge opened to traffic in 1955 and is a vital artery for commuters, travelers and commercial traffic. Today, bridge traffic has grown to about 138,000 vehicles per day; far more than the Tappan Zee was designed to support. The cost of maintaining the current bridge for the foreseeable future rivals the cost of a new bridge, with no appreciable improvements for the traveling public.

A consortium of some of the world's best-known and most highly-regarded design, engineering and construction firms was assembled to designed and build the replacement. This session will look at the state-of-the-art, twin-span replacement for the 3.1-mile Tappan Zee Bridge.

ENGINEERS

1.5 PDHs

AASHTO Updates: What's New in the 8th Edition Steel Specification—Part 1

B7 Thursday 1:15 p.m. – 2:15 p.m.

Speaker: Michael Grubb,
Grubb and Associates, LLC

Moderator: Chris Garrell, NSBA

With each update to the AASHTO *Design Specification* come changes that can sometimes be misinterpreted, not understood or missed entirely. This session will focus on the upcoming changes to the Steel Design section of the next AASHTO LRFD *Design Specification* which will hopefully make the update more seamless.

Part 1 of this series will be a discussion of what is new in the Steel Design section of the new 8th Edition AASHTO LRFD *Design Specification*.

ENGINEERS

1.0 PDHs

Understanding and Reevaluating Fracture Critical—Part 3, An Approach to System Analysis

B8 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Rob Connor, Purdue University

Moderator: Jeff Carlson, NSBA

The current criteria that bridge designers and owners use for determining the fracture critical status of a steel bridge design are fundamentally based on assessing redundancy of the structure and its resistance to failure. However, there are no clear, concise, generally accepted, science-based methods of determining structural redundancy in a bridge structure and no consensus agreement of failure.

Part 3 of this series will look at research into and practical approaches to system analysis of two girder bridges. Part of the discussion will include how one can define a "family" of bridges and what detailing strategies can be applied to resolve the question of structural redundancy. Also included will be an introduction to the *Proposed Guide Specifications* for system analysis developed as part of NCHRP 12-87a and *Proposed Guide Specifications for Evaluating Member Level Redundancy*.

ENGINEERS

1.0 PDHs

AASHTO Updates: What's New in the 8th Edition Steel Specification—Part 2

B9 Thursday 4:15 p.m. – 5:15 p.m.

Speakers: Michael Grubb, Grubb and Associates, LLC; Karl Frank,
Hirschfeld Industries

Moderator: Finn Hubbard, Fish and Associates

With each update to the AASHTO *Design Specification* come changes that can sometimes be misinterpreted, not understood or missed entirely. This session will focus on the upcoming changes to the Steel Design section of the next AASHTO LRFD *Design Specification* which will hopefully make the update more seamless.

Part 2 of this series will conclude the discussion of what is new in the Steel Design section of the new 8th Edition AASHTO LRFD *Design Specification*. Included as part of this session will be a detailed presentation of the new procedures for designing bolted splices with example.

ENGINEERS

1.0 PDHs

Corrosion Protection Strategies for Steel Bridges

B10 Friday 8:00 a.m. – 9:30 a.m.

Speakers: Jeff Carlson, NSBA; Jennifer Righman-McConnell, University of Delaware; Debbie Simmons, Carboline Company

Moderator: Gary Wisch, DeLong's, Inc.

As the long-term performance of steel bridge coating systems has become more important to owners, several corrosion control technology options have become popular and successful choices for bridge owners. These technologies, when correctly executed, provide long term, economical protection in even the harshest environments. However, the differences in performance, process, risks, and cost associated with each of these materials are important to understand in order to properly select the appropriate treatment for each individual structure. The session is intended to provide attendees with perspective on steel bridge corrosion protection strategies, guidance and current research.

ENGINEERS

1.5 PDHs

Steel Bridge Erection Made Simple

B11 Friday 10:15 a.m. – 11:45 a.m.

Speakers: Ashley Thrall, University of Notre Dame; Lisa Briggs, Genesis Structures; Ted Zoli, HNTB Corporation

Moderator: Jason Stith, Michael Baker International

Evaluating the stability of curved and/or skewed I-girder bridges during construction is of critical importance to designers and erectors; however obtaining a good model of the bridge during these phases can be very difficult without the assistance of software. This session will include an overview of the current UT Bridge software capabilities as well as updated planned for future versions. The focus will primarily be on the analysis of several curved multi-girder, multi-span structures of increasing complexity. Comparison of the results with other commercial programs will be provided.

Complex steel bridge erection can often be tackled with innovative techniques such as a modular construction that can accelerate construction with repeated components prefabricated and rapidly erected. This session will also include a look at experimental results from laboratory testing and numerical analysis related to adjustable steel connections and adjustable steel modules which can form variable depth, efficient structural forms.

Lastly, this session will conclude with the project case study of the unique erection of the John Greenleaf Whittier Memorial Bridge which utilized an overhead gantry assisted twin launched girder system.

ENGINEERS

1.5 PDHs

Engineering for Stability in Bridge Construction—An NHI Course Overview

B12 Friday 1:00 p.m. – 2:00 p.m.

Speakers: Mike Garlich, Collins Engineering; Todd Helwig, University of Texas – Austin

Moderator: Bill McEleney, NSBA

It is important for every Engineer to understand the behavior of steel bridges during construction and be able to identify vulnerabilities. This session will provide attendees with an introduction to the NHI Engineering for Structural Stability in Bridge Construction course.

ENGINEERS

1.0 PDHs

Three-Dimensional Finite Element Analysis Software for Straight or Curved Steel Bridges During Construction

B13 Friday 2:15 p.m. – 3:15 p.m.

Speaker: Paul Biju-Duval, The University of Texas at Austin

Moderator: Chris Garrell, NSBA

The computer program UT Bridge allows an engineer to quickly create a three-dimensional model of a bridge system that can be used by the contractor or engineer to evaluate the behavior of a given erection scheme, including the need for shore towers or temporary holding cranes. A new version of the software will be released early in the Fall of 2016, with significant updates to the pre-processor, solver, and post-processor options. New features of the software include the ability to model tapered members, dapped ends, different types of cross-frames, lean-on bracing, lateral flange bracing, and many other aspects. This session will provide an overview of the software capabilities as well as a demonstration of the software on specific problems.

ENGINEERS

1.0 PDHs

Managing your Company's Health Care Program

Z1 Thursday 3:00 p.m. – 4:00 p.m.

Speakers: Annie Huth, Buckner Companies;
Lorraine Vaughan, Buckner Companies

Moderator: Mark Trimble,
Huntington Steel & Supply

With the continuing rise in healthcare cost, how can we position our company to benefit from the options that are in the marketplace and contain this major drag on our bottom line? You will learn how a well administered wellness program can provide long-term benefits for your employees and for your company.

ALL

1.0 PDHs

Solutions for Equity in the Workplace**

Z2 Wednesday 9:45 a.m. – 12:15 p.m.

Speakers: Rose McClure, Simpson Gumpertz & Heger, Inc.; Babette Freund, Universal Steel of North Carolina; Heidi Brunette, Steel Fabricators, Inc.

Moderator: Kristy Davis, AISC

**There is a \$25 fee for this session.
Lunch is provided.
To register, see **PART 5** of the registration form on page 57.

What can we do to encourage a more diverse workforce to enter and remain in the construction industry? What does the loss and imbalance of diverse talent mean for your company? How are successful workplaces handling policies internally to be more accommodating to a diverse workforce? This unique panel representing different career paths will address these issues and discuss "what works and what doesn't?" when creating solutions that can increase equity within your workforce.

ALL

1.5 PDHs/LU

Going Outside to Get Expertise: Is a Freelancer Right for You?

Z3 Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Mark Trimble,
Huntington Steel & Supply

Moderator: Mark Trimble,
Huntington Steel & Supply

There are individuals throughout the United States and worldwide who provide quality and timely services to the business marketplace—on an as-needed basis. With the ease of world-wide communication and delivery of services—and the advent of freelancer sourcing websites, you may find that outsourcing the skills and talent that your company lacks can provide outstanding results. Whether it be website content, spreadsheet tools, 3D printing, add-ons to your detailing software, or management coaching, there are experts available to help.

ALL

1.0 PDHs

Transforming Conflict into Collaboration

Z4 Wednesday 4:30 p.m. – 6:00 p.m.

Speaker: James Reeves,
Washington University St. Louis

Moderator: Glenn Tabolt, STS Steel, Inc.

Attendees will learn how to manage conflict to achieve positive results. The speaker is a noted expert in conflict resolution and will provide tools for understanding how conflict can be turned to collaboration.

ALL

1.5 PDHs

What's New with the 2016 Code of Standard Practice

Z5 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Tim Bradshaw, AISC

Moderator: Babette Freund,
Universal Steel of North Carolina

This session will explore the changes to the now available 2016 AISC *Code of Standard Practice*. Significant changes to the architecturally exposed structural steel (AESS) requirements, and the generalization of the code language to include the use of models will be discussed. The session will also review changes related to connection design, stiffening of members, tolerances, intellectual property, allowances, protected zone marking, and field bolt requirements.

ENGINEERS & FABRICATORS

1.0 PDHs

Case Studies in How to Use the Code of Standard Practice to Prevent and Resolve Disputes

Z6 Friday 8:00 a.m. – 9:30 a.m.

Speakers: David Ratterman, Stites & Harbison;
Babette Freund, Universal Steel of North Carolina;
Mike West, Computerized Structural Design;
Jim Minkinen, Minkinen– Private Consultant

Moderator: Glenn Tabolt, STS Steel, Inc.

Attendees will learn from industry experts how they have used the *Code of Standard Practice* to prevent or resolve disputes.

ALL

1.5 PDHs

Building Team Dynamics and Positive Corporate Culture

Z7 Friday 8:00 a.m. – 9:30 a.m.

Speaker: Phil Gauthier,
Insight Coaching & Consulting

Moderator: Glenn Tabolt, STS Steel, Inc.

Team building dynamics are essential to facilitate a collaborative, synergistic and productive workflow. In addition to effective teams, highly productive organizations ensure that their corporate culture clearly articulates their vision, mission and values. The effective organization also encourages buy-in on the part of all of their employees. Implementing “Team Building Dynamics” and a “Positive Corporate Culture” results in developing a lean organization that is aggressively competitive and profitable.

ALL

1.5 PDHs

Increase Your Value with Effective Communication

Z8 Friday 10:15 a.m. – 11:45 a.m.

Speaker: Phil Gauthier,
Insight Coaching & Consulting

Moderator: Glenn Tabolt, STS Steel, Inc.

Communication is the number one “soft skill” that is lacking in organizations throughout America! Increase your value by learning and applying the skills of effective communication. In this session, you will: learn about your “preferred behavioral communication style.” Understand the “levels of listening.” Discover the value of developing your interpersonal “EQ” strengths to more effectively motivate and collaborate with others.

ALL

1.5 PDHs

U.S. Construction Market Update

Z9 Friday 1:00 p.m. – 2:00 p.m.

Speaker: John Cross, AISC

Is construction activity reaching the peak of the current construction cycle or will we see several more years of growth before the next downturn? What areas of the country and which construction sectors are expected to grow over the next year and which are expected to contract? Join us we take a look at current trends that impact building construction and how they will impact the market for structural steel.

ALL

1.0 PDHs/LU

Sharpen your SPEAKability

Z10 Wednesday 4:30 p.m. – 6:00 p.m.

Speaker: Jan Fox, foxTalks

Improving your public speaking ability is the fastest way to build your business. Jan Fox, a four-time Emmy-award winning journalist, gives you specific tips to help you make a big impact. You’ll learn to work a room like a pro, stop using “stall language” that keeps you from getting to your important points, tell stories that truly inspire, and hear about a cure for the “uhms”, “errrs”, and “ahhhs” once and for all. Attendees will leave this session with better communication skills that truly allow them to connect with their clients!

ALL

1.5 PDHs

Innovations in Steel

Z11 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: Tabitha Stine, AISC

This program will demonstrate how recent structural steel industry innovations allow architects to easily express their design, concepts, overcome client serviceability and safety concerns, enhance their use of architecturally exposed structural steel, and help ensure a comfortable, safe and sustainable building environment for occupants.

ALL

1.0 PDHs/LU/HSW

San Antonio Medical Center

CS1 Wednesday 8:30 a.m. – 9:30 a.m.

Speakers: Wendall Hirschfeld, Hirschfeld Steel; Vicki Ford, Walter P Moore; RTKL; Vincent Bosworth, Bosworth Steel; Clark Construction

Moderator: Erin Conaway, SidePlate

The San Antonio Military Medical Center is one of the largest Department of the Defense hospitals in the country. The steel project team panel will describe how they used innovation and collaboration to meet the aggressive erection schedule of 50% faster than a standard steel healthcare facility.

ALL

1.0 PDHs

The Little Site That Could: 150 N Riverside

CS2 Wednesday 9:45 a.m. – 11:15 a.m.

Speakers: Rob Chmielowski, Magnusson Klemencic Associates; Chris Simonson, Zalk Josephs; Joe Jurasits, Chicago Steel

Moderator: Matt Brady, AISC

150 N Riverside in Chicago was a small undeveloped parcel of land located between the Chicago River and the Amtrak train tracks. However, early fabricator/erector involvement and the use of innovative 4-story composite trusses, along with the first use of 70 ksi steel in the U.S., helped this project deliver a 54 story Class A office building like nothing seen before in Chicago.

ALL

1.5 PDHs

Circuit of the Americas Observation Tower and Amphitheater

CS3 Wednesday 3:15 p.m. – 4:15 p.m.

Speakers: Dirk Kestner and Mark Waggoner, Walter P Moore; Ken Jones, Miguel Rivera and Juan Miro, Miro Rivera; Parley Dixon, Patriot Erectors

Moderator: Larry Flynn, AISC

Structural steel helped project team deliver a world world-class racing and entertainment destination right in the Heart of Texas. The Circuit of the Americas team will present their creative vision and construction journey for this award winning project.

ALL

1.0 PDHs/LU

Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System

CS4 Wednesday 4:30 p.m. – 6:00 p.m.

Speakers: Peter Lee, Skidmore, Owings, and Merrill; Patrick Hassett, Hassett Engineering, Inc.; Mark Mundy, SME Steel

Moderator: Lorena Arce, AISC

111 S Main Street in Salt Lake City, Utah is a 24-story office building with a very unique structural system: to overcome complex site constraints, a creative design solution was invoked whereby the perimeter columns are hung from steel hat trusses cantilevering from the building core at the roof level. While this structural system is designed to be stable in its completed state, there are inherent challenges with erection sequencing, temporary support systems, and bracing that must be addressed during construction. In this session the project SEOR, the erection engineer, and the fabricator will present the challenges and the creative solutions invoked to overcome these obstacles and bring the project to a successful completion. The ideas presented in this session will highlight the importance of team collaboration between design and construction professionals to bridge the gap from design complexity through construction.

ALL

1.5 PDHs

Design Assist—Case Studies of Successful Design Assist Projects

CS5 Thursday 8:00 a.m. – 9:30 a.m.

Speakers: Peter Cheever, LeMessurier Consultants Inc.; Cameron Baker, Sippel Steel Fab

Moderator: Bill Pascoli, AISC

Design Assist is the best way to take advantage of the structural steel fabricator's expertise from start to finish of any project. Steel fabricator's input can help designers with the best techniques, framing systems, cost estimating, interoperability, and overall project schedule. This panel will provide project examples and outline how and when to engage the steel fabricator for optimum project delivery.

ALL

1.5 PDHs/LU

181 Fremont Street— A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology

CS6 Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Adrian Crowther, Arup;
Tim Nelson, Degenkolb Engineers;
Bob Hazleton, The Herrick Corporation

Moderator: Kristy Davis, AISC

Signature Footbridges: Technical and Aesthetic Design Considerations

CS7a Thursday 1:15 p.m. – 2:15 p.m.

CS7b Friday 2:15 p.m. – 3:15 p.m.

Speakers: Sylvain Montminy, Parsons Corporation;
Terri Meyer Boake, University of Waterloo

Moderator: Sylvie Boulanger,
Centre for Innovation in Infrastructure

Winning IDEAS in Steel-framed Building Design—Part 1

CS8 Thursday 3:00 p.m. – 4:00 p.m.

Speakers: Robert Pallmann, Arup;
Erich Oswald, Guy Nordenson and
Associates; David Smith, SteelFab, Inc.

Moderator: Larry Flynn, AISC

Winning IDEAS in Steel-framed Building Design—Part 2

CS9 Thursday 4:15 p.m. – 5:15 p.m.

Speakers: Daniel Wang, LPA, Inc.;
Bryan Seamer, LPA, Inc.; S.G. Richard Liu,
Architectural Engineers Collaborative;
Paul Bielamowicz, Page

Moderator: Larry Flynn, AISC

This session focuses on the design and construction of an all-steel, 56-story mixed use tower in San Francisco, CA. The superstructure includes a lateral system of steel moment frames and external mega braces. Arup's resilience-based design approach, following the REDI Rating System guidelines, extended the minimum code life-safety considerations to the ability to maintain occupancy after a 500 year earthquake. It is the first REDI-rated building in the world, having achieved a Gold designation through an independent peer review process. The Herrick Corporation provided design-assist, fabrication, and erection, with erection engineering support provided by Degenkolb Engineers. The project includes a number of structural steel innovations including 18-story mega braces that have both BRB elements and dampers to accommodate the demands from both EQ and wind loads for human comfort in the residential units. Also, to limit loads to the system in the MCE event, a unique uplifting element was designed into the base of the corner mega-columns. Steel erection complexities necessitated the implementation of temporary falsework to facilitate the construction of story-deep transfer trusses, design of critical lifting lugs and erection aids, and the development of an analytical "dashboard" that predicted the building's behavior during erection to help set columns. This session will provide an overview of this complex project, focusing on the structural design, fabrication, and erection of this state-of-the-art structural system.

ALL

1.5 PDHs

In recent years, there has been a desire worldwide for creating landmark bridges and structures. More surprisingly however is the abundance of signature bridges that serve only pedestrians and cyclists. What used to be generally functional, inexpensive structures to design are becoming new urban destinations and works of art. Finding a balance between technical and aesthetic design considerations is part of the new challenge facing engineers and architects during the design of a footbridge. This presentation will include dozens of signature footbridges that have successfully (and less successfully) addressed multi-facet requirements.

ENGINEERS & ARCHITECTS

1.0 PDHs/LU

Structural steel is a material that engineers and architects are using in multitudes of creative and innovative ways to design amazing buildings throughout the U.S. AISC's annual building design awards competition, the Innovative Design in Engineering and Architecture with Structural Steel (IDEAS²) Awards, recognizes the nation's top buildings using structural steel with the highest award the steel industry bestows for excellence in design—the IDEAS² Award. For this first time at NASCC, recipients of the 2017 IDEAS² Awards competition will discuss the challenges and design solutions that made their projects winning IDEAS in steel-frame building design.

ALL

1.0 PDHs/LU/HSW

Structural steel is a material that engineers and architects are using in multitudes of creative and innovative ways to design amazing buildings throughout the U.S. AISC's annual building design awards competition, the Innovative Design in Engineering and Architecture with Structural Steel (IDEAS²) Awards, recognizes the nation's top buildings using structural steel with the highest award the steel industry bestows for excellence in design—the IDEAS² Award. For this first time at NASCC, recipients of the 2017 IDEAS² Awards competition will discuss the challenges and design solutions that made their projects winning IDEAS in steel-frame building design.

ALL

1.0 PDHs

Winning IDEAS in Steel-framed Building Design—Part 3

CS10 Friday 1:00 p.m. – 2:00 p.m.

Speakers: Hooman Nastarin, NAST Enterprises Corp.; Richard B. Garlock, Leslie E. Robertson Associates

Moderator: Larry Flynn, AISC

Structural steel is a material that engineers and architects are using in multitudes of creative and innovative ways to design amazing buildings throughout the U.S. AISC's annual building design awards competition, the Innovative Design in Engineering and Architecture with Structural Steel (IDEAS²) Awards, recognizes the nation's top buildings using structural steel with the highest award the steel industry bestows for excellence in design—the IDEAS² Award. For this first time at NASCC, recipients of the 2017 IDEAS² Awards competition will discuss the challenges and design solutions that made their projects winning IDEAS in steel-frame building design.

ALL

1.0 PDHs

Protective Coatings and Coating Systems for New Bridges

CG1 Thursday 1:15 p.m. – 2:45 p.m.

