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APRIL 13–15

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• GENERAL • INFORMATION

Registration Desk

Stop at the registration desk to pick up your conference registration package, to register on site, or to purchase extra tickets (when available) to events and guest tours. The registration desk is located on the second level of the convention center. See map on foldout.

Continuing Education Credit

AISC awards one Professional Development Hour (PDH) for each hour of attendance at a technical session at this year's conference. (Typically, one PDH is the equivalent of 0.1 CEU).

To obtain the PDH credit, you must register your attendance at each session for which you are requesting credit. A numeric session-specific code will be given during each session so only those in attendance will have access to the code. It is critical that you keep track of your session codes as this is the only way you will be able to obtain your PDH credit. For your convenience, you can keep track of the codes on the inside back cover of this final program or on the NASCC mobile app. There will be two computer terminals available on the second floor outside of the 200 series session rooms for you to use to enter this information after each session. You can also visit **www.aisc.org/conferencepdh** from your own computer or use the NASCC mobile app to enter the information. The site will be live for 30 days following the conference. You will be emailed a PDF of a PDH certificate upon entering the proper codes.

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Conference Proceedings

NASCC: The Steel Conference does not offer a conventional proceedings. Approximately 45 days after the conference we then post slide shows (complete with audio presentations) of most of the presentations to **www.aisc.org/2015nascconline**. Additionally, proceedings for the SSRC Annual Stability Conference will be available online at no charge. 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.

NASCC: The Steel Conference Mobile Application

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! See page 63 for more information.

NASCC Children's Policy

The nature and amount of equipment on display at NASCC makes the exhibit floor potentially dangerous for children. Children 12 and under are not permitted on the exhibit floor.

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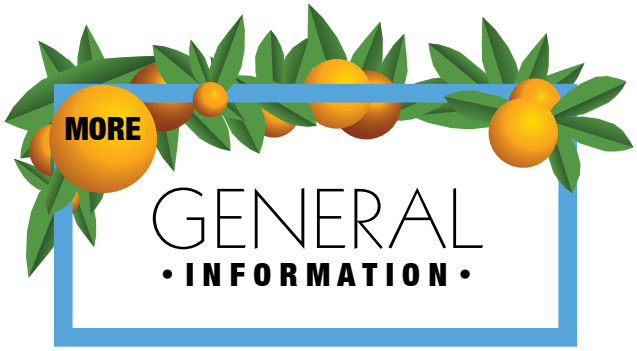
Continued from page 4



Badge Reprinting and Event Tickets

It is necessary to wear your NASCC namebadge to all official NASCC events. Lunches, Wednesday's Facility Tour, the Conference Dinner, guest tours and all short courses require a ticket for entry. Please visit the NASCC registration desk to have your namebadge reprinted or to inquire about event tickets.

Guest Tour Information

All guest tours depart and drop off from the transportation loop on the convention center side of the Gaylord. See your tickets for specific departure times. More information about guest tours and ticket availability is available at the registration desk on the second floor of the convention center. Registration desk hours are listed on the foldout. AISC reserves the right to cancel or modify tours based on attendance.

Photography Release

Conference attendees grant permission to the NASCC: The Steel Conference and their agents to utilize the attendee's image or likeness in an effort to promote the annual NASCC: The Steel Conference. Attendees waive any right to inspect or approve the finished product or products and the advertising copy or other matter that may be used in connection therewith or the use to which it may be applied.

Connection Design Short Course: Bracing Connections and Related Topics

SC1 Wednesday 8:00 a.m. – noon // Tallahassee

Speaker: William Thornton, Cives Engineering Corp.