Speakers: Tom Higginbotham, PPG Protective and Marine Coatings; Mark Hudson, Bridge and Highway Market, The Sherwin-Williams Company; Ahren Olson, Corrosion Protection, Covestro LLC; Jim Weber, James K. Weber Consulting; William Corbett, KTA-Tator, Inc.; Paul Forte, Greenman-Petersen, Inc. (GPI)

This session will provide attendees with an introduction to both traditional and newer technology coatings and costing systems that can be used to protect steel bridges, as well as a centralized source for locating coating system performance data to help in the creation of an approved/qualified products list. Also covered is the advantages and limitations of total shop coating vs. field coating vs. weathering steel vs. galvanizing. Finally, considerations for the use of coatings in faying (slip-critical) bolted connections and corrosion protection of installed fasteners are discussed.

ENGINEERS & FABRICATORS & DETAILERS & ERECTORS—
BRIDGES

Coating Specifications for New Structures and for Rehabilitating Existing Structures

CG2 Thursday 3:30 p.m. – 4:00 p.m.

Speaker: Paul Forte, Greenman-Pedersen, Inc.

This session focuses on the importance of well-prepared coating specifications and explores problems associated with prescriptive language as well as the advantages of using performance-based specification language. Attendees will examine examples of each type. The session will also present some of the challenges and solutions associated with phasing in steel repairs when widening, seismic retrofitting, connection/gusset plate replacement or during bridge rehabilitation.

ENGINEERS & FABRICATORS & DETAILERS & ERECTORS—
BRIDGES

Surface Preparation Methods and Industry Standards

CG3 Thursday 4:15 p.m. – 4:45 p.m.

Speakers: Brad Gooden, Blast-One International; Bill Nelson, Axxiom; Jim Weber, James K. Weber Consulting

Surface preparation is typically regarded as the most critical step in achieving long-term coating performance and corrosion resistance for steel. Attendees will learn about the different methods used as well as the industry-recognized ASTM and SSPC standards for abrasive quality, surface cleanliness and surface profile that can be included in project specifications. Visual guides developed by SSPC to help determine conformance to specified surface cleanliness requirements will also be described.

ENGINEERS & FABRICATORS & DETAILERS & ERECTORS—
BRIDGES

Note

This series of coatings presentations is designed to provide steel bridge designers with a background in coating industry standards, generic protective coatings and coating systems available to protect steel in both new and rehabilitated bridges. Attending all sessions in this track will earn 4.0 PDHs. No credit will be issued for partial completion. Registration is not required.

Coating Application Methods and Industry Standards

CG4 Thursday 4:45 p.m. – 5:15 p.m.

Speakers: Cody Kocyon,
Tnemec Company Inc.; Jim Weber,
James K. Weber Consulting

Attendees will learn about the two most common methods of spray application (conventional pressure pot air spray and airless spray) as well as about metalizing.

ENGINEERS & FABRICATORS & DETAILERS & ERECTORS—
BRIDGES

Quality Assurance/Control Inspection and Industry Standards

CG5 Thursday 5:30 p.m. – 6:15 p.m.

Speakers: Paul Forte, Greenman-Pedersen, Inc.;
William Corbett, KTA-Tator Inc. (KTA)

Attendees will learn to distinguish the roles and responsibilities of quality assurance and quality control personnel related to surface preparation and coating application inspections in the shop. Included for specifiers will be a list of the quality control checkpoints that should be considered for inclusion in a coating specification. In addition, recommended qualifications (training/certification) of QA and QC personnel will be described.

ENGINEERS & FABRICATORS & DETAILERS & ERECTORS—
BRIDGES

Note

This series of coatings presentations is designed to provide steel bridge designers with a background in coating industry standards, generic protective coatings and coating systems available to protect steel in both new and rehabilitated bridges. Attending all sessions in this track will earn 4.0 PDHs. No credit will be issued for partial completion. Registration is not required.

Secrets of the *Manual* to Get it Done

CN1a Wednesday 4:30 p.m. – 6:00 p.m.

CN1b Friday 10:15 a.m. – 11:45 a.m.

Speaker: Carol Drucker, Drucker Zajdel
Structural Engineers, Inc.

This session will highlight efficient ways to take advantage of the various design aids in the AISC *Steel Construction Manual*. The speaker will highlight short cuts for connection design, including: stiffeners, web yielding/crippling, welds, and more. Learning these shortcuts are a must for those preparing for PE/SE testing, for checking purposes, or even design.

ENGINEERS

1.5 PDHs

Design and Detailing Considerations for Cantilever Moment Connections through W Shaped and HSS Columns

CN2a Thursday 8:00 a.m. – 9:30 a.m.

CN2b Friday 10:15 a.m. – 11:45 a.m.

Speaker: Bill Merrell, WW Merrell, PE

Moderator: Tedd Sheppard,
The DuRoss Group, Inc.

Structures often include minor and major cantilever beam to W shaped or HSS column moment connections. This session will look at various conditions from the perspective of design, detailing, fabrication and erection. Responsibility for the design of such moment connections will be discussed as it pertains to the current *Code of Standard Practice*. Case studies will be used to illustrate various design options.

ENGINEERS & FABRICATORS

1.5 PDHs

Introduction to Structural Fasteners: Principles, Properties and Provisions

CN3a Thursday 10:15 a.m. – 11:45 a.m.

CN3b Friday 10:15 a.m. – 11:45 a.m.

Speaker: Chad Larson, LeJeune Bolt Company

This session will provide an introduction to the general terms and functional elements of structural fasteners. Standards and requirements for structural fasteners will be explained including new standards. This session is intended to equip participants with a conversational understanding of physical and mechanical properties, including basic fastener behavior and terms.

ENGINEERS & FABRICATORS

1.5 PDHs

Practical Advice for Reviewing Software Generated Connection Designs

CN4a Thursday 4:15 p.m. – 5:15 p.m.

CN4b Friday 1:00 p.m. – 2:00 p.m.

Speakers: Sam Rubenzer and Cathleen Jacinto,
FORSE Consulting

Moderator: Kim Olson, FORSE Consulting

How do you choose the best software for your connection design? Rather than examining specific programs, this session will lay out criteria for how to choose software as well as looking at effective procedures for reviewing software generated connection designs. Both designers and detailers will benefit from this session, which will include time-saving tips for reviewing drawings.

ENGINEERS & DETAILERS

1.0 PDHs

Field Connections— Safe and Economical Tips

CN5a Thursday 1:15 p.m. – 2:15 p.m.

CN5b Friday 1:00 p.m. – 2:00 p.m.

Speaker: Gary Violette, VSE, Inc.

Moderator: Jon Beier, SMBH, Inc.

There are many ways to details field connections. An erector in the field likely has a different perspective than an engineer in the office when it comes to economic erection. This presentation will go through various field connections and highlight various items that can be considered when producing construction documents to make field erection easier, safer, and more economical.

ALL

1.0 PDHs

How the 2016 Code of Standard Practice Makes Delegated Connection Design Safe and Workable for Everyone

CN6 Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Larry Griffis, Walter P Moore

Moderator: Mark Holland, Paxton & Vierling

The 2016 edition of the publication ANSI/AISC 303-16 *Code of Standard Practice for Steel Buildings and Bridges* is now available for those that are involved in the design, purchase, fabrication and erection of structural steel. This new document, available for download on the AISC website www.aisc.org, supersedes the April 14, 2010 edition (ANSI/AISC 303-10). In order to address common practice in the industry, the Code Committee has expanded Option 3 into two subsidiary Options 3A and 3B. Option 3A covers the situation where member reinforcement at connections is designed and detailed by the engineer of record on the structural design documents. Option 3B covers the situation where the intent is for the engineer of record to clearly define bidding quantities and project specific details for member reinforcement at connections, while delegating the final member reinforcement and connection design responsibility to the licensed engineer in charge of connection design. This presentation will define and clarify the rules of engagement for connection design responsibility reflecting industry standards that are safe and workable for all parties.

ALL

1.0 PDHs

More Welding Questions Answered

CA1a Wednesday 9:45 a.m. – 11:15 a.m.

CA1b Thursday 8:00 a.m. – 9:30 a.m.

Speaker: Duane Miller, Lincoln Electric

Moderator: Glenn Tabolt, STS Steel, Inc.

Duane Miller will speak about a variety of welding questions he has answered in his career providing useful insight into effective design and detailing of welded connections.

ALL

1.5 PDHs

50 Tips for Designing Constructable Steel Buildings

CA2a Wednesday 9:45 a.m. – 11:15 a.m.

CA2b Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Jason Perry, Stanley D. Lindsey and Associates, Ltd.; Justin Mitchell, LPR Construction

Moderator: Jules Van de Pas, CSD Structural Engineers

This session will provide practical advice to help the engineer in their decision making process. The session will discuss efficient framing schemes economical connections and fabricator/erector friendly design solutions.

ENGINEERS

1.5 PDHs

The Splice is Right

CA3 Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Carol Drucker, Drucker Zajdel Structural Engineers, Inc.; Sylvie Boulanger, Centre for Innovation in Infrastructure; Larry Kruth, AISC; Duane Miller, Lincoln Electric; Terri Meyer Boake, University of Waterloo

Moderator: Sylvie Boulanger, Centre for Innovation in Infrastructure

The unsung hero in connection design is the splice. But when the splice is right, the price is right. However, getting it right for every condition is a challenge whether dealing with splices for columns, girders, trusses, bracings and large structures in general. Each speaker will present their point of view whether the main goal is to satisfy design, fabrication, erection, welding or aesthetic requirements.

ALL

1.5 PDHs

Moving Forward with High-Strength Steel

CA4a Thursday 1:15 p.m. – 2:15 p.m.

CA4b Friday 1:00 p.m. – 2:00 p.m.

Speakers: Shelley Finnigan, Nucor-Yamato Steel Company; Victor Shneur, LeJeune Steel Company

Moderator: Jon Skinner, McLaren Engineering Group

For decades, ASTM A913 steel has been specified for use in structural systems throughout the world, resulting in hundreds of projects that feature this unique material. This high-strength, low-alloy, quenched and self-tempered (QST) steel has helped save millions of dollars in project costs, by reducing the weight of the structure, simplifying fabrication procedures and enabling more efficient field welding. In this session, attendees will get clarification on the differences between materials produced to the ASTM A913 specification and comparable standards; review the benefits regarding the structural efficiency, simplifying fabrication and erection and reduced schedule and owner costs; and learn how the in-line QST system revolutionized the thermo-mechanically controlled rolling process and enabled manufacturers to create high-strength steels with low alloy contents, excellent toughness and outstanding weldability.

ALL

1.0 PDHs

Economic Alternative Paths for Progressive Collapse Design

CA5 Thursday 1:15 p.m. – 2:15 p.m.

Speaker: Patrick Crosby, Crosby Group

Moderator: Jacinda Collins, AISC

Thinking outside-of-the-box can create economic alternate load paths for steel framing of secure facilities. This session will explore the many architectural design opportunities that exist within various building types, as well as identifying which path best fits within the project budget.

ENGINEERS

1.0 PDHs

What Engineers Need to Know about What Fabricators Can Do (Bending and Rolling)

CA6 Wednesday 9:45 a.m. – 11:15 a.m.

Speakers: Mark Trimble, Huntington Steel & Supply;
Charles Wood, Whitefab, Inc.; Steve Bensen, ASMA

Moderator: Mark Trimble, Huntington Steel & Supply

Forming plate for fabrication projects requires a good design, proper equipment and an understanding of material behavior. Take home some techniques, formulas and rules of thumb that will help you take advantage of the formable nature of steel, along with some do's and don'ts. Learn how to save money by bending instead of welding.

ENGINEERS & FABRICATORS

1.5 PDHs

What Should Engineers Know about IBC Chapter 17?

CA7 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Mike West, Computerized Structural Design

Moderator: Todd Alwood, AISC

Most engineers only equate Chapter 17 with special inspection. But the chapter contains many often over-looked requirements every engineer should be aware. In 1704, do you know what a "statement of special inspections" is? Or an "approved fabricator" and "certificate of compliance?" Did you realize 1705 now references AISC 360? The session will explore this chapter in more detail, so be sure to attend and bring your questions!

ENGINEERS

1.0 PDHs

From One Generation to the Next—Lessons Learned under Duane Miller

CA8 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Michael Florczykoski, Lincoln Electric

Moderator: Glenn Tabolt, STS Steel, Inc.

In this revealing and technical presentation, Michael will share just a few of the lessons he has learned during his first year of working under Duane Miller. Topics include, fundamentals principles of connection design, prequalified connections (what's behind them), welding and fatigue, various seismic requirements, lamellar tearing (is it an issue?), and many more.

ALL

1.0 PDHs

Modular Construction Best Practices—When, Where and Why or Why Not

CA9 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Jacinda Collins, AISC

Modular construction is a great project delivery method that can reduce construction time and increase final project delivery. However, modular construction is not the best delivery method for every project type and size. This presentation will help project teams review their project design and delivery goals to determine if modular construction is the right for them.

ALL

1.0 PDHs/LU/HSW

Safe and Efficient Installation of Steel Joists and Metal Deck

CA10 Friday 8:00 a.m. – 9:30 a.m.

Speakers: Michael Martignetti, Canam-Buildings; David Deem, Deem Structural Services, LLC; Charles Wall, Commercial Metals Company; Rick Jensen, Vulcraft-Nucor

This session will look at safe erection from all points of view. The engineer has a responsibility to design the building with erection in mind. The joist and deck manufacturers have their own sets of rules and guidelines to assist in the proper and safe erection of their products. And then there is the fabricator who often handles the contract on all of these trades. Don't forget the erector who has to take what he is supplied and efficiently and safely put it in place. An all inclusive presentation from experts in each field.

ALL

1.5 PDHs

Why Not Steel?

CA11 Friday 10:15 a.m. – 11:45 a.m.

Speakers: Greg Gidez, Hensel Phelps Construction; Corinne Kerr, ZGF Architects; Rodd Merchant, JE Dunn Construction

Moderator: Patrick McManus, Martin/Martin, Inc.

Although there is an effective steel solution for almost every project, design and construction teams sometimes shy away from using structural steel due to various perceptions. Some of these perceptions are simply misconceptions while others are valid issues the steel industry needs to overcome. This panel discussion will explore some of the positive and negative perceptions of structural steel from the point of view of the architect and general contractor, and offer potential improvements and opportunities to overcome these challenges.

ALL

1.5 PDHs/LU

The AISC 15th Edition *Steel Construction Manual*

E1a Wednesday 8:30 a.m. – 9:30 a.m.

E1b Thursday 1:15 p.m. – 2:15 p.m.

Speakers: Cynthia Duncan, AISC;
Louis F. Geschwindner, Penn State University

Moderator: Mark Holland,
Paxton & Vierling Steel Co.

Available in mid-2017, the 15th Edition of the *Steel Construction Manual* will contain the latest standards, such as the 2016 AISC *Specification for Structural Steel Buildings*, in addition to new design criteria and new design tables and aids for steel building design and construction. This session will provide an overview of the most important new information contained in the *Manual*. The background for the new design criteria will be presented, as well as some discussion of the reason for changes in the *Manual* will be included. Design examples will be provided to assist consulting engineers and educators in understanding the impact of the new provisions, as well as the use of the new design aids.

ENGINEERS

1.0 PDHs

The Good, the Bad, and the Ugly of Drawing Notes

E2a Wednesday 8:30 a.m. – 9:30 a.m.

E2b Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Matthew Kawczynski,
McLaren Engineering Group

Moderator: Todd Gerhart,
The Babcock & Wilcox Company

All contract documents have notes to convey information; however, not all notes are created equal. This session will review general note tips, focus on design note examples and review their impact on a project. The examples will be reviewed for clarity, simplification and applicable code requirements.

ENGINEERS

1.0 PDHs

Case Studies in Structural Fire Engineering

E3a Wednesday 8:30 a.m. – 9:30 a.m.

E3b Thursday 1:15 p.m. – 2:15 p.m.

Speakers: Darlene Rini, Arup San Francisco;
Matthew Johann, Arup Boston

Moderator: Jon Beier, SMBH, Inc.

Structural engineers are traditionally not responsible for fire protection of building structural systems. So why is there an appendix on fire engineering in the AISC *Specification*? This session presents practical strategies and design examples of performance-based fire engineering.

ENGINEERS

1.0 PDHs

The New HSS Design Manuals: Volumes 1, 2, 3 and 4

E4a Wednesday 8:30 a.m. – 9:30 a.m.

E4b Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Kim Olson, FORSE Consulting

Moderator: Joseph Anderson, Steel Tube Institute

The Steel Tube Institute has recently published four design guides to assist engineers and fabricators with HSS member and connection design. This session will highlight what is available, additional tools that may be used with the manuals, as well as what is coming in the future.

ENGINEERS

1.0 PDHs

The New and Improved Design Guide 11, 2nd ed.— *Vibrations of Steel-Framed Systems Due to Human Activity*

E5a Wednesday 4:30 p.m. – 6:00 p.m.

E5b Thursday 8:00 a.m. – 9:30 a.m.

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

Moderator: Margaret Matthew, AISC

This session will highlight the many updates and new material included in the newly updated Design Guide 11 based on the large volume of literature that has been published on the response of steel framed structural systems including floors, monumental stairs, and balconies due to human activity since the original Design Guide was published. Human tolerance and sensitive equipment tolerance limits have been modified, updated methods to evaluate high frequency systems have been proposed, and the use of the finite element method to analyze structural systems supporting human activity has been refined. Simplified methods to evaluate problem floors have also been proposed.

ENGINEERS

1.5 PDHs

Designing Castellated and Cellular Beams Using AISC Design Guide 31

E6a Wednesday 9:45 a.m. – 11:15 a.m.
E6b Thursday 10:15 a.m. – 11:45 a.m.

Speakers: David Dinehart, Villanova University;
Sam Fares, New Millennium Building Systems;
John Coulson, Integrity Structural Corp.

Moderator: Joe Dardis, AISC

This session will provide a brief history of castellated and cellular beams and highlight recent innovative applications and potential economic benefits of their use. Differences between traditional beams related to failure mode will be highlighted. The current state of practice of the design of castellated and cellular beams will be presented along with an overview of the contents of the recently published AISC Design Guide 31, *Design of Castellated and Cellular Beams*.

ALL

1.5 PDHs

Everything You Wanted to Know About Diaphragms (But Were Afraid to Ask)

E7a Wednesday 9:45 a.m. – 11:15 a.m.
E7b Friday 10:15 a.m. – 11:45 a.m.

Speakers: Thomas Sputo, Sputo & Lammert/
Steel Deck Institute; Michael Antici,
Vulcraft – Nucor

Moderator: Robert Paul, Steel Deck Institute

You have probably been to previous presentations that covered the basics of roof and floor diaphragms in idealized structures. Real structures are usually more complex. But fear not; this presentation will go beyond the basics and discuss situations found in real structures, such as irregular shaped diaphragms, sloped diaphragms, combined wind uplift and diaphragm shear, dealing with large openings, and other real conditions. After this session, you will be prepared for these real-world diaphragms.

ENGINEERS

1.5 PDHs

Current Views from Past Higgins Award Winners: Michael Engelhardt

E8a Wednesday 9:45 a.m. – 11:15 a.m.
E8b Thursday 8:00 a.m. – 9:30 a.m.

Speakers: Michael Engelhardt,
University of Texas – Austin

Moderator: Charlie Carter, AISC

There is growing world-wide interest in transforming practices for building fire safety from a prescriptive-based to a performance-based approach. This interest is being driven by the need to reduce the high cost of building fire safety; to accommodate the increasing complexity, size and architectural diversity of buildings; and to more clearly define building performance expectations in major fires. Structural engineers will likely play an increasingly important role in this process in the future by developing engineered approaches for structural fire safety. This presentation will examine, in a broad manner, the fire problem in the U.S. and the role of the structural engineer in solving these problems, both at present and in the future.

ENGINEERS & DETAILERS

1.5 PDHs

Can Staggered Trusses Be Used in Seismic Zones?

E9a Wednesday 9:45 a.m. – 11:15 a.m.
E9b Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Neil Wexler, Ali Maher and
Michal Halevy, Wexler Associates

While staggered trusses have been very successful in low- and medium-seismic designs, there is debate about whether they offer adequate ductility and load transfer options in high-seismic areas. But recent improvements in staggered truss design, including different Vierendeel truss openings and the addition of interior posts, columns, and braces, may make them suitable for high seismic area. This presentation will examine current staggered truss design practices and newly proposed improvements, as well as presenting several case studies.

ENGINEERS

1.5 PDHs

Load Paths—There is Not Always a Yellow Brick Road

E10a Wednesday 9:45 a.m. – 11:15 a.m.
E10b Thursday 8:00 a.m. – 9:30 a.m.

Speaker: Scott Roche, Ensign Engineering

Moderator: Troy Dye, ARW Engineers

With complex designs and construction becoming more common place, the typical load path is not always obvious. This session will provide examples of challenging load paths and practical techniques to help simplify load path connections.

ENGINEERS

1.5 PDHs

Building Design— The Intelligent Approach

E11a Wednesday 3:15 p.m. – 4:15 p.m.

E11b Thursday 4:15 p.m. – 5:15 p.m.

Speaker: James Fisher, Computerized Structural Design/Steel Joist Institute

A well designed structure is one in which the building performs well, and the team members and the owner are all satisfied with the result. This generally occurs when all team members make a profit on the project, and the building owner believes he or she paid a fair price for a building that performs as expected. Believe it or not, this can happen.

ENGINEERS

1.0 PDHs

Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures

E12a Wednesday 3:15 p.m. – 4:15 p.m.

E12b Thursday 3:00 p.m. – 4:00 p.m.

Speakers: William Gorlin and Laura Goodman, McLaren Engineering Group

Moderator: Matthew Messing, Orange County Ironworks, LLC

This session will review steel applications in the entertainment industry. McLaren will discuss the uses and benefits of steel framed systems in theatrical performances, temporary live events, and amusement park theming. The speaker will also discuss considerations for deciding between the superior strength of steel and the lighter weight of aluminum when designing a dynamic structure that will be built, broken down, and rebuilt dozens of times all over the country, or even the world.

ALL

1.0 PDHs

NEW Design Guide 32: AISC N690 Appendix N9— Design of Modular Composite Walls for Safety Related Nuclear Facilities

E13a Wednesday 9:45 a.m. – 11:15 a.m.

E13b Thursday 10:15 a.m. – 11:45 a.m.

Speakers: Amit Varma and Saahastaranshu Bhardwaj, Purdue University

Moderator: Margaret Matthew, AISC

This newest Design Guide in the series outlines design requirements and procedures for modular steel-plate composite walls for safety related nuclear facilities based on AISC N690-12 Supplement No. 1 (N690s1), Appendix N9. This session will highlight features of the Guide, including discussion of the design of steel-plate composite wall connections, connection design philosophies and typical connection details, as well as discussion and illustrations explaining the tolerance requirements for construction and fabrication of steel-plate composite walls.

ENGINEERS & FABRICATORS

1.5 PDHs

Steel Castings in Architecture— Do You Know How to Design Them?

E14a Wednesday 4:30 p.m. – 6:00 p.m.

E14b Friday 8:00 a.m. – 9:30 a.m.

Speakers: Raymond Monroe, Steel Foundry Society of America; Carlos de Oliveira, CastConnex; Tom Meyer, Magnusson Klemencic Associates

Moderator: David Eckmann, Magnusson Klemencic Associates

Steel castings in buildings are becoming more popular in North America. If your architect/client requests steel castings on your next project, do you know how to design them? Do you know where to turn for additional technical and cost information? Learn from speakers that work with steel castings, and hear more about the AISC Steel Castings Design Guide that is currently in the works.

ALL

1.5 PDHs/LU

What Makes a “Special Moment Frame” Special?

E15a Wednesday 4:30 p.m. – 6:00 p.m.

E15b Friday 8:00 a.m. – 9:30 a.m.

Speaker: Behzad Rafezy, SidePlate Systems, Inc.

Moderator: John Kennedy, Structural Affiliates International, Inc.

The design of Special Moment Frames (SMF)—and in particular, their connections—has undergone a significant overhaul in the post-Northridge era. This session focuses on critical aspects of SMF systems and their connections to ensure a desired ductile behavior and dissipation of energy. Seismic design philosophy, the design provisions of AISC 341, and connection requirements for SMF systems will be discussed; and finally the results of a full-scale experimental test on SMF connections with a comparison to an analytical model will be presented.

ENGINEERS

1.5 PDHs

Retrofitting Design and Analysis of Existing Steel Joist-Framed Buildings

E16a Wednesday 4:30 p.m. – 6:00 p.m.

E16b Friday 8:00 a.m. – 9:30 a.m.

Speakers: Bruce Brothersen, Vulcraft-Nucor, Utah;
Walter Worthley, Valley Joist

Engineers are commonly faced with a renovation project of an existing joist-framed building where there is a need to evaluate the existing system for a different loading configuration, additional loading, new floor or roof openings, etc. The delineation of EOR and joist supplier responsibilities on such projects can become blended. This session is aimed at a practical approach to understanding joist design and overcoming common obstacles on such projects. Specific examples of new loading arrangements on existing joists, new configurations which may cause element stress reversals in the joist under consideration, reinforcement and retrofit details, and information required to be communicated on the contract documents for the joist supplier will be presented.

ENGINEERS

1.5 PDHs

ASCE 37: Design Loads on Structures During Construction

E17a Wednesday 4:30 p.m. – 6:00 p.m.

E17b Thursday 10:15 a.m. – 11:45 a.m.

Speakers: David I. Ruby and Jeffrey Gasparott,
ruby+associates

Moderator: Sylvie Boulanger,
Centre for Innovation in Infrastructure

The ASCE 37 Standard provides design loads requirements for partially completed structures as well as temporary structures used during construction. This presentation will focus on the Standard's loading parameters and how, when and why an erection engineer addresses the temporary bracing of the structural steel to ensure stability and safety. It will also demonstrate how a collaborative steel team (fabricator/erector/erection engineer) applies and can modify the Standard's loading parameters while still adhering to the AISC *Code of Standard Practice*.

ENGINEERS & ERECTORS

1.5 PDHs

Design of Underhung Hoist and Crane Girders

E18a Thursday 8:00 a.m. – 9:30 a.m.

E18b Friday 8:00 a.m. – 9:30 a.m.

Speaker: William Kussro, IBI Group Michigan, LLC

Underslung crane girders are often utilized in manufacturing plants and have particular design challenges including member continuity, laterally unsupported flanges and fatigue of the support member just to name a few. This presentation discussed the challenges encountered; solutions for designing the structural support structures; the connections between the supporting members and the runway girder; and the runway girders themselves for underslung hoists and crane runways. The design for curved monorail support beams will also be covered. A design example will be presented.

ENGINEERS

1.5 PDHs

Design of Steel Framed Parking Garages

E19a Thursday 8:00 a.m. – 9:30 a.m.

E19b Friday 10:15 a.m. – 11:45 a.m.

Speakers: Alan Simon, Simon Design Engineering,
LLC; Jerry Marcus, The Parking Advisory Group

Moderator: Tim Bradshaw, AISC

Texas has traditionally been a great market for steel framed parking garages. This session will explore how structural steel framing delivers successful parking projects in Texas and across the country.

ENGINEERS

1.5 PDHs

Efficient Lateral Load Resisting Systems for Low Rise Buildings

E20a Thursday 8:00 a.m. – 9:30 a.m.

E20b Friday 8:00 a.m. – 9:30 a.m.

Speakers: Patrick McManus, Martin/Martin; Jason
Perry, Stanley D. Lindsey and Associates, Ltd.

Moderator: Jules Van de Pas,
CSD Structural Engineers

This session will provide practical advice to help the engineer in their decision making process when selecting the appropriate lateral system for a low rise building. The positives and negatives of different solutions will be discussed.

ENGINEERS

1.5 PDHs

Lateral Torsional Buckling and its Influence on the Strength of Beams

E21a Thursday 8:00 a.m. – 9:30 a.m.

E21b Friday 8:00 a.m. – 9:30 a.m.

Speaker: Ronald D. Ziemian,
Bucknell University

This lecture will begin by presenting and dissecting the solution to the differential equation that defines the elastic lateral torsional buckling (LTB) strength of beams. Related flexural and torsional concepts, including the benefits of warping resistance, will be briefly reviewed. The assumption of elastic behavior will then be relaxed to define the inelastic LTB and plastic moment capacities of flexural members. The strength of beams without slender elements will be covered and ultimately presented in the form of beam resistance curves.

ENGINEERS & DETAILERS

1.5 PDHs

Practical Uses of Non-Linear Pushover Analysis

E22a Thursday 8:00 a.m. – 9:30 a.m.

E22b Friday 8:00 a.m. – 9:30 a.m.

Speaker: Jerod Johnson, Reaveley Engineers

Moderator: Zach Hansen, ARW Engineers

Actual behavior in significant transient events often involves nonlinearity not explicitly captured in elastic models. This session will present practical nonlinear analysis methods and will demonstrate how nonlinear pushover analysis can corroborate design provisions found in current codes.

ENGINEERS

1.5 PDHs

Steel Quiz Live

E23 Thursday 4:15 p.m. – 5:15 p.m.

Speakers: Carlo Lini and Larry Muir, AISC

Various steel-related questions will be presented to the audience and the audience will have the opportunity to vote for the correct answer. A brief discussion will follow explaining why the answer is right—or wrong!

ENGINEERS

1.0 PDHs

Steel Cable Assembly Systems: What the Fabricator, Erector and EOR Need to Know

E24a Thursday 4:15 p.m. – 5:15 p.m.

E24b Friday 1:00 p.m. – 2:00 p.m.

Speaker: Igor Sitor, Pfeifer Cable Structures

Moderator: John Kennedy,
Structural Affiliates International, Inc.

This session explores the unique complexities of the steel cable systems—an overview of cable system detailing, fabrication, and erection methods will be presented. Specific topics include fabrication techniques and erection methodology for cable systems, EOR requirements for component selection, information needed on design drawings and specifications, and the interaction with the cable system specialty structural engineer during design, shop drawing production, fabrication, and erection of the system.

ALL

1.0 PDHs

Do Standardized, Symmetric Loading Protocols Accurately Predict the Performance of BRB under Real Earthquake Motions?

E25a Thursday 3:00 p.m. – 4:00 p.m.

E25b Friday 2:15 p.m. – 3:15 p.m.

Speaker: Brandt Saxey, CoreBrace

Do standardized, symmetric loading protocols accurately predict the performance of BRB under real earthquake motions? This session will compare the results of cyclic tests of BRB, in accordance with the symmetrical requirements of the AISC prequalification protocol, to test results of BRB loaded with unsymmetric loading protocol that are more similar to what would be produced from a real earthquake. This research, in companion with recent analytical research on the ductility and strain demands on BRBs subjected to actual and simulated earthquake records, will be used together to consider the demands and resulting overstrength loads generated under loading that is more representative of real earthquake events. Areas where the AISC loading protocol may result in conservatism as well as areas of unconservatism will also be reviewed and recommendations will be given to practicing engineers that will help ensure good BRB performance under earthquake loading.

ENGINEERS & FABRICATORS

1.0 PDHs

Lateral Drift and Facade Attachment

E26a Thursday 3:00 p.m. – 4:00 p.m.

E26b Friday 1:00 p.m. – 2:00 p.m.

Speaker: James Parker,
Simpson Gumpertz & Heger

Moderator: Pedro Sifre,
Simpson Gumpertz & Heger

When a building frame is designed to drift, it must still support the facade that is attached to it. In single-story buildings, this could mean allowing the frame to drift parallel to the facade, with a lateral connection to the facade for out of plane loads. In multi-story buildings, the facade is supported on a frame that moves. How does the engineer work with the architect to ensure the two work together? What does the structural engineer need to know about the strategies for accommodating drift in the facade? How do various facade systems and their attachments affect the engineer's design of the frame and spandel details?

ENGINEERS

1.0 PDHs

Structural Design of Staircases— Don't Get Tripped Up

E27a Thursday 3:00 p.m. – 4:00 p.m.

E27b Friday 1:00 p.m. – 2:00 p.m.

Speakers: Matthew Kawczenski,
McLaren Engineering Group;
Brad Davis, University of Kentucky;
Kelly Salyards, Bucknell University

This presentation will begin with a brief overview of a case study involving a problematic stairway and how the engineer eventually resolved the issue. Key references available to the profession will then be reviewed and an in-depth analysis of the procedures available for designing stairways will follow. The presentation will conclude with suggestions for proactive and reactive strategies in always getting it right.

ENGINEERS & DETAILERS

1.0 PDHs

AISC Research: The Chevron Effect: Shear and Bending Moment Demands for Beams in Concentrically Braced Frames

E28a Thursday 10:15 a.m. – 11:45 a.m.

E28b Friday 8:00 a.m. – 9:30 a.m.

Speakers: Patrick J. Fortney, Cives;
Paul Richards, BYU

Moderator: Tom Schlafly, AISC

The beam region between braces in concentrically braced frames is subject to high shears as the various brace forces are distributed at the joint. These suggested shears can be especially high when there are unbalanced vertical forces in the braces. Drs Fortney and Richards look at these connections with traditional statics models and with finite element methods and discuss how to design connections with these stresses and the conditions in which the stresses can exceed expectations.

ENGINEERS & FABRICATORS

1.5 PDHs

Transfer Forces—What Are They and Why Should I Care?

E29a Thursday 4:15 p.m. – 5:15 p.m.

E29b Friday 1:00 p.m. – 2:00 p.m.

Speaker: Clifford Schwinger,
The Harman Group, Inc.

Moderator: Ralph Pridgen,
The Berlin Steel Steel Construction Company

Dealing with transfer forces is a grey area between member design and connection design. Connection designers are aware of issues dealing with transfer forces, but some EOR's are not. This presentation will review some unusual connections and clarify the boundary between the responsibilities of the EOR and the connection designer in order to minimize problems, disputes and change orders during construction.

ALL

1.0 PDHs

Wind Design Considerations for Joist and Joist Girders

E30a Thursday 10:15 a.m. – 11:45 a.m.

E30b Friday 8:00 a.m. – 9:30 a.m.

Speakers: Tim Holtermann and
Keith Jeudemann, Canam-Buildings

Moderator: McKay Parrish, ARW Engineers

Attendees will learn the proper design of steel joist and joist girder roof systems for resisting uplift loads, as well as requirements for bearing seat design and bearing design. The session will include practical advice on the proper analysis, design, and specification of steel joists and joist girders as part of a moment frame as well as the use of joists or joist girders as drag struts or collector elements in the lateral load distribution system when shear walls or braced frames are employed. Finally, the session will discuss the interaction and design of kickers or braces between walls subjected to wind loads.

ENGINEERS

1.5 PDHs

AISC Research: Sloped Connections and Connections with Fillet Welded Continuity Plates for Seismic Applications

E31a Thursday 1:15 p.m. – 2:15 p.m.

E31b Friday 1:00 p.m. – 2:00 p.m.

Speaker: Chia-Ming Uang, UCSD

Moderator: Leigh Arber, AISC

Four full-scale RBS connections were tested at UC San Diego to enhance performance and to permit improved economy of moment frame construction for seismic applications. Two of these tests were conducted to confirm a proposed design procedure for fillet-welded continuity plates. The other two tests were conducted to confirm best practices for design of welded connections of sloped beams to columns. Dr. Uang will discuss the tests and the lessons learned.

ENGINEERS & FABRICATORS

1.0 PDHs

Passive Fire Protection for Floor Systems in Steel-Framed Buildings: A Performance-Based Approach

E32a Thursday 1:15 p.m. – 2:15 p.m.

E32b Friday 2:15 p.m. – 3:15 p.m.

Speaker: Spencer Quiel, Lehigh University

Moderator: John Kennedy,
Structural Affiliates International, Inc.

Recent reports from a variety of federal agencies and research organizations have generated increased interest in the performance-based design of steel structures to resist unwanted fire as opposed to prescriptive methods, which are the current standard of practice in the U.S. This presentation will discuss the state-of-practice for the design of passive fire protection for steel-supported floor systems and introduce available and upcoming performance-based alternatives. The results of recent experimental tests on composite steel floor beams (which include partial restraint conditions) under fire will be presented and compared to computational modeling results. The performance of the tested subassembly will be compared to that resulting from the use of the current prescriptive design approaches.

ENGINEERS

1.0 PDHs

How the 360-16 Chapter K Changes Affect HSS Design

E33a Thursday 1:15 p.m. – 2:15 p.m.

E33b Friday 2:15 p.m. – 3:15 p.m.

Speakers: Kim Olson, FORSE Consulting;
Brad Fletcher, Atlas Tube

Moderator: Joseph Anderson,
Steel Tube Institute

Chapter K looks drastically different in the 2016 *Specification*. This session will provide an overview of the updates, work design examples, and provide resources for engineers to continue to provide efficient HSS designs.

ENGINEERS

1.0 PDHs

Transfer Structures that Work for Big and Complicated Load Paths

E34a Thursday 1:15 p.m. – 2:15 p.m.

E34b Friday 1:00 p.m. – 2:00 p.m.

Speakers: Saleem Haq and Andrew Voth,
Read Jones Christoffersen Ltd.

Moderator: Sylvie Boulanger,
Centre for Innovation in Infrastructure

With the mandate for large open spaces on the lower level of high profile buildings, steel transfer systems are not uncommon to distribute significant gravity loads. These transfer systems, however, are no longer carrying just gravity load and are not just used to open up space, but have become integrated parts of design geometry, architectural program space, aesthetic and building constructability, as well as, being subjected to primary lateral and other complicated load paths. This presentation will discuss the techniques and design considerations associated with multi-function steel transfers systems and present innovative design examples.

ENGINEERS & FABRICATORS

1.0 PDHs

Design Practicum 1: Special Moment Frame Connections

E35 Friday 8:00 a.m. – 9:30 a.m.

Speaker: Jason Ericksen,
Vagen Structural Engineering

Attendees will complete a design example using a multi-story special steel moment resisting frame so that common concerns and application of requirements can be illustrated. The example focuses on applying the requirements of the AISC *Seismic Provisions* and the prequalified connections document (AISC 350-10) for the beam-to-column connection. Welded unreinforced flange-welded web (WUF-W) and Bolted flange plate (BFP) connections are illustrated.

ENGINEERS

1.5 PDHs

Design Practicum 2: Special Concentrically Braced Frame

E36 Friday 10:15 a.m. – 11:45 a.m.

Speaker: Jason Ericksen,
Vagen Structural Engineering

Attendees will complete a design example using a multi-story Special Concentrically Braced Frame (SCBF) example so that common concerns and application of the AISC *Seismic Provisions* requirements can be illustrated. The example focuses on the analysis requirements for SCBF and determining the required strength of braces, brace connections, beams, columns, column bases and column splices.

ENGINEERS

1.5 PDHs

AESS: Categorized by Design

E37 Thursday 10:15 a.m. – 11:45 a.m.

Speaker: Jacinda Collins, AISC

Architects want architecturally exposed structural steel on projects to meet their expectations for appearance, budget, quality and structural integrity. Fabrication, erection, and acceptance criteria can be difficult to define in the project documents leading to disputes between the architect and the contractor over what was desired vs. what was bid. Building on language in the AISC *Code of Standard Practice*, participants in this program will see how they can more effectively communicate the desired appearance for exposed structural steel in a format that contractors can understand.

ALL

1.0 PDHs/LU

Composite Design: Past, Present, and Future

E38 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Susan Burmeister,
S2B Structural Consultants

Moderator: Mark Holland,
Paxton & Vierling

While design of structures using steel and concrete in a composite system has been around for some time now, engineers still regularly submit questions to AISC for clarification on a number aspects. This presentation will review portions of the composite design requirements per the AISC *Specification* that are most frequently questioned, providing insight about the intent of the AISC *Specification*. Additionally, the speaker will review some of the changes to composite design incorporated into the new 2016 version of the *Specification* as well as an overview of goals for future changes that are currently being investigated.

ENGINEERS

1.0 PDHS

Making Steel Fire Protection Easy

E39 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Socrates Ioannides,
Structural Affiliates International

Moderator: Mark Holland, Paxton & Vierling

Steel fire protection is a subject matter on which you can find a lot of information; some can be confusing as well. This presentation simplifies it with practical guidance you can use in your projects today.

ENGINEERS

1.0 PDHS

Prevention through Design

E40 Friday 8:00 a.m. – 9:30 a.m.

Speaker: Michael Toole, Bucknell University

Moderator: Tom Schlafly, AISC

This session will focus on an important emerging topic within the construction industry: Prevention through Design (PtD), also known as Design for Construction Safety. From 2000 to 2002 in Oregon, Washington, and California 22% of 226 injuries that occurred were linked partly to design and 42% of 224 fatalities in U.S. between 1990 and 2003 were linked to design. Attendees will learn what PtD is, why it is considered to be socially sustainable, and how it is both the smart thing to do in terms of cost, time and quality. The session will include tips associated with organizational culture, processes and project partners that will help you implement PtD on your projects to reduce injuries and position steel as a socially sustainable material.