$300 members* // $450 non-members

Connection design is based on first principles, typically without the aid of complex computer models and with little codification. This four-hour short course on vertical bracing connections is full of design examples that demonstrate how to distribute forces to connection components and check for applicable limit states. Topics will include the Uniform Force Method, prying action, advantages and disadvantages of common bracing details and more. All registrants will receive AISC Design Guide 29: *Vertical Bracing Connections*. **4.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Stability Design Short Course: Beam Buckling and Bracing

SC2 Wednesday 8:00 a.m. – noon // Tampa

Speaker: Todd Helwig, University of Texas

$300 members* // $450 non-members

This four-hour short course concentrates on beam stability and bracing issues. Background and explanation of the lateral buckling and beam bracing provisions in the AISC *Specification* are presented. Some of the topics discussed are coped beams, correctness of treating the inflection point as a brace point, suspended span construction, system buckling, and brace stiffness and strength requirements. Numerous example problems illustrate the application of the bracing provisions for buildings and bridges. **4.0 PDHs**

ENGINEERS

*The following qualify for Member pricing:
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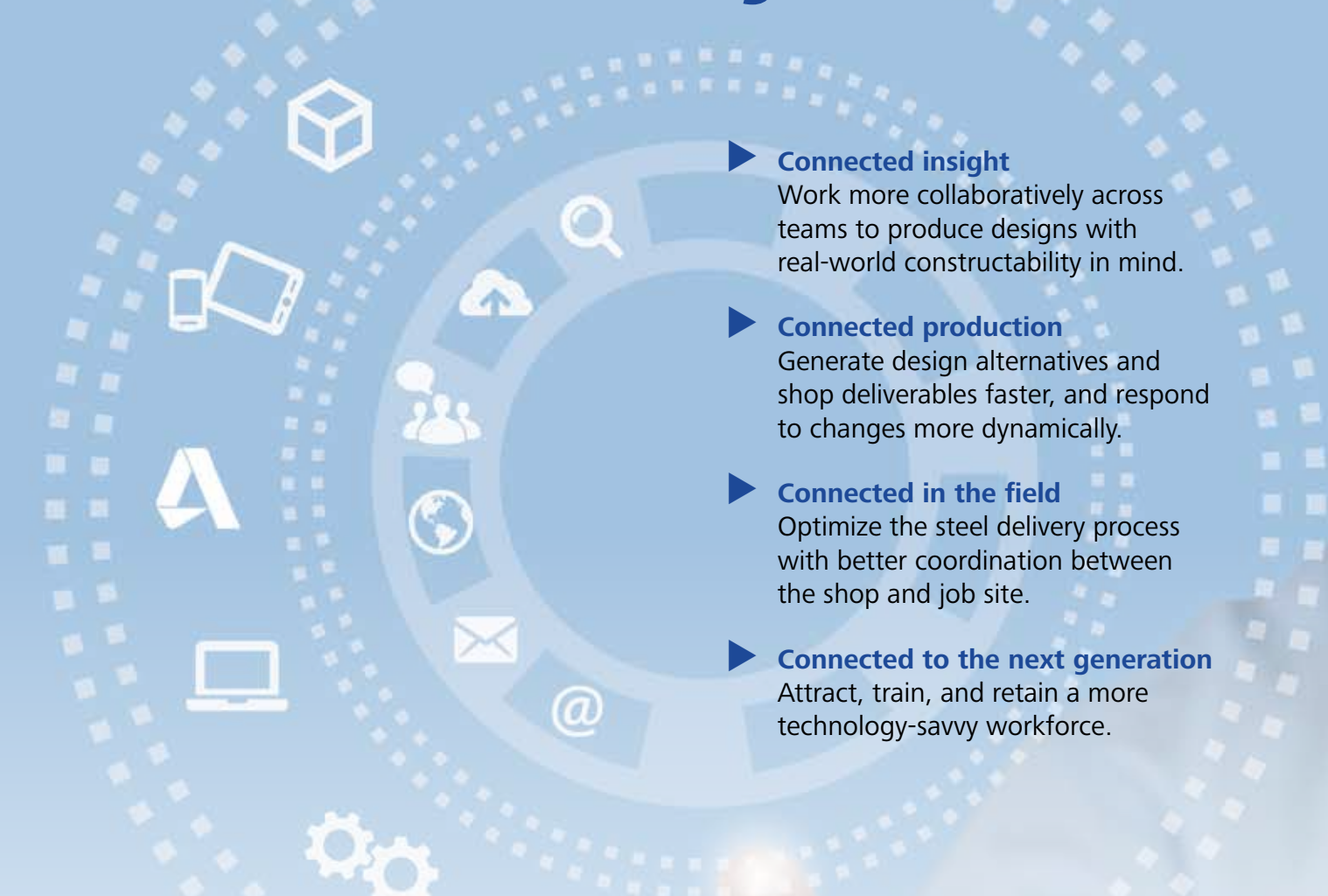