ENGINEERS

1.5 PDHs

What's New with the NISD? Individual Detailer Certification and other Programs, Webinars on Pertinent Topics, BIM Certification and More

D1 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: Fred Tinker,
NISD/H&R Steel Detailing

Moderator: Joel Hicks, NISD/Techflow

Several years ago the National Institute of Steel Detailing created the Individual Detailer Certification Program (I.D.C.) in response to the steel industry's need to determine the skill level of individuals performing steel detailing services. Industry professionals are in search of talented detailers who have the knowledge and capability to produce quality shop drawings within the framework of various codes, specifications and contract documents. The I.D.C. testing program is administered by a third party is a computer based, proctored exam based on the latest standards to evaluate an individual's detailing knowledge and issue a certificate attesting to that level of knowledge. Also learn about other NISD initiatives in detailer education and certification, including our series of webinars being conducted in conjunction with SEI and other professional organizations.

FABRICATORS & DETAILERS

1.0 PDHs

Quality Procedures in Detailing Offices

D2 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: David Merrifield, NISD/SteelFab

Moderator: Christine McCullogh,
PDC Asia Pacific

This session will explore the systems, procedures and process that are used in the detailing office. Furthermore, a clear practical definition will be provided of what quality means in a structural steel project. Collaboration between the detail on other project stakeholders from design to erection will be discussed. This detailing office review will focus on how to achieve quality in the firm as well as the information they develop in BIM as well as the drawings extracted from it. Also covers the new NISD QPP Program for quality.

FABRICATORS & DETAILERS

1.0 PDHs

Laser Scanning and Workflow

D3 Friday 1:00 p.m. – 2:00 p.m.

Speaker: Will Ikerd, Ikerd Consulting, LLC

Moderator: David Merrifield, NISD/SteelFab

The presentation will provide an in-depth discussion of best practices in laser scanning and steel detailing from design to erection. The first part of the presentation will focus on a general working background on laser scanning for construction. Attendees will have a solid foundation in how to budget and specify laser scanning work. The second part of the presentation will address what steel teams need to know when using laser scanning on their projects. An overview of the key information detailers need to consider when working with laser scanning will be addressed. The final portion of the presentation will show practical examples of laser scanning being used in common projects to add value, accelerate schedule, improve quality and increase safety.

FABRICATORS & DETAILERS & ERECTORS

1.0 PDHs

Introducing the Ironworker Contractor University

R1 Wednesday 8:30 a.m. – 9:30 a.m.

Speakers: Cindy Menches, IMPACT;
Harvey Swift, Bennett Steel, Inc.

Moderator: Kenny Waugh, IMPACT

The session will describe in depth how IMPACT is training their member fabricator and erection contractors to be more successful in the day-to-day operations of all facets of their individual businesses. This session will also showcase IMPACT's partnership with FMI and the contractor courses they perform such as getting paid, financial management for contractors and the jobs for profit program just to name a few.

ERECTORS

1.0 PDHs

The "Art" of Sequencing Steel

R2 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: Craig Peterson,
Peterson Beckner Industries

Moderator: Mark Yerke, S&R Enterprises LLC

In depth look through various type of buildings/project examples of the theories and importances behind sequencing steel for successful erection of simple and complex steel construction projects. Will focus on how crane placement and access contributes to sequencing, how to recognize column lines to break sequences, sequence sizes, etc.

ALL

1.0 PDHs

Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?

R3 Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Hank Carabelli, FMI Corporation

Moderator: Kenny Waugh, IMPACT

This session will illustrate succession planning for the fabricators and erectors and future leaders and targets the major transition options available including management succession and transferring ownership to the next generation.

ALL

1.0 PDHs

Minimizing Hazards by Design

R4 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Wayne Creasap,
The Association of Union Contractors

Moderator: Ted Sheppard,
The DuRoss Group, Inc.

This session will focus on preventive considerations for engineers, fabricators, erectors and detailers to reduce or control workplace hazards through the utilization of pre-planning and design as a function of safety and health. Discussion will focus on common industry hazards and leading industry practices to reduce or eliminate occupational hazards from the shop through to the completed project.

FABRICATORS & ERECTORS

1.0 PDHs

Erectors and Anchor Rods

R5 Friday 2:15 p.m. – 3:15 p.m.

Speaker: Mark Yerke,
S&R Enterprises LLC

Moderator: Mark Yerke,
S&R Enterprises LLC

As an extremely important field topic for all erectors success on steel construction projects, this session will include COSP review on anchor rods, what the general contractor's intended role is related to anchor rods, as well as what erectors are required and/or should do when it comes to surveying anchor rods on a project. In addition, this session will touch on survey practices and also how to deal with the inevitable issues you will incur when you arrive on site and there are problems. This is a must attend for erectors fabricators and GC's alike!

FABRICATORS & ERECTORS

1.0 PDHs

Developing Erection Schedules for Projects

R6 Thursday 3:00 p.m. – 4:00 p.m.

Speaker: Marc Cox,
American Steel and Precast

Moderator: Chip Pocock,
Buckner Steel Erection

An informational session covering how erectors develop a schedule. How they determine manpower needs, ramp up/down and maintaining progress on milestone dates from the contractor, as well as establishing internal milestones. Who at the erector manages and maintains schedule? Understanding the erector's thought process for how a schedule is developed for economy and efficiency, while meeting contract requirements.

FABRICATORS & ERECTORS

1.0 PDHs

Complex Erection Bracing

R7 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Tom Getschman,
CSD Structural Engineers

Moderator: Alan Henry, Buckner Steel Erection

Unique steel structures sometimes require complex steel erection bracing. This session will provide erectors and contractors an overview of innovative new methods being used on signature projects across the country. Contractors can gain insight in the additional methods necessary for complex steel erection.

ERECTORS

1.0 PDHs

Bet the Company Contract Clauses and How to Avoid Them

L1 Thursday 8:00 a.m. – 9:30 a.m.

Speakers: Joe Hardesty and
Angela Stephens, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel, Inc.

Once you have signed a contract with a “bet the company clause,” any dispute you enter becomes a salvage operation, and even the best and most creative construction lawyer may not be able to undo what you have signed. This session will provide an overview of those bet the company clauses and what you can do to eliminate or mitigate them. Also learn some creative ways to get paid!

ALL

1.5 PDHs

We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute

L2 Thursday 10:15 a.m. – 11:45 a.m.

Speakers: David Ratterman, Joe Hardesty
and Angela Stephens, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel, Inc.

Have you ever had a project where the design changed or was late? Did the late design or design change push your fabrication schedule into a period in which you already had other work scheduled? Did you know that you may be entitled to compensation for such changes? Or have you ever been accused of delaying project? Do you know how to defend yourself against such claims? Get answers to these and many other questions to help prevent these issues from turning into costly legal disputes.

ALL

1.5 PDHs

The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation

L3 Thursday 1:15 p.m. – 2:15 p.m.

Speakers: Angela Stephens and
David Ratterman, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel, Inc.

Disputes often occur because the parties did not take the time to ensure their front end documents, such as bid documents, plans, specifications, and contracts were balanced or reflected the true intent of the parties. This session will cover the importance of evaluating your front end documents and how to best manage such evaluation in today's fast-track construction environment.

ALL

1.0 PDHs

Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs

L4 Thursday 3:00 p.m. – 4:00 p.m.

Speakers: Angela Stephens and
Joe Hardesty, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel, Inc.

What would happen if your erector's lack of job site supervision resulted in a significant job-site accident? What would happen if your 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? This session will look at some of the “what if” “worst case” scenarios and key contract clauses you need to have in your subcontracts to make sure you are protected in case the “worst case” happens. This will be a session your company cannot afford to miss.

ALL

1.0 PDHs

Keeping OSHA Out of Your Bank Account

L5 Thursday 4:15 p.m. – 5:15 p.m.

Speakers: Kelly Gilliam and Angela
Stephens, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel, Inc.

This is not a safety seminar. Rather, this seminar will cover what you need to know when OSHA first shows up so that you can try to prevent OSHA from reaching your company's bank account. You probably know penalties are increasing. You probably know OSHA is becoming more aggressive with issuing citations. However, this session will discuss what you need to know to prepare your company for OSHA's visit to eliminate or mitigate OSHA citations and penalties, and defenses you can raise after you receive the citation. This session will include new developments including recent penalty increases, additional reporting requirements, changes to anti-retaliation provision, changes affecting employee drug testing policies and weld fume enforcement actions.

ALL

1.0 PDHs

How Your Contracts Stack Up Against Other Structural Engineering Firms'

L6 Wednesday 4:30 p.m. – 6:00 p.m.

Speaker: Steve Schaefer, Schaefer;
Joe Hardesty, Stites and Harbison

Moderator: Troy Dye, ARW Engineers

How do you react to onerous contracts? Compare your responses to other firms—we asked and they answered in the Council of American Structural Engineers' Structural Engineering Firms' Contracts Practices Survey. Hear true stories and tactics firms use to stay out of hot water and deal with client-supplied contracts that have one-sided indemnification clauses not covered by your insurance.

ENGINEERS

1.5 PDHs

What Estimators/Sales Managers Need to Know about Project Management

P1 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: Josh Cilley, Buckner Steel Erection/
American Steel & Precast

Moderator: Alan Henry, Buckner Steel Erection

A presentation on issues and costs that are often unknown or overlooked by the estimating/sales team. These may be anything from equipment required to complete the job to unforeseen costs in housing labor for the duration of the project. Every project is unique with it's own set of challenges, this session will cover the most common issues encountered.

FABRICATORS & ERECTORS

1.0 PDHs

Improving Project Management Effectiveness

P2 Wednesday 9:45 a.m. – 11:15 a.m.

Speaker: Mark Holland, Paxton & Vierling Steel Co.

Moderator: Glenn Tabolt, STS Steel, Inc.

Learn from an experienced project manager how to improve your effectiveness managing projects in today's complex environment. Learn to be proactive in record keeping and documentation. Learn how to better manage design documents, RFI's, ROC's, EWO's, detail and erection drawings. Learn how to keep projects on schedule and within budget.

FABRICATORS & ERECTORS

1.5 PDHs

How to Integrate Multiple Certifications in the Structural Steel Industry?

Q1 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: Larry Martof, AISC

Many companies are being driven to or increasing their market diversity by obtaining multiple certifications. These certifications can include AISC Fabricator and Erector programs, ISO 9001, ISO 14001, ISO 18001, ASME, API, and NQA-1. Maintaining a management system that conforms to multiple certifications can be a daunting task. This session will explore a best practice approach migrating from a one certification quality management system to a multiple certification management system and how to maintain the system through changes in any of the certifications held.

ENGINEERS & FABRICATORS

1.0 PDHs

AISC Certification: New Building Fabricator and Hydraulic Steel Structures Requirements

Q2 Wednesday 9:45 a.m. – 11:15 a.m.

Speaker: Lisa Patel, AISC

AISC Certification will introduced new Program Requirements for the existing Certified Building Fabricator, plus we are introducing the new Hydraulic Steel Structures Program. This session will explain why "requirements" are the NEW, governing program document, and what they mean for our existing participants and new applicants.

FABRICATORS

1.5 PDHs

How can Certified Fabricators get Building Code Officials to Waive 3rd Party Inspections?

Q3 Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Todd Alwood, AISC

Only Authorities Having Jurisdiction (i.e. local or state building code officials) have the authority to "waive" 3rd party inspections, but what does this mean? What if your facility is certified, and the jurisdiction does not approve you. This session will provide resources for a fabricator if a local or state building code official questions or is unaware of the AISC Certification Programs.

FABRICATORS

1.0 PDHs

How Do I Encourage Quality as Management?

Q4 Wednesday 4:30 p.m. – 6:00 p.m.

Speakers: Chris Crosby, Industrial Steel Construction, Inc.; Mark Bohling, Bohling Steel, Inc.

Moderator: Todd Alwood, AISC

It is often said that quality begins from the top down, and this session is going to help explain why? Plus, the speakers will discuss how they drive quality at their fabrication facilities and motivate buy-in to their quality management system.

ENGINEERS & FABRICATORS

1.5 PDHs

What Have We Learned from the Erector Conversion Audits?

Q5 Thursday 8:00 a.m. – 9:30 a.m.

Speakers: Dennis Haught and Steve Russell, Quality Management Company

Moderator: Larry Martof, AISC

Over half of the AISC Erector Conversion Audits have been completed to the new Program Requirements and Standard. What have we learned through the process? How can this information assist our existing participants and applicants? What tips or advice do we have to share? This session will discuss these questions as well involve the audience in Q&A.

ERECTORS

1.5 PDHs

An Erector's Point of View about Preparing for the Program Conversion and Element 13 (Chapter N)

Q6 Thursday 10:15 a.m. – 11:45 a.m.

Speaker: Vince Bosworth, Bosworth Steel Erectors, Inc.

Moderator: Mark Yerke, S&R Enterprises LLC

All certified erectors are converting to the new Erector Requirements, so the panelists are going to give attendees insight on how they are preparing and meeting those provisions. Plus, they will be discussing Element 13: Inspection and Testing and how they adapted to the revised criteria. The session is going to be half presentations with the remainder Q&A with the attendees. Come ready with your questions!

ERECTORS

1.5 PDHs

Quality and Safety Management: A Practical Approach for Erectors

Q7 Thursday 1:15 p.m. – 2:15 p.m.

Speakers: Harvey Swift, Bennett Steel Inc.; Timothy Duke, AMEC Foster Wheeler

Moderator: Todd Alwood, AISC

This session will cover how to be successfully implementing your quality and safety management systems in the field. Attendees will learn how two erectors successfully translated these procedures into action.

ERECTORS

1.0 PDHs

What Did We Do as an Erector Applicant?

Q8 Thursday 3:00 p.m. – 4:00 p.m.

Speakers: Miguel Pico, Big Boy's Steel; Patricia Thomashefsky, Quality Management Company

Moderator: Loren Thomas, AISC

People often ask how to prepare when applying for certification, and Big Boy's Steel Erection, Inc. just went through the process and wanted to share their experiences. Did it change their processes? Did it impact their day-to-day operations? Did the process benefit their bottom-line? Plus, a QMC Staff-Auditor is going to speak about common pitfalls during the documentation and onsite auditing process for certification applicants.

ERECTORS

1.0 PDHs

Audit Findings Aren't Just Non-Conformances

Q9 Friday 8:00 a.m. – 9:30 a.m.

Speaker: Larry Martof, AISC

We tend to focus on the audit findings of Non-Conformance and miss the other audit findings of Identified Strengths and Opportunities for Improvement, which can be gems of best practices for your quality and safety management systems. These often provide insights into advanced quality tools found in Lean Six Sigma and Risk Management. Advanced tools can allow your quality and safety management systems drive efficiencies, cost reductions, reduced risks and increased profits.

ENGINEERS & FABRICATORS

1.5 PDHs

Causes (and Solutions) for Corrective Action Requests

Q10 Friday 10:15 a.m. – 11:45 a.m.

Speaker: Todd Alwood, AISC

Many organizations are frustrated with responses they get to corrective action requests, whether based on customer complaints, audit findings, or other product/process failures. There are many reasons why the responses are often inadequate, but they can be addressed by clear, logical solutions if one actually identifies the causes.

ENGINEERS & FABRICATORS

1.5 PDHs

Fabricator Roundtable

N1 Thursday 10:15 a.m. – 11:45 a.m.

Moderator: Tabitha Stine, AISC

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

1.5 PDHs

Industry Roundtable

N2 Friday 10:15 a.m. – 11:45 a.m.

Moderator: Tabitha Stine, AISC

A unique opportunity for fabricators, erectors, detailers, service centers and producers—those typically included in the fabricator's contract—to talk openly with each other in a non-competitive setting. Expanding on the hugely popular fabricator roundtable, this workshop enables fabricators, erectors, detailers, service centers and producers from across the country to sit down in small groups and discuss the issues they meet when working together as the face of the structural steel industry. Each group will be moderated and discussions will range from contractual issues to improving communication and working with BIM. Take advantage of this opportunity to learn and explore ideas with your peers, customers and vendors.

FABRICATORS & DETAILERS & ERECTORS

1.5 PDHs

Understanding What Lean Really Means

SO1 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Chris Heger, OAC Services

Moderator: Luke Faulker, AISC

Many think they're carrying out Lean practices, but the reality is they're not. This session will compare and contrast myths vs reality of Lean and dispel some of the misconceptions about what Lean actually is.

FABRICATORS

1.0 PDHs

How Technology Affects the Steel Fabricator's Business Practice

SO3 Friday 2:15 p.m. – 3:15 p.m.

Speaker: Jeff Dave, Dave Steel

Moderator: Luke Faulkner, AISC

As the use of modeling has become the norm, significant changes and impacts have been felt on many business models, particularly the structural steel fabricator. Learn how the use of models and technology has shifted traditional roles and business practices and what the fabricator can do to prepare for this.

ENGINEERS & FABRICATORS & DETAILERS

1.0 PDHs

What's the New Shade of Green?

G1a Thursday 4:15 p.m. – 5:15 p.m.

G1b Friday 2:15 p.m. – 3:15 p.m.

Speaker: John Cross, AISC

The evolution of sustainability concerns, research and standards continues at a rapid pace. New requirements, the growing use of whole building life cycle assessments, a greater level of environmental transparency, discussion of health related impacts and consideration of resilience are now part of the green landscape. This session will examine those changes, where structural steel fits in the green world, documentation requirements and the environmental claims of competing materials.

ALL

1.0 PDHs/LU/HSW

Rise Up— Atlanta Falcons Stadium Roof

T1a Wednesday 8:30 a.m. – 9:30 a.m.

T1b Wednesday 3:15 p.m. – 4:15 p.m.

Speaker: Erleen Hatfield, BurroHappold

The new Atlanta Falcons stadium will seat 75,000 fans and feature a never been done before retractable roof, that opens like a camera aperture. It features eight lightweight moving “petals” instead of two large pieces. This session will talk about the technology utilized to create the unusual structural design, the moving mechanization systems and the erection of this new icon for Atlanta.

ALL

1.0 PDHs

Understanding and Working with BIMXP's

T2 Wednesday 8:30 a.m. – 9:30 a.m.

Speaker: David Merrifield, NISD/SteelFab

Moderator: Joel Hicks, NISD/Techflow

Almost all projects now have some level of BIM requirement. We are learning to adapt to the changes. What are the hidden pitfalls? How do we work with contractors, and what is the role of the fabricator and detailer? Is it just something to be passed on to the detailer? Hear and participate in the discussion. Also, the NISD and SEI, working in conjunction with BIMxD, have developed a free CD-BIM online training course which has certification in BIM execution and participation available. Hear and see this exciting new program.

FABRICATORS & DETAILERS

1.0 PDHs

3D Model Review and Approval Really Works!

T3 Wednesday 9:45 a.m. – 11:15 a.m.

Speakers: Andrew Gayer, HOK;
Chris Harms, H&R Steel Detailing;
Jim Schueler, Ben Hur Steelworx;
James Schwartz, Design Data

Learn how the Washington University Medical Center Campus Renewal Phase 1 project in St. Louis, MO successfully implemented 3D model review and approval for all structural steel submittals. The moderated panel will discuss how the idea was conceived and implemented for the project. Come and learn how the team dealt with such issues as stakeholder involvement, software options, specification creation, process development, and lessons learned for next time.

ALL

1.5 PDHs

“To the Cloud or Not” Project Document Management in 2017

T4 Thursday 1:15 p.m. – 2:15 p.m.

Speaker: Josh Collins, S&R Enterprises LLC

Moderator: Mark Yerke, S&R Enterprises LLC

More and more the documentation requirements of steel construction projects increase in volume and speed. This session will look at some various ways to handle this major part in the successful management of construction projects including document storage on the cloud, FTP sites, PM software programs such as Procore and Plangrid, and also good old hard copy storage and filing (as we know it is still done by many in the industry).

ALL

1.0 PDHs

SteelXML Demo

T5 Thursday 3:00 p.m. – 4:00 p.m.

Speakers: Will Stoner, Infra Metals;
Adrian Matlack, FabSuite;
Roger McCarter, Romac, Inc.

Moderator: Luke Faulkner, AISC

Learn how steelXML can save time and money in the procurement process, and see a demonstration of it in action by companies that have actually implemented it.

FABRICATORS

1.0 PDHs

Least Weight Does Not Equal Least Cost

T6 Thursday 4:15 p.m. – 5:15 p.m.

Speakers: Forest Flager, Stanford University; Chris Moor, SteelCentral; Michael Gustafson, Autodesk

Moderator: Luke Faulkner, AISC

Less weight does not always result in a lower cost steel frame, but designers have previously lacked the necessary tools to accurately assess costs early in steel design. This session will explore a joint effort with Stanford University, Autodesk and SteelCentral which will demonstrate how new optimization tools and early involvement are helping shape a more accurate picture of costs earlier on, resulting in a more cost effective steel framed building.

ENGINEERS & FABRICATORS

1.0 PDHs

Levels of Development (LOD)—What it Means for Steel Construction

T7 Thursday 4:15 p.m. – 5:15 p.m.

Speaker: Will Ikerd, Ikerd Consulting, LLC

Moderator: David Merrifield, NISD

Attendees will explore the available resources on Levels of Development as well as learning about the current trends. Included will be an in-depth review of the new BIM Forum LOD *Specification* with an emphasis on the steel provisions.

ENGINEERS & FABRICATORS & DETAILERS

1.0 PDHs

SHORT COURSE

Fundamentals of Stability for Steel Design

SC1 Tuesday 2:30 p.m. – 6:30 p.m.

Speaker: Ronald D. Ziemian,
Bucknell University

\$225 members* | \$350 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 57.

Fundamentals of Stability for Steel Design

The high-strength and stiffness-to-weight ratios of structural steels make them ideal design materials. Throw a consideration for economy into the mix, and the result often includes relatively slender members and systems in which structural stability is of primary concern. In fact, a quick review of any steel specification will convince you of the need to know at least the fundamentals. With all of this in mind, this basic course will provide an overview of the behavior compression, flexural and beam-column members as well as an introduction to system stability. Several strength limit states will be covered, including elastic and inelastic flexural, lateral torsional and flexural-torsional buckling as well as full cross-section yielding. With an eye toward design, the difference between a bifurcation and an instability resulting from a loss in stiffness due to second-order effects and material yielding, as the maximum resistance of physical structures is approached, will be emphasized. A full range of topics, including the direct analysis and effective length method will be reviewed.

ENGINEERS

4.0 PDHs

The Steel Conference
SESSIONS | EDUCATOR TRACK

AISC University Programs—
What More Can We Do for
Faculty and Students

J1 Wednesday 8:00 a.m. – 9:30 a.m.

For AISC educator members ONLY.

Join AISC's Partners in Education Committee for a breakfast roundtable to discuss future possibilities for AISC programs for universities.

Discussion topics include NASCC: The Steel Conference Sessions, educator workshops, teaching aids, educator forums, and other topics as proposed by attendees.

EDUCATORS

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.

See **PART 7** of the registration form on page 57.

Students Connecting with Industry
SESSIONS (SCIS) | STUDENT TRACK

Morning Meetup

J2 Thursday 9:00 a.m. – 10:00 a.m.

Join us for coffee and pastries, and meet some of your fellow students!

STUDENTS

Morning Session and Lunch

J3 Thursday 10:00 a.m. – 12:45 p.m.

Speakers: Jon Magnusson, Magnusson Klemencic Associates; Carrie Warner, Halvorson and Partners

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 Morning Session will receive a complimentary lunch.

STUDENTS

Direct Connect

J4 Thursday 1:00 p.m. – 2:30 p.m.

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.

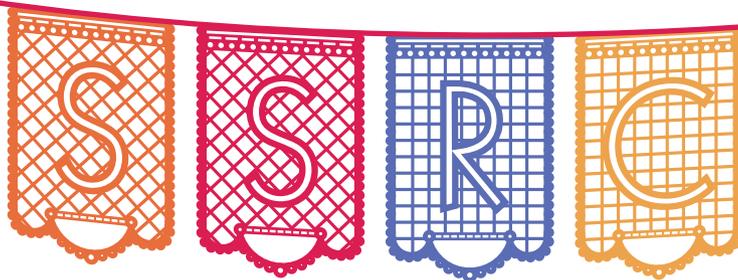
STUDENTS

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.

See **PART 7** of the registration form on page 57.

SSRC ANNUAL MEETING



Tuesday, March 21, 2017
1:30 p.m. – 8:00 p.m.

Welcome

SS1 Tuesday 1:30 p.m. – 1:40 p.m.
Larry A. Fahnestock, University of Illinois, Urbana, IL

Technical Presentations: Stability of Thin-walled Components and Assemblages

SS1a Tuesday 1:40 p.m. – 3:00 p.m.

Moderator: Benjamin W. Schafer,
Johns Hopkins University,
Baltimore, MD

Technical Presentations: Special Topics in Structural Stability

SS1b Tuesday 1:40 p.m. – 3:00 p.m.

Moderator: Daniel G. Linzell,
University of Nebraska,
Lincoln, NE

A Study on Cold-Formed Steel Roof Trusses

Adam M. Johnson and Cheng Yu, University of North Texas, Denton, TX; Brooks Smith, NBM Technologies, Blacksburg, VA; Christopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA

Characterization of Cold-Formed Steel Member Dimensions and Geometric Imperfections Based on 3D Laser Scanning

Xi Zhao and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Numerical Study on the Behavior and Design of Screw Connected Built-up CFS Chord Studs

Smail Kechidi and Nouredine Bourahla, University of Blida 1, Blida, Algeria; David C. Fratamico and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; José Miguel Castro, University of Porto, Porto, Portugal

Simulation of Conventional Cold-Formed Steel Sections Formed from Advanced High Strength Steel (AHSS)

Hamid Foroughi and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

ENGINEERS

1.5 PDHs

Rigging and Bracing Stability: Considerations For Moving, Lifting and Placing a Non-Building Structural Module

Perry S. Green, Bechtel Power Corporation, Waynesboro, GA; Andrew Sarawit and Michael Mudlock, Simpson Gumpertz & Heger, Inc., Houston, TX; Francis Byrne, Chicago Bridge & Iron Company, Waynesboro, GA

Effects of Soil Support on the Stability of Buried Corrugated Metal Pipe

P. Graham Cranston, Simpson Gumpertz & Heger, Inc., Boston, MA; Matthew C. Richie, Simpson Gumpertz & Heger, Inc., Houston, TX; Luiz C. M. Vieira, Jr., University of Campinas, São Paulo, Brazil

End Plate Stability in Thermally-Improved Steel Cladding Details

Kara D. Peterman, University of Massachusetts, Amherst, MA; Mark D. Webster, Simpson Gumpertz & Heger, Inc., Waltham, MA; James D'Aloisio, Klepper Hahn and Hyatt, East Syracuse, NY; Jerome F. Hajjar, Northeastern University, Boston, MA

A New Study on Direct Method Based Design of Structural Systems with the High Strength Steel Grades

Ieva Misiunaite and Algirdas Juozapaiti, Vilnius Gediminas Technical University, Vilnius, Lithuania

ENGINEERS

1.5 PDHs

Break 3:00 p.m. – 3:15 p.m.

Technical Presentations: Stability of Thin-walled Columns

SS2a Tuesday 3:15 p.m. – 4:35 p.m.

Moderator: Cristopher D. Moen,
Virginia Polytechnic Institute and
State University, Blacksburg, VA

Technical Presentations: Stability at Elevated Temperatures

SS2b Tuesday 3:15 p.m. – 4:35 p.m.

Moderator: Donald W. White,
Georgia Institute of Technology,
Atlanta, GA

Flexural-Torsional Buckling of General Cold-Formed Steel Columns with Unequal Unbraced Lengths

Robert S. Glauz, RSG Software, Inc., Lee's Summit, MO

On the Distortional-Global Interaction of Cold-Formed Steel Columns: Relevance, Post-Buckling Behavior, Strength and DSM Design

André Dias Martins, Dinar Camotim and Pedro B. Dinis, University of Lisbon, Lisbon, Portugal

Buckling and Collapse Behavior of Screw-Fastened, Back-to-Back Built-Up Cold-Formed Steel Columns of Varying Cross-Section Size: Experimental Investigation

David C. Fratamico and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Kim J.R. Rasmussen, University of Sydney, Sydney, NSW, Australia

Spherically-Hinged Short-to-Intermediate Angle Columns: Stability, Non-Linear Behavior and DSM Design

Pedro B. Dinis and Dinar Camotim, University of Lisbon, Lisbon, Portugal

ENGINEERS

1.5 PDHs

Stability Analysis of Steel Columns under Cascading-Hazard of Earthquake and Fire

Mehrdad Memari and Hussam Mahmoud, Colorado State University, Fort Collins, CO

Effect of Support Conditions on the Creep Buckling of Steel Columns in Fire

Mohammed A. Morovat, Michael D. Engelhardt and Todd A. Helwig, University of Texas at Austin, Austin, TX

Analysis and Design of Composite Columns Subjected to Standard Fire Loading

Zhichao Lai and Amit H. Varma, Purdue University, West Lafayette, IN; Anil Agarwal, Indian Institute of Technology Hyderabad, Telangana, India

DSM Design of Cold-Formed Steel Columns Failing in Distortional Modes at Elevated Temperature

Alexandre Landesmann and Fernanda Cristina Moreira da Silva, Federal University of Rio de Janeiro, Brazil; Dinar Camotim, University of Lisbon, Lisbon, Portugal

ENGINEERS

1.5 PDHs

Overview of Task Group Objectives

Tuesday 4:35 p.m. – 4:45 p.m.

Moderator: Cristopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA

Break 4:45 p.m. – 5:00 p.m.

Task Group Meetings *parallel breakout sessions for task groups*

SS3 Tuesday 5:00 p.m. – 5:40 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: Luiz C. M. Vieira, Jr., University of Campinas, São Paulo, Brazil

Break 5:40 p.m. – 5:45 p.m.

Task Group Meetings *parallel breakout sessions for task groups*

SS4 Tuesday 5:45 p.m. – 6:25 p.m.

TG04 Stability of Metal Bridges and Bridge Components

Chair: Daniel G. Linzell, University of Nebraska, Lincoln, NE

TG05 Thin-Walled Structures

Chair: Kara D. Peterman, University of Massachusetts, Amherst, MA

TG06 Extreme Loads: Stability under Extreme Loads

Chair: Mina Seif, National Institute of Standards and Technology, Gaithersburg, MD

SSRC Annual Business Meeting

SS5 Tuesday 6:30 p.m. – 6:50 p.m.

SSRC Business Meeting
Presentation of the 2017 Vinnakota Award

SSRC Social Hour

SS6 Tuesday 6:50 p.m. – 8:00 p.m.

Stability of Steel Bridges

S1 Wednesday 8:30 a.m. – 9:30 a.m.

Moderator: Larry A. Fahnestock,
University of Illinois, Urbana, IL

Seismic Stability of Members and Systems

S2 Wednesday 9:45 a.m. – 11:15 a.m.

Moderator: Ronald D. Ziemian,
Bucknell University, Lewisburg, PA

Advances in Stability Bracing

S3 Wednesday 3:15 p.m. – 4:15 p.m.

Moderator: Perry S. Green, Bechtel
Power Corporation, Waynesboro, GA

Stability of Beam-Columns

S4 Wednesday 4:30 p.m. – 6:00 p.m.

Moderator: Luiz C. M. Vieira, Jr.,
University of Campinas,
São Paulo, Brazil

Welcome to the 2017 SSRC Annual Stability Conference

Todd A. Helwig, University of Texas at Austin, Austin, TX

Stability of Non-Longitudinally Stiffened Built-Up Steel Box Section Members with Applications to Bridge Construction

Ajinkya M. Lokhande and Donald W. White, Georgia Institute of Technology, Atlanta, GA

Nonlinear Behavior of Global Lateral Buckling of I-Girder Systems

Liwei Han and Todd A. Helwig, University of Texas at Austin, Austin, TX

Global Lateral—Torsional Buckling of I-Girder Systems in Cantilever

Andres F. Robalino, ADSTREN, Quito, Ecuador; Telmo Andres Sanchez, Universidad San Francisco de Quito, Quito, Ecuador

ENGINEERS

1.0 PDHs

Stability Requirements of Deep Steel Wide-Flange Beam-Columns under Cyclic Loading

Ahmed Elkady and Dimitrios G. Lignos, Swiss Federal Institute of Technology, Lausanne (EPFL), Switzerland

Seismic Stability of Multi-Tiered Ordinary Concentrically-Braced Frames

Aradhana Agarwal and Larry A. Fahnestock, University of Illinois, Urbana, IL

Using Longitudinal Stiffeners to Mitigate Buckling of Noncompact and Slender Beam Webs in Ductile Moment Frame Connections

Matthew R. Eatherton, Yujia Chen and Thomas M. Murray, Virginia Polytechnic Institute and State University, Blacksburg, VA; Karim Laknejadi, Iran University of Science and Technology, Tehran, Iran

Seismic Behavior of Corrugated Steel Plate Shear Walls

Qihong Zhao, Junhao Sun, and Yanan Li, Tianjin University, Tianjin, China

ENGINEERS

1.5 PDHs

Stability Bracing of Straight and Curved I-Girder Bridges using Partial-Depth Precast Concrete Deck Panels

Colter E. Roskos, John R. Kintz, Paul Biju-Duval, Todd A. Helwig, Michael D. Engelhardt, Patricia Clayton, Eric Williamson and Ozzie Bayrak, University of Texas at Austin, Austin, TX

Experimental Study of Steel Tub Girders with Partial Top Lateral Bracing

Stalin V. Armijos, Yang Wang, Todd A. Helwig, Michael D. Engelhardt, Eric Williamson and Patricia Clayton, University of Texas at Austin, Austin, TX

Impact of Clip Connection and Insulation Thickness on Bracing of Purlins in Standing Seam Roof Systems

Michael W. Seek and Daniel McLaughlin, Old Dominion University, Norfolk, VA

ENGINEERS

1.0 PDHs

Direct Strength Method for Cold-Formed Steel Beam-Columns: Experimental Program, Numerical Analyses, Design Code Development, and Design Tools

Shahabeddin Torabian and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Comprehensive Stability Design of Steel Members and Systems via Inelastic Buckling Analysis—Beam-Column Validation Studies

Oguzhan Togay and Donald W. White, Georgia Institute of Technology, Atlanta, GA

Stability and Resistance of Hollow Section Steel Beam-Columns

Marielle Hayeck, Elsy Saloumi and Joanna Nseir, University of Applied Sciences of Western Switzerland – Fribourg, Switzerland; Nicolas Boissonnade, Laval University, Québec, Canada

Major and Minor Axis Stiffness Reduction of Steel Beam-Columns Under Axial Compression and Tension Conditions

Barry T. Rosson, Florida Atlantic University, Boca Raton, FL

ENGINEERS

1.5 PDHs

Stability of Flexural Members

S5 Thursday 8:00 a.m. – 9:30 a.m.

Moderator: Craig E. Quadrato,
Wiss, Janney, Elstner
Associates, Inc., Austin, TX

Stability of Assemblages and Systems

S6 Thursday 10:15 a.m. – 11:45 a.m.

Moderator: Michael W. Seek,
Old Dominion University,
Norfolk, VA

Stability of Columns

S7 Thursday 1:15 p.m. – 2:15 p.m.

Moderator: Dinar Camotim,
University of Lisbon,
Lisbon, Portugal

Stability of Wall Systems

S8 Thursday 3:00 p.m. – 4:00 p.m.

Moderator: Kara D. Peterman,
University of Massachusetts,
Amherst, MA

Strong-Axis Flexural Buckling Resistance of Cellular Members

Delphine Sonck and Jan Belis, Ghent University, Ghent, Belgium

Experimental and Numerical Characterization of HSS Rotational Capacity

Elsy Saloumi, Marielle Hayeck and Joanna Nseir, University of Applied Sciences of Western Switzerland – Fribourg, Switzerland; Nicolas Boissonnade, Laval University, Québec, Canada

Stability and Moment-Rotation Behavior of Cold-Formed Steel Purlins with Sleeved Bolted Connection

Fernando H. Gilio and Maxiliano Malite, University of São Paulo, São Paulo, Brazil; Luiz C. M. Vieira, Jr., University of Campinas, São Paulo, Brazil

Lateral-Torsional Buckling of Simply Supported Anisotropic Steel-FRP Beams Under Pure Bending Condition

Hayder A. Rasheed, Habiburrahman Ahmadi and AlaaEldin Abouelleil, Kansas State University, Manhattan, KS

ENGINEERS

1.5 PDHs

Loss-of-Stability vs Yielding-Type Collapse Mode in 3D Steel Structures under a Column Removal Scenario: an Analytical Method of Assessing the Collapse Mode

Panos Pantidis and Simos Gerasimidis, University of Massachusetts, Amherst, MA

Robustness Evaluation of Composite Steel Gravity Frame Systems under Corner Column Loss

Safa S. Masajedian and Robert G. Driver, University of Alberta, Edmonton, AB, Canada

Stability and Strength Behavior of Thin-Walled Roof-Panel-Purlin System under Wind Loading

Yared Shifferaw and Kermelos Woldeyes, Drexel University, Philadelphia, PA; Girma Bitsuamlak, University of Western Ontario, London, ON, Canada

Analysis of Behaviour of Column-Base Cold-Formed Over-Roofing Solutions for Retrofitting Existing Buildings

Andra D. Floricel and Viorel Ungureanu, Politehnica University Timisoara, Timisoara, Romania

ENGINEERS

1.5 PDHs

Design Methods for Columns with Intermediate Elastic Torsional Restraint

Hannah B. Blum and Kim J.R. Rasmussen, University of Sydney, Sydney, NSW, Australia

The Effects of Accurate Boundary Condition Modeling on Column Stability

Cliff D. Bishop and Patxi Uriz, Exponent Inc., Menlo Park, CA

Stability of Slender Section HSS Columns

Lucile Gérard and Nicolas Boissonnade, Laval University, Québec, Canada; Shadi Alawad, INSA Rennes, Rennes, France; Marielle Hayeck, University of Applied Sciences of Western Switzerland – Fribourg, Switzerland

ENGINEERS

1.0 PDHs

Finite Element Analysis on Cold-Formed Steel Shear Walls Using Corrugated Sheet Sheathing

Wenyong Zhang, Tongji University, Shanghai, China; Mahsa Mahdavian and Cheng Yu, University of North Texas, Denton, TX

SC Wall Compression Behavior: Interaction of Design and Construction Parameters

Saahastaranshu R. Bhardwaj and Amit H. Varma, Purdue University, West Lafayette, IN

Experimental Studies on Corrugated Steel Plate Shear Walls

QiuHong Zhao, Jing Qiu, and Nan Li, Tianjin University, Tianjin, China

ENGINEERS

1.0 PDHs

Stability of Shells

S9 Thursday 4:15 p.m. – 5:15 p.m.

Moderator: Cliff D. Bishop,
Exponent Inc., Menlo Park, CA

Generalized Beam Theory to Analyze the Buckling Behavior of Circular Cylindrical Shell with Variable Thickness

Cilmar Basaglia, University of Campinas, São Paulo, Brazil; Dinar Camotim and Nuno Silvestre, University of Lisbon, Lisbon, Portugal

On the Investigation of the Most Critical Shape Imperfections for Wind Turbine Tower Shell Structures

Kshitij Kumar Yadav and Simos Gerasimidis, University of Massachusetts, Amherst, MA; Jens Lycke Wind, Vestas Wind Systems A/S, Aarhus, Denmark

Design and Applications for SCS Composite Shells with Enhanced Bond

Peter W. Marshall, MHP Systems Engineering, Houston, TX

ENGINEERS

1.0 PDHs

Stability of Plates

S10 Friday 8:00 a.m. – 9:30 a.m.

Moderator: Matthew R. Eatherton,
Virginia Polytechnic Institute and
State University, Blacksburg, VA

Web Crippling Strength of Longitudinally Stiffened Steel Plate Girder Webs Subjected to Concentrated Loading

Nelson Loaiza and Carlos Graciano, Universidad Nacional de Colombia, Medellín, Colombia; Rolando Chacón, Universitat Politècnica de Catalunya, Barcelona, Spain

A New Design Method for Longitudinally Stiffened Plates

Charles M. King, COWI North America, North Vancouver, BC, Canada

Fundamental Post-Buckling Mechanics of Thin Steel Plates in Pure Shear

Spencer Quiel, Lehigh University, Bethlehem PA; Maria E. Moreyra Garlock, Princeton University, Princeton, NJ; José Alós Moya, Universitat Politècnica de València, Valencia, Spain; Jonathan Glassman, Exponent Failure Associates, Los Angeles, CA

Buckling of Butterfly-Shaped Shear Links

Alireza Farzampour and Matthew R. Eatherton, Virginia Polytechnic Institute and State University, Blacksburg, VA

ENGINEERS

1.5 PDHs

Presentation Session for Beedle and McGuire Awards

S11 Friday 10:15 a.m. – 11:45 a.m.

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

Beedle Award Presentation: The History of the Development of the Single Angle Design Provisions in the AISC Specification

Leroy Lutz, Computerized Structural Design, Milwaukee, WI

MAJR Medal Presentation

ENGINEERS

1.5 PDHs

See page 43 for more information on both awards.

Advances in Stability Analysis

S12 Friday 1:00 p.m. – 2:00 p.m.