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KEYNOTE • SESSIONS •

The Invisibles

K1 Wednesday 12:30 p.m. – 2:30 p.m. // Osceola C-D

Speaker: David Zweig

The Keynote session is sponsored by:

GERDAU

Who are the invisibles? They're the skilled professionals in your organization who often go unseen or unrecognized—even though they're vital to your company's success. David Zweig is the the author of *Invisibles*, a groundbreaking new book that examines this enormous cohort of workers. In his keynote address, he reveals why—and how—identifying and nurturing invisibles is so beneficial for your organization. According to *The Los Angeles Times*: "*Invisibles* is changing the way we work, how we conduct ourselves online and at the office, and even, how we define success." Driven by narratives of invisibles in action in a wide range of fields (from a structural engineer at the world's second tallest skyscraper to an interpreter at the United Nations to a cinematographer on a multimillion dollar film set) and buttressed by business and psychological research from experts at Wharton, Berkeley, Stanford and elsewhere, Zweig explains the critical and often misunderstood and undervalued role invisibles play within organizations. Invisibles are not only some of your best workers—when they are given the right tools, they elevate the performance of those around them as well. Knowing how to spot, hire, retain and reward invisibles is essential for those concerned with optimizing their organizational culture. **1.0 PDHs**

ALL

T.R. Higgins Lecture: Get Fired Up: What Structural Engineers Should Know About Fire Design

N79 Friday // Osceola D
1:00 p.m. – 2:30 p.m.

Speaker: Maria Garlock, Princeton University

Moderator: Charlie Carter, AISC

The increasing complexity of building structures makes it sometimes difficult to apply a prescriptive approach for fire design and at the same time maintain efficiency, economy, and elegance. While there is a place for prescriptive design, there are other tools that better enable the design intent. This lecture begins with a historical examination of fires in major structures and the impact that these events had on fire design. Then, new opportunities for fire design through a performance-based approach are discussed. Such an approach requires knowledge of the fire characteristic, thermal loads imposed on the structure, and the structural response given the interaction and connectivity with the building as a whole. This presentation will therefore provide engineers with the most fundamental concepts needed for designing for fire using a performance-based approach. Finally, the benefits of such an approach are illustrated for steel structures through robustness, cost savings, reduced carbon footprint, and visual elegance. **1.0 PDHs**

ENGINEERS

NETWORKING
• EVENTS •

Welcome Reception

WR Wednesday 6:00 p.m. – 7:30 p.m.

Cost: Included in all full registration options. Single tickets also available.

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.

Movie Night at The Steel Conference

MN Wednesday 7:45 p.m. // Osceola C-D

Cost: Entry to the screening is free to all registered attendees; others interested in attending should email **NASCC2016@aisc.org**.

Movie Night sponsored by:

Canam-Bridges // Casco Bay Steel Structures, Inc.
High Steel Structures LLC // Hirschfeld Industries
Infra-Metals Co. // Metals USA
Modjeski and Masters, Inc. // Veritas Steel LLC

Everyone is invited to the world premiere of a new bridge documentary offering an intriguing view of American engineering and celebrity.

"Bridging Urban America" tells the story of Ralph Modjeski, the designer of some of the 20th century's most significant bridges, including the Ben Franklin in Philadelphia, the Bay Bridge in San Francisco/Oakland, the Huey P. Long in New Orleans, and the Quebec Bridge in Canada. The film offers not just awe-inspiring views of these magnificent structures but also tells the story about Modjeski's role as an engineer, entrepreneur, artist, and innovator. It's an epic about the power to build, the ability to influence, and the progress of a nation. And it tells the story about important steel bridges that are still in service today—and will remain critical parts of North America's infrastructure for many years to come.

Come grab some popcorn with a few hundred of your friends and colleagues for this movie spectacular!

Conference Dinner: Pointe Orlando

CD Thursday 7:00 p.m. – 10:00 p.m.

Cost: $85
Space is limited!

Round-trip transportation will be provided.
Shuttle will depart from the transportation loop on the convention center side of the Gaylord at 6:40 p.m.

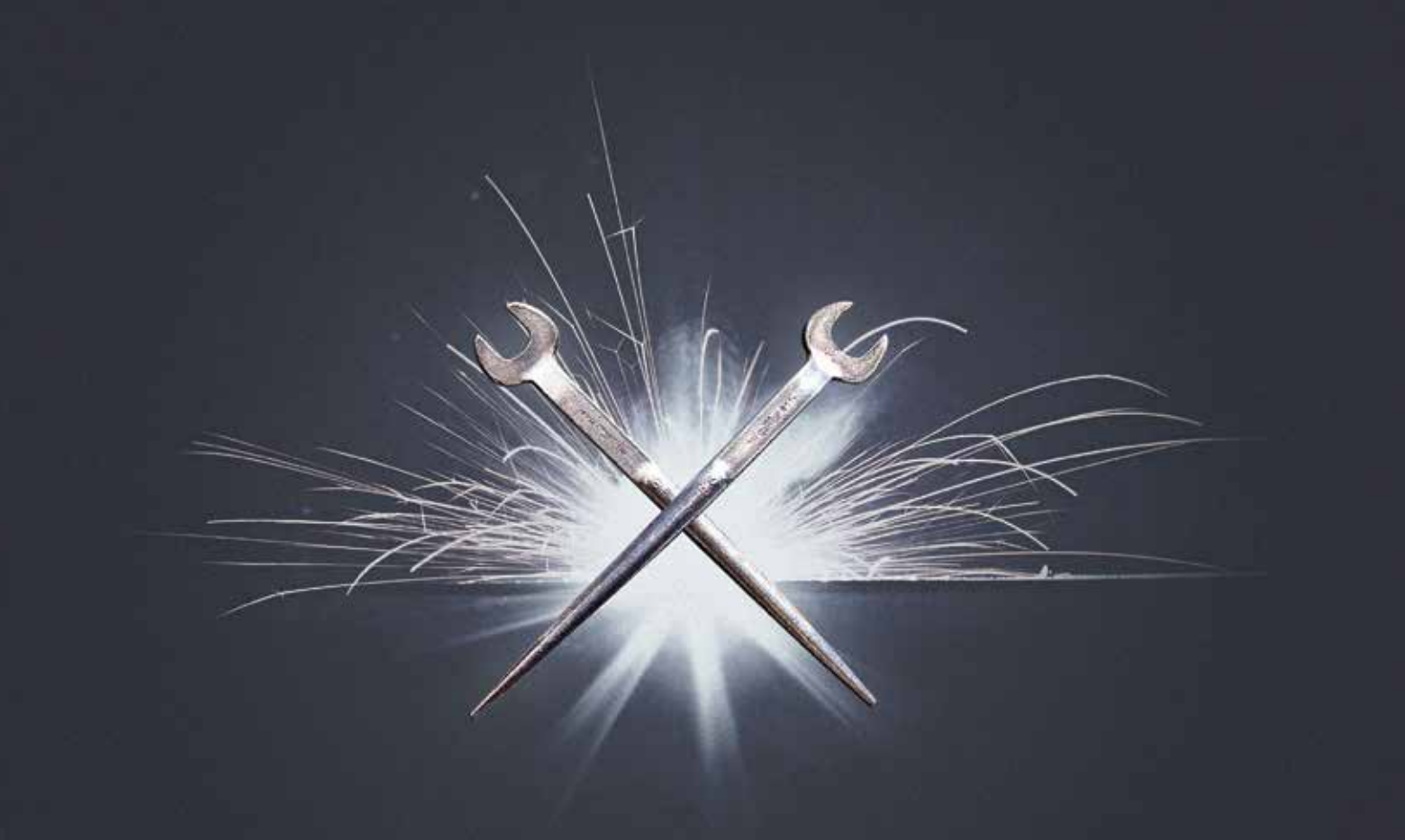
Conference Dinner venues sponsored by:

NUCOR

There's plenty of fun to be had when the sun goes down in Orlando. Join us on a getaway to Pointe Orlando, an exciting shopping, dining and nightlife complex. We'll have exclusive use of three adjacent live music venues, each boasting a delicious buffet, open bar and live entertainment. Get a taste of Florida, network with your peers and enjoy the sounds as you meander through each unique venue. There will be something for everyone at this one-of-a-kind event!

Featuring everything from blues to classic soul to rock and roll, B.B. King's Blues Club is a popular destination that boasts an outdoor patio, a mezzanine overlooking the main stage and a large seating area with food and entertainment that's sure to please. Enjoy Southern-inspired cuisine and toe-tapping country music at Lafayette's Restaurant and Bar. Known for its lively atmosphere and great local bands, Lafayette's is a staple for all music fans and a place where new music legends are created. And if you're looking to mix and mingle in a low-key setting, be sure to visit Itta Bena, named for the birthplace of B.B. King. Enjoy a cool drink and piano melodies while hanging out at this relaxing spot.

There's no better networking opportunity than the NASCC Conference Dinner—don't miss it!



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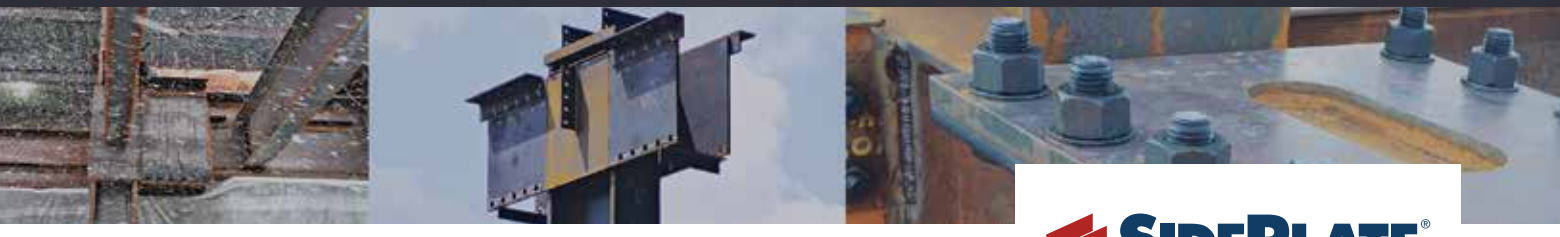

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EXHIBITOR LIST **BY BOOTH NUMBER**