Moderator: Donald Sherman,
University of Wisconsin,
Milwaukee, WI

CUFSM Elastic Buckling Analysis Software Module for Quantifying Hole Effects in Thin-Walled Structural Members

Junle Cai and Cristopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA; Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

Non-Uniform Modal Decomposition of Thin-Walled Members by the Constrained Finite Element Method

Sándor Ádány, Budapest University of Technology and Economics, Budapest, Hungary

Efficient GBT Displacement-Based Finite Elements for Non-Linear Problems

Rodrigo de Moura Gonçalves, Universidade Nova de Lisboa, Caparica, Portugal; Dinar Camotim, University of Lisbon, Lisbon, Portugal

ENGINEERS

1.0 PDHs

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.

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 U.S. 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.

Proceedings for the SSRC Annual Stability Conference will be available online at no charge this year.

Registrants will be notified when the proceedings are available for download.

Following the conference, the proceedings will be posted in the ePubs section of the AISC website as a free download for AISC members.

NETWORKING EVENTS

Welcome Reception

WR Wednesday 6:00 p.m. – 7:30 p.m.

Cost: Included in all full registration options.

Single ticket option also available.

See **PART 3** of the registration form on page 56.

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— Passport to Texas!

CD Thursday 7:00 p.m. – 10:00 p.m.

Cost: \$60 pre-reg | \$85 on-site

Registration is required for the Conference Dinner. See **PART 7** of the registration form on page 57.

Space is limited!

Join us at Sunset Station for an event that comes from deep in the heart! Guests are greeted with true Texas hospitality in a setting as comfortable as an old pair of boots and as elegant as Texas Chic. The themed event will take you on a journey through various regions of the Lone Star state, where you'll enjoy authentic cuisine and entertainment. The night is young, so let your hair down, and "kick it up" for a unique Texas experience!

Guests of all ages are welcome to attend this year's conference dinner.

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 and learn about exhibitors, and sign up for PDH credit in our mobile app, exclusively designed for The Steel Conference.

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

Visit www.aisc.org/nascc to download the app in early 2017.

TOURS

Visit www.aisc.org/nascc for full tour descriptions and other helpful information.

San Antonio Sampler Tour

GT1 Thursday 8:30 a.m. – noon

Price per person: \$55

Our first stop will be the border-style **El Mercado** or Mexican Market. Serving as a hub of commerce years ago, Market Square, as it has become known, has retained much of its charm of the past. Its quaint shops offer local crafts, art, clothing and food. Two indoor markets are filled to the brim with vendors.

Next, we will visit the most famous of the San Antonio missions, **Mission San Antonio de Valero**, better known as the **Alamo**. Established in 1718, the Alamo played a pivotal role in Texas history. The shrine displays exhibits from the battle & guests will enjoy the beautifully landscaped grounds. From the Alamo guests will be able to explore the Riverwalk at leisure to savor the flavors and sounds of San Antonio.

Not for the Weak of Art Tour

GT2 Friday 8:30 a.m. – 1:15 p.m.

Price per person: \$110

The diversity of San Antonio can be seen in the expressions of the visual arts. The tour will begin with a drive past some of the more notable public sculptures that grace the city streetscapes, including the "**Torch of Friendship**," a gift from the celebrated Mexican artist, Sebastian.

After the drive, we will tour the impressive exhibits of the **San Antonio Museum of Art**, which showcases Greek and Italian pottery of the Contemporary and Modern Art Collections as well as expressions from Pre-Columbian, Spanish Colonial and ancient Asian culture. Our next stop is a hidden jewel, the **McNay Art Museum**. The museum is a treasure trove for both the serious and casual art lover. Set within the former Mediterranean-style mansion of the eccentric Marion Koogler McNay, the museum features an eclectic collection from various notable artists.

Fredericksburg—Jewel of Hill Country

GT3 Saturday 8:30 a.m. – 3:30 p.m.

Price per person: \$85

Taking a trip to **Fredericksburg** is like stepping into Old World Germany. It's wide historic Main Street is lined with restored 19th century buildings that now house more than 100 specialty shops. Settled in 1847 by German immigrants, the town has retained much of its historic fabric. For the non-shoppers there are two museums located on Main Street, which they may choose to visit on their own. **The Pioneer Museum Complex**, built in 1849, tells of the history of the settlement of Fredericksburg. And the **Steamboat Hotel Structure**, originally built in 1852 and home to the Admiral Chester Nimitz Museum of the Pacific War, is also a fascinating visit. Before heading back to the resort, we will stop in the almost infamous town of **Luckenbach**. This tiny hill country hamlet where "Everybody's Somebody" was established as a trading post in 1849.

Canopy Challenge, Zip and Cavern Discovery Tour

GT4 Saturday 8:30 a.m. – 2:15 p.m.

Price per person: \$125

You'll have up to 30 minutes to grapple your way to the top of the 60-foot, four-tier adventure course. Then, if you dare, take a ride on one of our four zip lines, gliding high above the Texas Hill Country. Snap in to your harness and sail across the landscape. The thrill of the ride is matched by the beauty of your surroundings, a natural experience of flight that you will never forget.

Natural Bridge Caverns' most popular tour, the **Discovery Tour** introduces you to an underground world of natural beauty and amazement. Travel through a half-mile of the largest and most spectacular show cavern in Texas. You'll walk 180 feet below the ground to see awe-inspiring, ancient formations centuries in the making and still growing today.

AISC reserves the right to cancel or modify tours based on confirmed attendance.

All tours will depart from the convention center.

Tour confirmations and specific transportation details will be available on-site at the NASCC main registration desk.

Space is limited, so please register early. See **PART 6** of the registration form on page 57.

Of Special INTEREST TO | **DETAILERS**

PDH*	SESSIONS	DAY & TIME
1.5	CA1 More Welding Questions Answered	W 9:45–11:15a Th 8:00–9:30a
1.5	CA3 The Splice is Right	Th 10:15–11:45a
1.0	CA4 Moving Forward with High-Strength Steel	Th 1:15–2:15p F 1:00–2:00p
1.0	CA8 From One Generation to the Next—Lessons Learned under Duane Miller	Th 4:15–5:15p
1.0	CA9 Modular Construction Best Practices—When, Where and Why or Why Not	Th 4:15–5:15p
1.5	CA10 Safe and Efficient Installation of Steel Joists and Metal Deck	F 8:00–9:30a
1.5	CA11 Why Not Steel?	F 10:15–11:45a
4.0	CG1 Protective Coatings and Coating Systems for New Bridges	Th 1:15–2:45p
	CG2 Coating Specifications for New Structures and for Rehabilitating Existing Structures	Th 3:00–4:00p
	CG3 Surface Preparation Methods and Industry Standards	Th 4:15–4:45p
	CG4 Coating Application Methods and Industry Standards	Th 4:45–5:15p
	CG5 Quality Assurance/Control Inspection and Industry Standards	Th 5:30–6:15p
1.0	CN4 Practical Advice for Reviewing Software Generated Connection Designs	Th 4:15–5:15p F 1:00–2:00p
1.0	CN5 Field Connections—Safe and Economical Tips	Th 1:15–2:15p F 1:00–2:00p
1.0	CN6 How the 2016 Code of Standard Practice Makes Delegated Connection Design Safe and Workable for Everyone	W 3:15–4:15p
1.0	CS1 San Antonio Medical Center	W 8:30–9:30a
1.5	CS2 The Little Site That Could: 150 N Riverside	W 9:45–11:15a
1.0	CS3 Circuit of the Americas Observation Tower and Amphitheater	W 3:15–4:15p
1.5	CS4 Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System	W 4:30–6:00p
1.5	CS5 Design Assist—Case Studies of Successful Design Assist Projects	Th 8:00–9:30a
1.5	CS6 181 Fremont Street—A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology	Th 10:15–11:45a
1.0	CS8 Winning IDEAS in Steel-framed Building Design—Part 1	Th 3:00–4:00p
1.0	CS9 Winning IDEAS in Steel-framed Building Design—Part 2	Th 4:15–5:15p
1.0	CS10 Winning IDEAS in Steel-framed Building Design—Part 3	F 1:00–2:00p
1.0	D1 What's New with the NISD? Individual Detailer Certification and other Programs, Webinars on Pertinent Topics, BIM Certification and More	W 8:30–9:30a
1.0	D2 Quality Procedures in Detailing Offices	Th 3:00–4:00p
1.0	D3 Laser Scanning and Workflow	F 1:00–2:00p
1.5	E6 Designing Castellated and Cellular Beams Using AISC Design Guide 31	W 9:45–11:15a Th 10:15–11:45a
1.5	E8 Current Views from Past Higgins Award Winners: Michael Engelhardt	W 9:45–11:15a Th 8:00–9:30a
1.0	E12 Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures	W 3:15–4:15p Th 3:00–4:00p
1.5	E14 Steel Castings in Architecture—Do You Know How to Design Them?	W 4:30–6:00p F 8:00–9:30a
1.5	E21 Lateral Torsional Buckling and its Influence on the Strength of Beams	Th 8:00–9:30a F 8:00–9:30a
1.0	E24 Steel Cable Assembly Systems: What the Fabricator, Erector, and EOR Need to Know	Th 4:15–5:15p F 1:00–2:00p
1.0	E27 Structural Design of Staircases—Don't Get Tripped Up	Th 3:00–4:00p F 1:00–2:00p
1.0	E29 Transfer Forces—What Are They and Why Should I Care?	Th 4:15–5:15p F 1:00–2:00p
1.0	E37 AESS: Categorized by Design	Th 10:15–11:45a
1.0	G1 What's the New Shade of Green?	Th 4:15–5:15p F 2:15–3:15p
1.0	K1 The Neuroscience of Decision Making	W 12:30–2:30p
1.5	L1 Bet the Company Contract Clauses and How to Avoid Them	Th 8:00–9:30a
1.5	L2 We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute	Th 10:15–11:45a
1.0	L3 The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation	Th 1:15–2:15p
1.0	L4 Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs	Th 3:00–4:00p
1.0	L5 Keeping OSHA Out of Your Bank Account	Th 4:15–5:15p
1.5	N2 Industry Roundtable	F 10:15–11:45a
1.0	R2 The "Art" of Sequencing Steel	W 8:30–9:30a
1.0	R3 Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?	W 3:15–4:15p
1.0	SO3 How Technology Affects the Steel Fabricator's Business Practice	F 2:15–3:15p
1.0	T1 Rise Up—Atlanta Falcons Stadium Roof	W 8:30–9:30a W 3:15–4:15p
1.0	T2 Understanding and Working with BIMXP's	W 8:30–9:30a
1.5	T3 3D Model Review and Approval Really Works!	W 9:45–11:15a
1.0	T4 "To the Cloud or Not" Project Document Management in 2017	Th 1:15–2:15p
1.0	T7 Levels of Development (LOD): What it Means for Steel Construction	Th 4:15–5:15p
1.0	Z1 Managing your Company's Health Care Program	Th 3:00–4:00p
1.5	Z2 Solutions for Equity in the Workplace (\$25 includes lunch register on page 55)	W 9:45–12:15p
1.0	Z3 Going Outside to Get Expertise: Is a Freelancer Right for You?	W 3:15–4:15p
1.5	Z4 Transforming Conflict into Collaboration	W 4:30–6:00p
1.5	Z6 Case Studies in How to Use the Code of Standard Practice to Prevent and Resolve Disputes	F 8:00–9:30a
1.5	Z7 Building Team Dynamics and Positive Corporate Culture	F 8:00–9:30a
1.5	Z8 Increase Your Value with Effective Communication	F 10:15–11:45a
1.0	Z9 U.S. Construction Market Update	F 1:00–2:00p
1.5	Z10 Sharpen your SPEAKability	W 4:30–6:00p
1.0	Z11 Innovations in Steel	W 8:30–9:30a

Of Special INTEREST TO | ERECTORS

PDH*	SESSIONS	DAY & TIME
1.5	CA1 More Welding Questions Answered	W 9:45–11:15a Th 8:00–9:30a
1.5	CA3 The Splice is Right	Th 10:15–11:45a
1.0	CA4 Moving Forward with High-Strength Steel	Th 1:15–2:15p F 1:00–2:00p
1.0	CA8 From One Generation to the Next—Lessons Learned under Duane Miller	Th 4:15–5:15p
1.0	CA9 Modular Construction Best Practices—When, Where and Why or Why Not	Th 4:15–5:15p
1.5	CA10 Safe and Efficient Installation of Steel Joists and Metal Deck	F 8:00–9:30a
1.5	CA11 Why Not Steel?	F 10:15–11:45a
4.0	CG1 Protective Coatings and Coating Systems for New Bridges	Th 1:15–2:45p
	CG2 Coating Specifications for New Structures and for Rehabilitating Existing Structures	Th 3:00–4:00p
	CG3 Surface Preparation Methods and Industry Standards	Th 4:15–4:45p
	CG4 Coating Application Methods and Industry Standards	Th 4:45–5:15p
	CG5 Quality Assurance/Control Inspection and Industry Standards	Th 5:30–6:15p
1.0	CN5 Field Connections—Safe and Economical Tips	Th 1:15–2:15p F 1:00–2:00p
1.0	CN6 How the 2016 <i>Code of Standard Practice</i> Makes Delegated Connection Design Safe and Workable for Everyone	W 3:15–4:15p
1.0	CS1 San Antonio Medical Center	W 8:30–9:30a
1.5	CS2 The Little Site That Could: 150 N Riverside	W 9:45–11:15a
1.0	CS3 Circuit of the Americas Observation Tower and Amphitheater	W 3:15–4:15p
1.5	CS4 Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System	W 4:30–6:00p
1.5	CS5 Design Assist—Case Studies of Successful Design Assist Projects	Th 8:00–9:30a
1.5	CS6 181 Fremont Street—A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology	Th 10:15–11:45a
1.0	CS8 Winning IDEAS in Steel-framed Building Design—Part 1	Th 3:00–4:00p
1.0	CS9 Winning IDEAS in Steel-framed Building Design—Part 2	Th 4:15–5:15p
1.0	CS10 Winning IDEAS in Steel-framed Building Design—Part 3	F 1:00–2:00p
1.0	D3 Laser Scanning and Workflow	F 1:00–2:00p
1.5	E6 Designing Castellated and Cellular Beams Using AISC Design Guide 31	W 9:45–11:15a Th 10:15–11:45a
1.0	E12 Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures	W 3:15–4:15p Th 3:00–4:00p
1.5	E14 Steel Castings in Architecture—Do You Know How to Design Them?	W 4:30–6:00p F 8:00–9:30a
1.5	E17 ASCE 37: <i>Design Loads on Structures During Construction</i>	W 4:30–6:00p Th 10:15–11:45a
1.0	E24 Steel Cable Assembly Systems: What the Fabricator, Erector, and EOR Need to Know	Th 4:15–5:15p F 1:00–2:00p
1.0	E29 Transfer Forces—What Are They and Why Should I Care?	Th 4:15–5:15p F 1:00–2:00p
1.0	E37 AESS: Categorized by Design	Th 10:15–11:45a
1.0	G1 What's the New Shade of Green?	Th 4:15–5:15p F 2:15–3:15p
1.0	K1 The Neuroscience of Decision Making	W 12:30–2:30p
1.5	L1 Bet the Company Contract Clauses and How to Avoid Them	Th 8:00–9:30a
1.5	L2 We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute	Th 10:15–11:45a
1.0	L3 The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation	Th 1:15–2:15p
1.0	L4 Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs	Th 3:00–4:00p
1.0	L5 Keeping OSHA Out of Your Bank Account	Th 4:15–5:15p
1.5	N2 Industry Roundtable	F 10:15–11:45a
1.0	P1 What Estimators/Sales Managers Need to Know about Project Management	W 8:30–9:30a
1.5	P2 Improving Project Management Effectiveness	W 9:45–11:15a
1.5	Q5 What Have We Learned from the Erector Conversion Audits?	Th 8:00–9:30a
1.5	Q6 An Erector's Point of View about Preparing for the Program Conversion and Element 13 (Chapter N)	Th 10:15–11:45a
1.0	Q7 Quality and Safety Management: A Practical Approach for Erectors	Th 1:15–2:15p
1.0	Q8 What Did We Do as an Erector Applicant?	Th 3:00–4:00p
1.0	R1 Introducing the Ironworker Contractor University	W 8:30–9:30a
1.0	R2 The "Art" of Sequencing Steel	W 8:30–9:30a
1.0	R3 Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?	W 3:15–4:15p
1.0	R4 Minimizing Hazards by Design	Th 4:15–5:15p
1.0	R5 Erectors and Anchor Rods	F 2:15–3:15p
1.0	R6 Developing Erection Schedules for Projects	Th 3:00–4:00p
1.0	R7 Complex Erection Bracing	Th 4:15–5:15p
1.0	T1 Rise Up—Atlanta Falcons Stadium Roof	W 8:30–9:30a W 3:15–4:15p
1.5	T3 3D Model Review and Approval Really Works!	W 9:45–11:15a
1.0	T4 "To the Cloud or Not" Project Document Management in 2017	Th 1:15–2:15p
1.0	Z1 Managing your Company's Health Care Program	Th 3:00–4:00p
1.5	Z2 Solutions for Equity in the Workplace (\$25 includes lunch register on page 55)	W 9:45–12:15p
1.0	Z3 Going Outside to Get Expertise: Is a Freelancer Right for You?	W 3:15–4:15p
1.5	Z4 Transforming Conflict into Collaboration	W 4:30–6:00p
1.5	Z6 Case Studies in How to Use the <i>Code of Standard Practice</i> to Prevent and Resolve Disputes	F 8:00–9:30a
1.5	Z7 Building Team Dynamics and Positive Corporate Culture	F 8:00–9:30a
1.5	Z8 Increase Your Value with Effective Communication	F 10:15–11:45a
1.0	Z9 U.S. Construction Market Update	F 1:00–2:00p
1.5	Z10 Sharpen your SPEAKability	W 4:30–6:00p
1.0	Z11 Innovations in Steel	W 8:30–9:30a

Of Special INTEREST TO ENGINEERS

PDH*	SESSIONS	DAY & TIME
1.0	B1 NSBA Welcome—Resources and Consideration for Steel Bridges	W 8:30–9:30a
1.5	B2 Understanding and Reevaluating Fracture Critical: Existing and Future Policy—Part 1	W 9:45–11:15a
1.0	B3 Understanding and Reevaluating Fracture Critical: Research and Strategies—Part 2	W 3:15–4:15p
1.5	B4 Long Span Steel Bridges	W 4:30–6:00p
1.5	B5 Competitive Steel Solution for Short Spans	Th 8:00–9:30a
1.5	B6 Tappan Zee Hudson River Crossing	Th 10:15–11:45a
1.0	B7 AASHTO Updates: What's New in the 8th Edition <i>Steel Specification</i> —Part 1	Th 1:15–2:15p
1.0	B8 Understanding and Reevaluating Fracture Critical—Part 3, An Approach to System Analysis	Th 3:00–4:00p
1.0	B9 AASHTO Updates: What's New in the 8th Edition <i>Steel Specification</i> —Part 2	Th 4:15–5:15p
1.5	B10 Corrosion Protection Strategies for Steel Bridges	F 8:00–9:30a
1.5	B11 Steel Bridge Erection Made Simple	F 10:15–11:45a
1.0	B12 Engineering for Stability in Bridge Construction—An NHI Course Overview	F 1:00–2:00p
1.0	B13 Three-Dimensional Finite Element Analysis Software for Straight or Curved Steel Bridges During Construction	F 2:15–3:15p
1.5	CA1 More Welding Questions Answered	W 9:45–11:15a Th 8:00–9:30a
1.5	CA2 50 Tips for Designing Constructable Steel Buildings	W 9:45–11:15a Th 10:15–11:45a
1.5	CA3 The Splice is Right	Th 10:15–11:45a
1.0	CA4 Moving Forward with High-Strength Steel	Th 1:15–2:15p F 1:00–2:00p
1.0	CA5 Economic Alternative Paths for Progressive Collapse Design	Th 1:15–2:15p
1.5	CA6 What Engineers Need to Know about What Fabricators Can Do (Bending and Rolling)	W 9:45–11:15a
1.0	CA7 What Should Engineers Know about <i>IBC</i> Chapter 17?	Th 3:00–4:00p
1.0	CA8 From One Generation to the Next—Lessons Learned under Duane Miller	Th 4:15–5:15p
1.0	CA9 Modular Construction Best Practices—When, Where and Why or Why Not	Th 4:15–5:15p
1.5	CA10 Safe and Efficient Installation of Steel Joists and Metal Deck	F 8:00–9:30a
1.5	CA11 Why Not Steel?	F 10:15–11:45a
4.0	CG1 Protective Coatings and Coating Systems for New Bridges	Th 1:15–2:45p
	CG2 Coating Specifications for New Structures and for Rehabilitating Existing Structures	Th 3:00–4:00p
	CG3 Surface Preparation Methods and Industry Standards	Th 4:15–4:45p
	CG4 Coating Application Methods and Industry Standards	Th 4:45–5:15p
	CG5 Quality Assurance/Control Inspection and Industry Standards	Th 5:30–6:15p
1.5	CN1 Secrets of the <i>Manual</i> to Get it Done	W 4:30–6:00p F 10:15–11:45a
1.5	CN2 Design and Detailing Considerations for Cantilever Moment Connections through W Shaped and HSS Columns	Th 8:00–9:30a F 10:15–11:45a
1.5	CN3 Introduction to Structural Fasteners: Principles, Properties and Provisions	Th 10:15–11:45a F 10:15–11:45a
1.0	CN4 Practical Advice for Reviewing Software Generated Connection Designs	Th 4:15–5:15p F 1:00–2:00p
1.0	CN5 Field Connections—Safe and Economical Tips	Th 1:15–2:15p F 1:00–2:00p
1.0	CN6 How the 2016 <i>Code of Standard Practice</i> Makes Delegated Connection Design Safe and Workable for Everyone	W 3:15–4:15p
1.0	CS1 San Antonio Medical Center	W 8:30–9:30a
1.5	CS2 The Little Site That Could: 150 N Riverside	W 9:45–11:15a
1.0	CS3 Circuit of the Americas Observation Tower and Amphitheater	W 3:15–4:15p
1.5	CS4 Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System	W 4:30–6:00p
1.5	CS5 Design Assist—Case Studies of Successful Design Assist Projects	Th 8:00–9:30a
1.5	CS6 181 Fremont Street—A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology	Th 10:15–11:45a
1.0	CS7 Signature Footbridges: Technical and Aesthetic Design Considerations	Th 1:15–2:15p F 2:15–3:15p
1.0	CS8 Winning IDEAS in Steel-framed Building Design—Part 1	Th 3:00–4:00p
1.0	CS9 Winning IDEAS in Steel-framed Building Design—Part 2	Th 4:15–5:15p
1.0	CS10 Winning IDEAS in Steel-framed Building Design—Part 3	F 1:00–2:00p
1.0	E1 The AISC 15th Edition <i>Steel Construction Manual</i>	W 8:30–9:30a Th 1:15–2:15p
1.0	E2 The Good, the Bad, and the Ugly of Drawing Notes	W 8:30–9:30a W 3:15–4:15p
1.0	E3 Case Studies in Structural Fire Engineering	W 8:30–9:30a Th 1:15–2:15p
1.0	E4 The New HSS Design Manuals: Volumes 1, 2, 3 and 4	W 8:30–9:30a Th 3:00–4:00p
1.5	E5 The New and Improved Design Guide 11, 2nd ed.— <i>Vibrations of Steel-Framed Systems Due to Human Activity</i>	W 4:30–6:00p Th 8:00–9:30a
1.5	E6 Designing Castellated and Cellular Beams Using AISC Design Guide 31	W 9:45–11:15a Th 10:15–11:45a
1.5	E7 Everything You Wanted to Know About Diaphragms (But Were Afraid to Ask)	W 9:45–11:15a F 10:15–11:45a
1.5	E8 Current Views from Past Higgins Award Winners: Michael Engelhardt	W 9:45–11:15a Th 8:00–9:30a
1.5	E9 Can Staggered Trusses Be Used in Seismic Zones?	W 9:45–11:15a Th 10:15–11:45a
1.5	E10 Load Paths—There is Not Always a Yellow Brick Road	W 9:45–11:15a Th 8:00–9:30a
1.0	E11 Building Design—The Intelligent Approach	W 3:15–4:15p Th 4:15–5:15p
1.0	E12 Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures	W 3:15–4:15p Th 3:00–4:00p
1.5	E13 NEW Design Guide 32: AISC N690 Appendix N9—Design of Modular Composite Walls for Safety Related Nuclear Facilities	W 9:45–11:15a Th 10:15–11:45a
1.5	E14 Steel Castings in Architecture—Do You Know How to Design Them?	W 4:30–6:00p F 8:00–9:30a
1.5	E15 What Makes a “Special Moment Frame” Special?	W 4:30–6:00p F 8:00–9:30a
1.5	E16 Retrofitting Design and Analysis of Existing Steel Joist-Framed Buildings	W 4:30–6:00p F 8:00–9:30a

more ENGINEER SESSIONS on page 49 →

PDH*	SESSIONS	DAY & TIME
1.5	E17 ASCE 37: <i>Design Loads on Structures During Construction</i>	W 4:30–6:00p Th 10:15–11:45a
1.5	E18 Design of Underhung Hoist and Crane Girders	Th 8:00–9:30a F 8:00–9:30a
1.5	E19 Design of Steel Framed Parking Garages	Th 8:00–9:30a F 10:15–11:45a
1.5	E20 Efficient Lateral Load Resisting Systems for Low Rise Buildings	Th 8:00–9:30a F 8:00–9:30a
1.5	E21 Lateral Torsional Buckling and its Influence on the Strength of Beams	Th 8:00–9:30a F 8:00–9:30a
1.5	E22 Practical Uses of Non-Linear Pushover Analysis	Th 8:00–9:30a F 8:00–9:30a
1.0	E23 Steel Quiz Live	Th 4:15–5:15p
1.0	E24 Steel Cable Assembly Systems: What the Fabricator, Erector, and EOR Need to Know	Th 4:15–5:15p F 1:00–2:00p
1.0	E25 Do Standardized, Symmetric Loading Protocols Accurately Predict the Performance of BRB under Real Earthquake Motions?	Th 3:00–4:00p F 2:15–3:15p
1.0	E26 Lateral Drift and Facade Attachment	Th 3:00–4:00p F 1:00–2:00p
1.0	E27 Structural Design of Staircases—Don't Get Tripped Up	Th 3:00–4:00p F 1:00–2:00p
1.5	E28 AISC Research: The Chevron Effect: Shear and Bending Moment Demands for Beams in Concentrically Braced Frames	Th 10:15–11:45a F 8:00–9:30a
1.0	E29 Transfer Forces—What Are They and Why Should I Care?	Th 4:15–5:15p F 1:00–2:00p
1.5	E30 Wind Design Considerations for Joist and Joist Girders	Th 10:15–11:45a F 8:00–9:30a
1.0	E31 AISC Research: Sloped Connections and Connections with Fillet Welded Continuity Plates for Seismic Applications	Th 1:15–2:15p F 1:00–2:00p
1.0	E32 Passive Fire Protection for Floor Systems in Steel-Framed Buildings: A Performance-Based Approach	Th 1:15–2:15p F 2:15–3:15p
1.0	E33 How the 360-16 Chapter K Changes Affect HSS Design	Th 1:15–2:15p F 2:15–3:15p
1.0	E34 Transfer Structures that Work for Big and Complicated Load Paths	Th 1:15–2:15p F 1:00–2:00p
1.5	E35 Design Practicum 1: Special Moment Frame Connections	F 8:00–9:30a
1.5	E36 Design Practicum 2: Special Concentrically Braced Frame	F 10:15–11:45a
1.0	E37 AESS: Categorized by Design	Th 10:15–11:45a
1.0	E38 Composite Design: Past, Present, and Future	Th 3:00–4:00p
1.0	E39 Making Steel Fire Protection Easy	Th 4:15–5:15p
1.5	E40 Prevention through Design	F 8:00–9:30a
1.0	G1 What's the New Shade of Green?	Th 4:15–5:15p F 2:15–3:15p
1.0	K1 The Neuroscience of Decision Making	W 12:30–2:30p
1.0	K2 T.R. Higgins Lecture: Effective Bracing of Flexural Members and Systems in Steel Buildings and Bridges	F 2:15–3:15p
1.5	L1 Bet the Company Contract Clauses and How to Avoid Them	Th 8:00–9:30a
1.5	L2 We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute	Th 10:15–11:45a
1.0	L3 The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation	Th 1:15–2:15p
1.0	L4 Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs	Th 3:00–4:00p
1.0	L5 Keeping OSHA Out of Your Bank Account	Th 4:15–5:15p
1.5	L6 How Your Contracts Stack Up Against Other Structural Engineering Firms'	W 4:30–6:00p
1.0	Q1 How to Integrate Multiple Certifications in the Structural Steel Industry?	W 8:30–9:30a
1.5	Q4 How Do I Encourage Quality as Management?	W 4:30–6:00p
1.5	Q9 Audit Findings Aren't Just Non-Conformances	F 8:00–9:30a
1.5	Q10 Causes (and Solutions) for Corrective Action Requests	F 10:15–11:45a
1.0	R2 The "Art" of Sequencing Steel	W 8:30–9:30a
1.0	R3 Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?	W 3:15–4:15p
1.0	S1 Stability of Steel Bridges	W 8:30–9:30a
1.5	S2 Seismic Stability of Members and Systems	W 9:45–11:15a
1.0	S3 Advances in Stability Bracing	W 3:15–4:15p
1.5	S4 Stability of Beam-Columns	W 4:30–6:00p
1.5	S5 Stability of Flexural Members	Th 8:00–9:30a
1.5	S6 Stability of Assemblages and Systems	Th 10:15–11:45a
1.0	S7 Stability of Columns	Th 1:15–2:15p
1.0	S8 Stability of Wall Systems	Th 3:00–4:00p
1.0	S9 Stability of Shells	Th 4:15–5:15p
1.5	S10 Stability of Plates	F 8:00–9:30a
1.5	S11 Presentation Session for Beedle and McGuire Awards	F 10:15–11:45a
1.0	S12 Advances in Stability Analysis	F 1:00–2:00p
1.0	SO3 How Technology Affects the Steel Fabricator's Business Practice	F 2:15–3:15p
1.0	T1 Rise Up—Atlanta Falcons Stadium Roof	W 8:30–9:30a W 3:15–4:15p
1.5	T3 3D Model Review and Approval Really Works!	W 9:45–11:15a
1.0	T4 "To the Cloud or Not" Project Document Management in 2017	Th 1:15–2:15p
1.0	T6 Least Weight Does Not Equal Least Cost	Th 4:15–5:15p
1.0	T7 Levels of Development (LOD): What it Means for Steel Construction	Th 4:15–5:15p
1.0	Z1 Managing your Company's Health Care Program	Th 3:00–4:00p
1.5	Z2 Solutions for Equity in the Workplace (\$25 includes lunch register on page 55)	W 9:45–12:15p
1.0	Z3 Going Outside to Get Expertise: Is a Freelancer Right for You?	W 3:15–4:15p
1.5	Z4 Transforming Conflict into Collaboration	W 4:30–6:00p
1.0	Z5 What's New with the 2016 <i>Code of Standard Practice</i>	Th 3:00–4:00p
1.5	Z6 Case Studies in How to Use the <i>Code of Standard Practice</i> to Prevent and Resolve Disputes	F 8:00–9:30a
1.5	Z7 Building Team Dynamics and Positive Corporate Culture	F 8:00–9:30a
1.5	Z8 Increase Your Value with Effective Communication	F 10:15–11:45a
1.0	Z9 U.S. Construction Market Update	F 1:00–2:00p
1.5	Z10 Sharpen your SPEAKability	W 4:30–6:00p
1.0	Z11 Innovations in Steel	W 8:30–9:30a

Of Special INTEREST TO | **FABRICATORS**

PDH*	SESSIONS	DAY & TIME
1.5	CA1 More Welding Questions Answered	W 9:45–11:15a Th 8:00–9:30a
1.5	CA3 The Splice is Right	Th 10:15–11:45a
1.0	CA4 Moving Forward with High-Strength Steel	Th 1:15–2:15p F 1:00–2:00p
1.5	CA6 What Engineers Need to Know about What Fabricators Can Do (Bending and Rolling)	W 9:45–11:15a
1.0	CA8 From One Generation to the Next—Lessons Learned under Duane Miller	Th 4:15–5:15p
1.0	CA9 Modular Construction Best Practices—When, Where and Why or Why Not	Th 4:15–5:15p
1.5	CA10 Safe and Efficient Installation of Steel Joists and Metal Deck	F 8:00–9:30a
1.5	CA11 Why Not Steel?	F 10:15–11:45a
4.0	CG1 Protective Coatings and Coating Systems for New Bridges	Th 1:15–2:45p
	CG2 Coating Specifications for New Structures and for Rehabilitating Existing Structures	Th 3:00–4:00p
	CG3 Surface Preparation Methods and Industry Standards	Th 4:15–4:45p
	CG4 Coating Application Methods and Industry Standards	Th 4:45–5:15p
	CG5 Quality Assurance/Control Inspection and Industry Standards	Th 5:30–6:15p
1.5	CN2 Design and Detailing Considerations for Cantilever Moment Connections through W Shaped and HSS Columns	Th 8:00–9:30a F 10:15–11:45a
1.5	CN3 Introduction to Structural Fasteners: Principles, Properties and Provisions	Th 10:15–11:45a F 10:15–11:45a
1.0	CN5 Field Connections—Safe and Economical Tips	Th 1:15–2:15p F 1:00–2:00p
1.0	CN6 How the 2016 <i>Code of Standard Practice</i> Makes Delegated Connection Design Safe and Workable for Everyone	W 3:15–4:15p
1.0	CS1 San Antonio Medical Center	W 8:30–9:30a
1.5	CS2 The Little Site That Could: 150 N Riverside	W 9:45–11:15a
1.0	CS3 Circuit of the Americas Observation Tower and Amphitheater	W 3:15–4:15p
1.5	CS4 Hat Truss Trick—Overcoming Design and Erection Challenges of a 24-Story Vertically-Hung Gravity Load System	W 4:30–6:00p
1.5	CS5 Design Assist—Case Studies of Successful Design Assist Projects	Th 8:00–9:30a
1.5	CS6 181 Fremont Street—A State-of-the-Art Collaboration of Structural Design, Fabrication and Erection Methodology	Th 10:15–11:45a
1.0	CS8 Winning IDEAS in Steel-framed Building Design—Part 1	Th 3:00–4:00p
1.0	CS9 Winning IDEAS in Steel-framed Building Design—Part 2	Th 4:15–5:15p
1.0	CS10 Winning IDEAS in Steel-framed Building Design—Part 3	F 1:00–2:00p
1.0	D1 What's New with the NISD? Individual Detailer Certification and other Programs, Webinars on Pertinent Topics, BIM Certification and More	W 8:30–9:30a
1.0	D2 Quality Procedures in Detailing Offices	Th 3:00–4:00p
1.0	D3 Laser Scanning and Workflow	F 1:00–2:00p
1.5	E6 Designing Castellated and Cellular Beams Using AISC Design Guide 31	W 9:45–11:15a Th 10:15–11:45a
1.0	E12 Entertaining with Steel, from Theatrical Rigging to Concert Touring Structures	W 3:15–4:15p Th 3:00–4:00p
1.5	E13 NEW Design Guide 32: AISC N690 Appendix N9—Design of Modular Composite Walls for Safety Related Nuclear Facilities	W 9:45–11:15a Th 10:15–11:45
1.5	E14 Steel Castings in Architecture—Do You Know How to Design Them?	W 4:30–6:00p F 8:00–9:30a
1.0	E24 Steel Cable Assembly Systems: What the Fabricator, Erector, and EOR Need to Know	Th 4:15–5:15p F 1:00–2:00p
1.0	E25 Do Standardized, Symmetric Loading Protocols Accurately Predict the Performance of BRB under Real Earthquake Motions?	Th 3:00–4:00p F 2:15–3:15p
1.5	E28 AISC Research: The Chevron Effect: Shear and Bending Moment Demands for Beams in Concentrically Braced Frames	Th 10:15–11:45a F 8:00–9:30a
1.0	E29 Transfer Forces—What Are They and Why Should I Care?	Th 4:15–5:15p F 1:00–2:00p
1.0	E31 AISC Research: Sloped Connections and Connections with Fillet Welded Continuity Plates for Seismic Applications	Th 1:15–2:15p F 1:00–2:00p
1.0	E34 Transfer Structures that Work for Big and Complicated Load Paths	Th 1:15–2:15p F 1:00–2:00p

more FABRICATOR SESSIONS on page 51 →

← continued from page 50

Of Special INTEREST TO | FABRICATORS

PDH*	SESSIONS	DAY & TIME
1.0	E37 AESS: Categorized by Design	Th 10:15–11:45a
1.0	G1 What's the New Shade of Green?	Th 4:15–5:15p F 2:15–3:15p
1.0	K1 The Neuroscience of Decision Making	W 12:30–2:30p
1.5	L1 Bet the Company Contract Clauses and How to Avoid Them	Th 8:00–9:30a
1.5	L2 We Need Construction Lawyers, Guns and Money: What You Need to Know about Defending and Prosecuting Claims Before You Get Into a Dispute	Th 10:15–11:45a
1.0	L3 The Importance of Front End Alignment: What You Need to Know about Bid Documents, Construction Contracts and Contract Formation	Th 1:15–2:15p
1.0	L4 Subcontracts: They May Be the Most Important Document You Issue or Negotiate If a Problem Occurs	Th 3:00–4:00p
1.0	L5 Keeping OSHA Out of Your Bank Account	Th 4:15–5:15p
1.5	N1 Fabricator Roundtable	Th 10:15–11:45a
1.5	N2 Industry Roundtable	F 10:15–11:45a
1.0	P1 What Estimators/Sales Managers Need to Know about Project Management	W 8:30–9:30a
1.5	P2 Improving Project Management Effectiveness	W 9:45–11:15a
1.0	Q1 How to Integrate Multiple Certifications in the Structural Steel Industry?	W 8:30–9:30a
1.5	Q2 AISC Certification: New Building Fabricator and Hydraulic Steel Structures Requirements	W 9:45–11:15a
1.0	Q3 How can Certified Fabricators get Building Code Officials to Waive 3rd Party Inspections?	W 3:15–4:15p
1.5	Q4 How Do I Encourage Quality as Management?	W 4:30–6:00p
1.5	Q9 Audit Findings Aren't Just Non-Conformances	F 8:00–9:30a
1.5	Q10 Causes (and Solutions) for Corrective Action Requests	F 10:15–11:45a
1.0	R2 The "Art" of Sequencing Steel	W 8:30–9:30a
1.0	R3 Planning Your Exit Strategy: Will You Transition Your Company by Design or by Default?	W 3:15–4:15p
1.0	R4 Minimizing Hazards by Design	Th 4:15–5:15p
1.0	R5 Erectors and Anchor Rods	F 2:15–3:15p
1.0	R6 Developing Erection Schedules for Projects	Th 3:00–4:00p
1.0	SO1 Understanding What Lean Really Means	Th 4:15–5:15p
1.0	SO3 How Technology Affects the Steel Fabricator's Business Practice	F 2:15–3:15p
1.0	T1 Rise Up—Atlanta Falcons Stadium Roof	W 8:30–9:30a W 3:15–4:15p
1.0	T2 Understanding and Working with BIMXP's	W 8:30–9:30a
1.5	T3 3D Model Review and Approval Really Works!	W 9:45–11:15a
1.0	T4 "To the Cloud or Not" Project Document Management in 2017	Th 1:15–2:15p
1.0	T5 SteelXML Demo	Th 3:00–4:00p
1.0	T6 Least Weight Does Not Equal Least Cost	Th 4:15–5:15p
1.0	T7 Levels of Development (LOD): What it Means for Steel Construction	Th 4:15–5:15p
1.0	Z1 Managing your Company's Health Care Program	Th 3:00–4:00p
1.5	Z2 Solutions for Equity in the Workplace (\$25 includes lunch register on page 55)	W 9:45–12:15p
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1.5	Z8 Increase Your Value with Effective Communication	F 10:15–11:45a
1.0	Z9 U.S. Construction Market Update	F 1:00–2:00p
1.5	Z10 Sharpen your SPEAKability	W 4:30–6:00p
1.0	Z11 Innovations in Steel	W 8:30–9:30a

HOTEL RESERVATIONS

Support AISC and Book Your Room at One of the Official Conference Hotels

By booking your sleeping room through the official AISC housing bureau, Wyndham Jade, and staying at an official conference hotel, you are supporting AISC and helping your association meet its obligations and control attendee registration costs. As you may know, when AISC books a city, it commits to more than 5,000 guest rooms and thousands of dollars in revenue. This kind of buying power allows AISC to negotiate the best rates for its attendees, command premier venues around the city and get great discounts on services for conference events. Every attendee who books a room outside of AISC's room block compromises the association's ability to meet its obligations to the hotels, prohibits the housing bureau to protect your rooms in a relocation situation, and exposes AISC to significant financial penalties.

In the event you have any problems with your reservation or accommodations, Wyndham Jade/NASCC can only assist in reconciling those issues if your reservation was booked through Wyndham Jade. If you have questions about an unauthorized solicitation, the online system, or about housing in general, please contact NASCC Housing at 800.830.5812 in the U.S. or 972.349.5930 outside of the U.S. or email at nascc@wyndhamjade.com. Reserve your room as soon as possible and secure the hotel room of your choice.

Deadline for reservations: February 26, 2017

For online reservations, detailed hotel information, forms, maps and more, please visit www.aisc.org/nascc or contact Wyndham Jade directly at 800.830.5812.

Room Deposit Guarantee

All housing requests require a deposit guarantee in the form of a credit card. 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. Checks will not be accepted for hotel accommodations.

The Fine Print for Hotels

All hotel rates are per room night, and are subject to a 16.75% 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

NASCC Housing will send you a confirmation of your reservation. Please review all information for accuracy. Email confirmations will be sent immediately of reservations being processed. Fax and mailed acknowledgements will be sent within 14 days. If you do not receive your acknowledgement within two weeks, please contact the NASCC Housing bureau at 800.830.5812.

Hotel Room Changes

Contact Wyndham Jade directly with any hotel room changes prior to Wednesday March 8, 2017. Changes after the deadline should be made directly with the hotel, but please give the hotels at least 72 hours to input the final rooming list from Wyndham Jade. 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. Contact Wyndham Jade and book your room today! Call 800.830.5812 (within U.S.) or 972.349.5930 (outside U.S.).

Hotel Room Cancellations

All hotel room cancellations can be submitted online or in writing to NASCC/Wyndham Jade by email, fax, or mail. For individuals 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 NASCC/Wyndham Jade at 800.830.5812 in the U.S. or 972.349.5930 outside of the U.S. or email us at nascc@wyndhamjade.com in order to receive information regarding your hotel cancellation policy.

Important

If sharing a room please send only one form with the names of all people occupying the room. One confirmation will be emailed to the "Room Contact."

AISC also prefers that you provide your company name when making a hotel reservation.

Four Easy Ways to Reserve Your Hotel Room

INTERNET

(credit cards only)
Visit www.aisc.org/nascc

MAIL

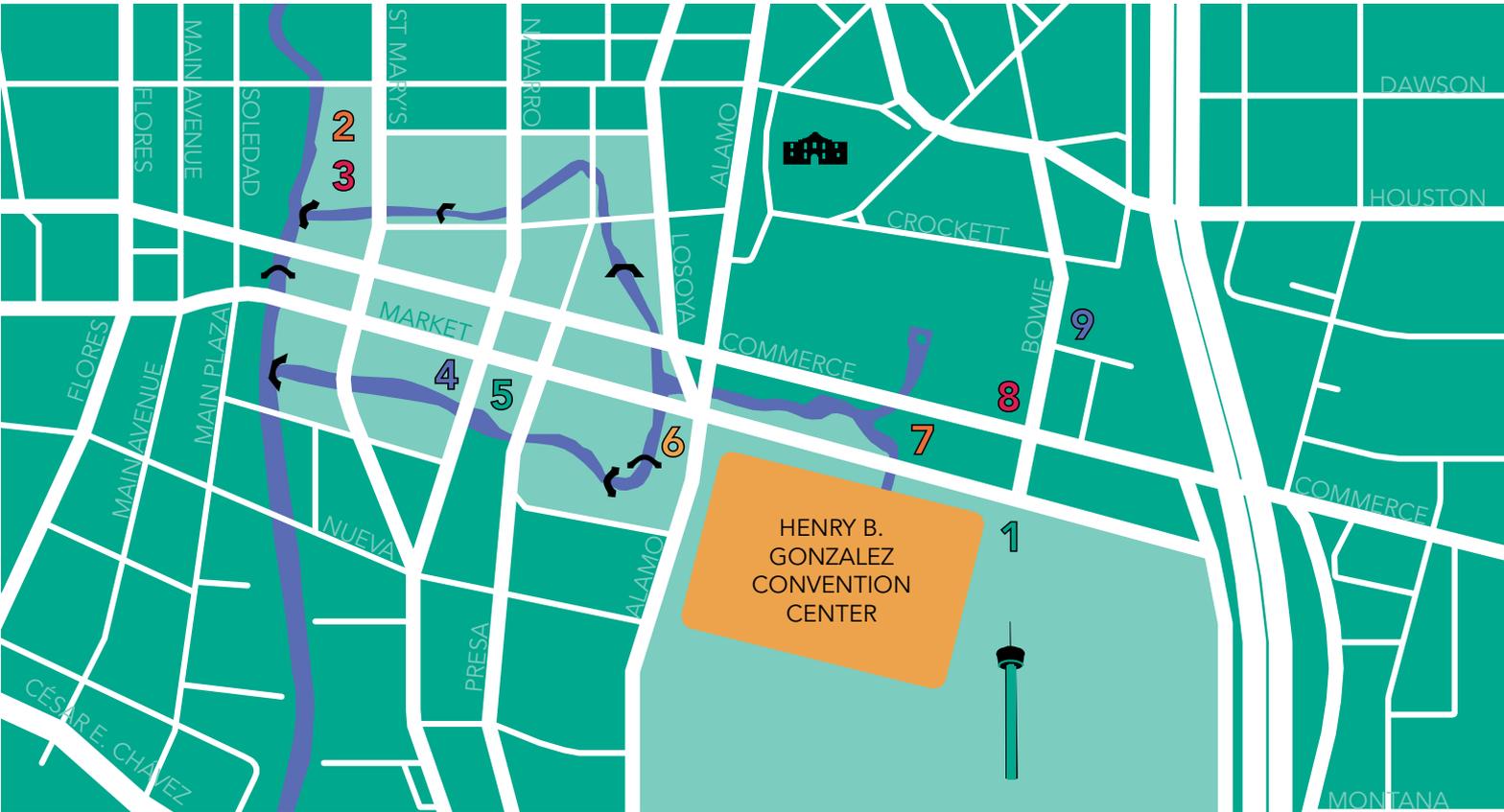
NASCC/Wyndham Jade,
6100 West Plano Parkway,
Suite 3500, Plano, TX 75093.
Visit www.aisc.org/nascc
to download a
reservation form.

FAX

(credit cards only)
972.349.7715.
Visit www.aisc.org/nascc
to download a
reservation form.

PHONE

(credit cards only)
800.830.5812 (within U.S.) or
972.349.5930 (outside U.S.)



Headquarters Hotel

- 1 Grand Hyatt San Antonio** 600 E Market Street | \$205.00 single/double

Additional Hotels

- | | | | |
|---|--|---|---|
| <p>2 Holiday Inn San Antonio Riverwalk
217 N Saint Mary's Street
\$179 single/double</p> | <p>3 Courtyard San Antonio Riverwalk
207 N Saint Mary's Street
\$167.00 single/double</p> | <p>4 The Westin San Antonio Riverwalk
420 W Market Street
\$209.00 single/double</p> | <p>5 Hotel Contessa
306 W Market Street
\$199 single/double</p> |
| <p>6 Hilton Palacio Del Rio San Antonio
200 S Alamo Street
\$199.00 single/double</p> | <p>7 Marriott Riverwalk
889 E Market Street
\$227.00 single/double</p> | <p>8 Marriott Rivercenter
101 Bowie Street
\$227 single/double</p> | <p>9 La Quinta San Antonio Riverwalk/ Convention Center
303 Blum Street
\$169.00 single/double</p> |

EXHIBITORS LIST

as of October 2016

- Abrasive and Fastening Solutions Inc.
Advance Tools LLC
AFF Design Services LLC
AISC
Ajan Elektronik Servis San. Ve Tic. Ltd. Sti.
AKYAPAK USA
Albina Co., Inc.
All-Pro Fasteners, Inc.
Allied Machine & Engineering Corp.
American Alloy Steel
American Galvanizers Association
American Punch Company
American Welding Society
Anatomic Iron Steel Detailing
Applied Bolting Technology, Inc.
ArcelorMittal International
Armatherm
Atema Inc.
Atlas Tube
Autodesk
AVEVA Inc.
AZZ Galvanizing Services
BDS VirCon
Behringer Saws Inc.
Beijing Jinzhaobo High Strength Fastener Co., Ltd
BendTec, Inc.
Bentley Systems, Incorporated
Birmingham Fastener
Birmingham Rail & Locomotive
Blair Corporation
Bluearc Stud Welding
Bluebeam Inc.
Bradken, Inc.
Brown Consulting Services, Inc.
Buckner Companies
Bull Moose Tube Company
CADeploy
CAMBCO, Inc.
Canam Buildings
Cast Connex Corporation
Cerbaco Ltd.
Chicago Clamp Company
Chicago Metal Rolled Products
Cleveland City Forge
Cleveland Punch & Die Co.
CloudCalc, Inc.
Combilift USA
ComSlab®
Connect-EZ / Tincher's Welding
Controlled Automation, Inc.
ConXtech, Inc.
Core Brace, LLC
Cosens Saws
CS Unitec
- CWB Group
D-MAC Industries, Inc.
DACS, Inc.
Daito U.S.A., Inc.
Danny's Construction Co., LLC
Davi, Inc.
DEICON
Delta Structural Steel Services Group
Design Data
DGS Technical Services, Inc.
Dlupal Software, Inc.
DOWCO Consultants Ltd.
Eastern Pneumatics & Hydraulics, Inc./ McCann Equipment Ltd.
EPIC Metals
Ercolina – CML USA, Inc.
ESAB Welding & Cutting Products
Esskay Design and Structures Pvt. Ltd.
Exact Detailing
Fabreeka International, Inc.
FabSuite, LLC
FEIN Power Tools Inc.
Ficpe Corporation
G & J Hall Tools
G.W.Y., Inc.
Gantrex, Inc.
GERB Vibration Control Systems
Gerdau
Girder-Slab Technologies, LLC
Graitec
Grating Fasteners, LLC
Harsco IKG
Haydon Bolts, Inc.
Hercules Bolt Company
Hilti Inc.
Holloway Steel Services
Hougen Manufacturing, Inc.
Hutchinson Industries, Inc.
Hypertherm Inc.
IDEA RS
Independence Tube Corp.
Infasco / Ifastgroupe
Info Sight Corporation
Infra-Metals Co.
Inovatech Engineering
Insteel Engineers Pvt. Ltd.
Integrus Steel Software Solutions
Intergraph
International Design Services, Inc.
Ironworker Management
Progressive Action
Cooperative Trust (IMPACT)
ISA – Ajax Fasteners
- J.B. Long Inc.
JacketPlate
Kinetic Cutting Systems, Inc.
Kottler Metal Products, Inc.
LAP Laser LLC
Lapeyre Stair
LARSA, Inc.
LeJeune Bolt Company
Lincoln Electric – PythonX
Lindapter USA
LNA Solutions
Lohr Structural Fasteners, Inc.
LS Industries
LTC, Inc.
The Magni Group, Inc.
Marubeni-Itochu Steel America, Inc. (MISA)
Max Weiss Co., LLC
McLaren Engineering Group
MDX Software
Metals USA
Meyer Borgman Johnson
Midwest Structural Products, LLC
Modern Steel Construction magazine
Mold-Tek Technologies Ltd.
National Institute of Steel Detailing, Inc.
National Steel Bridge Alliance
Nelson Stud Welding
New Millennium Building Systems
Nippon Steel & Sumikin Bolten Corporation (NSSB)
Nitto Kohki U.S.A., Inc.
Nucor – Corporation
Nucor – Fastener Division
Nucor – Plate Mill Group
Nucor – Verco Decking, Inc.
Nucor – Vulcraft Group
Nucor – Yamato Steel Company
Nucor Grating
Ocean Machinery, Inc.
Ovation Services LLC
P2 Programs
Pacific Stair Corporation
Pan Gulf Technologies Pvt. Ltd.
Pannier Corporation
Paramount Roll and Forming, Inc.
PDM Steel Service Centers, Inc.
Peddinghaus Corporation
Piereseach
Plateco Inc.
PPG Protective & Marine Coatings
Qnect LLC
Quickframes USA
Radley Corporation
- RISA Technologies
Romac Technologies
Ronstan Tensile Architecture
Rotator Industries
S-Frame Software
SE University by SE Solutions
Sherwin-Williams Protective and Marine
Shop Data Systems, Inc.
Short Span Steel Bridge Alliance
SidePlate Systems, Inc.
Simpson Strong-Tie Co.
Simsona Corporation
Skidmore Wilhelm
SKM Industries, Inc.
SRG Onesource LLC
SSPC: The Society for Protective Coatings
St. Louis Screw & Bolt
Stainless Structural America
Steel Deck Institute
Steel Dynamics Structural and Rail Division
Steel Erectors Association of America
Steel Founders' Society of America
Steel Joist Institute
Steel Market Development Institute
Steel Projects
Steel Studio Inc.
Steel Tube Institute
Steelmax Tools LLC
Strand7 Pty Ltd
Structural Stability Research Council
StruMIS LLC
Taylor Devices, Inc.
TDS Industrial Services Ltd.
Techflow Inc.
Tectonix Steel, Inc.
Tennessee Galvanizing®
Trilogy Machinery, Inc.
Trimble
Triple S Steel Holdings
TritonTek
Turnasure, LLC
Universal Steel America, Inc.
V&S Galvanizing
Valmont Coatings
VET Dessin Steel Detailing
Viking Blast & Wash Systems
Voortman Steel Group
Voss Engineering, Inc.
Wurth House of Threads
Zinga USA

To receive an exhibitor prospectus and reserve your booth today,
contact Renae Gurthet at renae@gurthetmedia.com, or call 231.995.0637.

REGISTRATION INFORMATION

Register for the Conference

Register early! Please note registration fees increase each week (see page 54 for the grid detailing the registration pricing rules).

- **Internet:** Visit the NASCC website at www.aisc.org/nascc to link to the online registration form.
- **Fax or Mail:** Complete the registration form on pages 54–55 (or download one from www.aisc.org/nascc). Fax or mail the completed form (see Part 10 of the form) no later than February 15, 2017.
- **On-Site:** You may register in person at the convention center. See the back cover for registration hours.

For questions about registration, call 972.349.5930 or 800.830.5812 (toll free), or email nascc@wyndhamjade.com.

Exhibitors

Exhibitor registration is handled differently than the registration of attendees. Visit the exhibitor tab at www.aisc.org/nascc for information.

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 sbrown@aisc.org.

Badges and Tickets

Badges and tickets will be mailed to you if you register by **February 17, 2017**. Check your mailboxes the week of March 13, 2017, for these materials. Be sure to bring the entire packet with you to the convention center and proceed directly to the “Materials Pick-Up” counter. If you register after February 17, 2017 or if you do not receive your registration materials, please proceed to the “Pre-Registration and On-Site Registration” counter. Badges and event tickets (if any) can be printed on-site.

The Fine Print for Registration

Requests for cancellation must be received in writing no later than February 15, 2017 in order to receive a refund, less a \$25 processing fee. Requests for cancellation received after February 15, 2017 will not receive a refund. Send cancellation requests to nascc@wyndhamjade.com.

What’s Included in your Registration Type?

REGISTRATION TYPE	FULL	FULL DAY WEDNESDAY	FULL DAY THURSDAY	FULL DAY FRIDAY	EXHIBIT HALL ONLY	EDUCATOR	STUDENT	PUBLIC AGENCY EMPLOYEE	RECENT GRAD	GUEST
All Technical Sessions (W–F)	✓	W	Th	F	N/A	✓	✓	✓	✓	N/A
Entrance to Exhibit Hall (W–F)	✓	W	Th	F	✓	✓	✓	✓	✓	✓
Exhibit Hall Coffee Breaks	✓	W	Th	F	✓	✓	✓	✓	✓	✓
Wednesday’s Welcome Reception	✓	✓	N/A	N/A	✓	✓	✓	✓	✓	✓
Thursday Lunch (in Exhibit Hall)	✓	N/A	✓	N/A	\$	✓	\$	✓	✓	\$
Thursday Conference Dinner	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Friday Lunch (in Exhibit Hall)	✓	N/A	N/A	✓	\$	✓	\$	✓	✓	\$
Online access to NASCC presentations following the conference	✓	✓	✓	✓	N/A	✓	✓	✓	✓	N/A

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

ATTENDEE REGISTRATION FORM

Attendee Information

1

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.

- 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.

Guest Registration (USD)

2

i.e., significant other

Guest Name _____ \$40 = \$ \$45 on-site

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 below to calculate your registration price.

Please see chart on page 55 to see what is included for each registration type.

3

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 11:59 p.m. CST Sunday.** (i.e., 12:00 a.m. CST Monday 12.12.16–11:59 p.m. Sunday 12.18.16).

		Date Purchased by	12.12.16	12.19.16	12.26.16	1.2.17	1.9.17	1.16.17	1.23.17	1.30.17	2.6.17	2.13.17	2.20.17	2.27.17	3.6.17	3.13.17	on-site
REGISTRATION TYPE																	
MEMBER* (price per person)	1st and 2nd registrant from firm	\$340	\$350	\$360	\$370	\$380	\$390	\$400	\$410	\$420	\$430	\$440	\$450	\$460	\$470	\$480	\$480
	3rd or more registrant from firm	\$190	\$200	\$210	\$220	\$230	\$240	\$250	\$260	\$270	\$280	\$290	\$300	\$310	\$320	\$330	\$330
NON-MEMBER (price per person)	1st and 2nd registrant from firm	\$510	\$525	\$540	\$555	\$570	\$585	\$600	\$615	\$630	\$645	\$660	\$675	\$690	\$705	\$720	\$720
	3rd or more registrant from firm	\$360	\$375	\$390	\$405	\$420	\$435	\$450	\$465	\$480	\$495	\$510	\$525	\$540	\$555	\$570	\$570
RECENT GRADS obtained degree in last 5 years	Member*	\$190	\$200	\$210	\$220	\$230	\$240	\$250	\$260	\$270	\$280	\$290	\$300	\$310	\$320	\$330	\$330
	Non-member	\$360	\$375	\$390	\$405	\$420	\$435	\$450	\$465	\$480	\$495	\$510	\$525	\$540	\$555	\$570	\$570

*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 _____	× \$175 = \$	<input type="text"/>	\$175 on-site
Student Member	# tickets _____	× \$0 = \$	<input type="text"/>	\$0 on-site
Student Non-Member	# tickets _____	× \$175 = \$	<input type="text"/>	\$175 on-site
Educator	# tickets _____	× \$175 = \$	<input type="text"/>	\$175 on-site
Full Day Wednesday	# tickets _____	× \$280 = \$	<input type="text"/>	\$360 on-site
Full Day Thursday	# tickets _____	× \$280 = \$	<input type="text"/>	\$360 on-site
Full Day Friday	# tickets _____	× \$280 = \$	<input type="text"/>	\$360 on-site
Exhibit Hall Only: W, Th, F (Welcome Reception)	# tickets _____	× \$50 = \$	<input type="text"/>	\$60 on-site
Exhibit Hall Only: Th, F	# tickets _____	× \$25 = \$	<input type="text"/>	\$35 on-site

SUBTOTAL: Registration Fees (2, 3)

\$

NASCC THE STEEL CONFERENCE

Exhibit Hall Hours

Wednesday | 3.22.17

2:30 p.m. – 7:30 p.m.

Afternoon Break

2:30 p.m. – 3:15 p.m.

Welcome Reception

6:00 p.m. – 7:30 p.m.

Thursday | 3.23.17

9:00 a.m. – 5:30 p.m.

Morning Break

9:30 – 10:15 a.m.

Lunch

11:45 a.m. – 1:15 p.m.

Afternoon Break

2:15 p.m. – 3:00 p.m.

Friday | 3.24.17

9:00 a.m. – 2:00 p.m.

Morning Break

9:30 a.m. – 10:15 a.m.

Lunch

11:45 a.m. – 1:00 p.m.

Registration Desk Hours

Tuesday | 3.21.17

noon – 4:00 p.m.

Wednesday | 3.22.17

7:00 a.m. – 6:00 p.m.

Thursday | 3.23.17

7:00 a.m. – 5:00 p.m.

Friday | 3.24.17

7:30 a.m. – 2:00 p.m.

2017 SSRC Planning Committee

Larry A. Fahnestock (Chair),

University of Illinois at Urbana-Champaign

Todd A. Helwig, University of Texas at Austin

Christopher D. Moen, Virginia Tech

Ronald D. Ziemian, Bucknell University

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2017 NASCC Planning Committee

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Centre for Innovation in Infrastructure

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Jonathan Hirschfeld, Hirschfeld Industries – Bridge

Ross Jones, Delta Structural Steel Services Group

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Stever's Virtual Steel Technologies, Inc.

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There's always a solution in steel.

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