as of March 11, 2016

1 ..... Midwest Structural Products LLC
2 ..... Gravotech, Inc.
3 ..... Informed Infrastructure
4 ..... American Galvanizers Association
6 ..... Engineering Ministries International
7 ..... Abtech, LLC
8 ..... Black Rook/Reyami Steel Construction and Engineering
9 ..... National Institute of Steel Detailing, Inc.
11 ..... Quick Frames USA
12 ..... Structural Stability Research Council (SSRC)
15 ..... Sunbelt Metals & Mfg. Inc.
16 ..... Ovation Services LLC
17 ..... Unytite Inc.
18 ..... Harsco Industrial IKG
21 ..... BDS VirCon
22 ..... Connect-EZ/Tincher's Welding
24 ..... IDEA RS
27 ..... Rapidrill, LLC
28 ..... Beijing Jinzhaobo High Strength Fastener Co., Ltd.
100 ..... Simpson Strong-Tie Co.
105 ..... Romac Technologies
106 ..... Fein Power Tools, Inc.
107 ..... American Welding Society
108 ..... Holloway Houston, Inc.
110 ..... Infasco / Ifastgroupe
111 ..... Birmingham Rail & Locomotive
116 ..... Grating Fasteners, LLC
120 ..... Blair Corporation
121 ..... Mold-Tek Technologies Ltd.
122 ..... Construction News and Report Publishing Inc.
126 ..... Intergraph
200 ..... Gantrex, Inc.
201 ..... CS Unitec
204 ..... Zinga USA
206 ..... Steel Tube Institute
207 ..... MECCO Marking & Traceability
208 ..... CloudCalc, Inc.
209 ..... Abrasive and Fastening Solutions Inc.
210 ..... Pacific Stair Corporation
211 ..... Greenbrook Engineering Services
215 ..... Pan Gulf Technologies Pvt. Ltd.
221 ..... Nelson Stud Welding
226 ..... Lapeyre Stair
227 ..... Sumter Coatings, Inc.
228 ..... Insteel Engineers Pvt. Ltd.
233 ..... *Modern Steel Construction* magazine
300 ..... LeJeune Bolt Company
305 ..... Skidmore-Wilhelm
306 ..... DACS, Inc.
307 ..... Dlubal Software, Inc.
308 ..... Hutchinson Industries, Inc.
309 ..... FHS – Overhead Cranes, Hoists & Material Handling Sys.
310 ..... Chicago Clamp Company
311 ..... ComSlab
314 ..... Euroboor USA, Inc.
317 ..... Nitto Kohki U.S.A., Inc.
320 ..... Descon Plus, Ltd.
321 ..... Atlas Tube
326 ..... Max Weiss Co., LLC
328 ..... SKM Industries, Inc.
329 ..... Bull Moose Tube Company
400 ..... ConXtech, Inc.
401 ..... Hilti Inc.
404 ..... Armatherm
407 ..... J.B. Long, Inc.
408 ..... Ironworker Management Progressive Action Cooperative Trust (IMPACT)
409 ..... Triple S Steel Holdings
410 ..... Stainless Structurals America
413 ..... Gerdau
414 ..... DEICON
416 ..... Cerbaco Ltd.
421 ..... ESAB Welding & Cutting Products
426 ..... Atema Inc.
427 ..... Girder-Slab Technologies, LLC
428 ..... Steel Erectors Association of America
429 ..... Tuttle, A Dant Clayton Division
430 ..... 3M3S Tech Private Limited
431 ..... American Iron and Steel Institute
433 ..... Indiana Anchor Bolt
435 ..... The Steel Report
436 ..... Steel Founders' Society of America
437 ..... Exact Detailing
505 ..... Cleveland City Forge
506 ..... TDS Industrial Services Ltd.
508 ..... Brown Consulting Services, Inc.
509 ..... Strand7 Pty Ltd
517 ..... TurnaSure, LLC
521 ..... RISA Technologies
528 ..... SRG Onesource LLC
530 ..... Voss Engineering, Inc.
532 ..... GERB Vibration Control Systems
533 ..... InfoSight Corporation
534 ..... D-MAC SAME DAY Steel Deck
536 ..... Structural Engineering Institute of ASCE
538 ..... Holloway Steel Services
600 ..... LNA Solutions
601 ..... Star Seismic
604 ..... Bradken, Inc.
605 ..... Tennessee Galvanizing®
607 ..... Hercules Bolt Company
608 ..... Shop Data Systems, Inc.
609 ..... Magni Group, Inc.
610 ..... LS Industries
611 ..... ITT Enidine
613 ..... Bridge Grid Flooring Manufactures Association (BGFMA)
614 ..... LUSAS
615 ..... KTA-Tator, Inc.
616 ..... D.S. Brown Company
617 ..... Sherwin-Williams Protective and Marine
621 ..... Viking Blast & Wash Systems
623 ..... Pannier Corporation
625 ..... DGS Technical Services, Inc.
625 ..... eCADsystems, Inc.
629 ..... S-Frame Software
631 ..... Danny's Construction Company, LLC
632 ..... Taylor Devices, Inc.
633 ..... Anatomic Iron Steel Detailing
634 ..... ISA – Ajax Fasteners
636 ..... Short Span Steel Bridge Alliance
638 ..... TUV Rheinland Industrial Solutions
700 ..... Bluearc Stud Welding
700 ..... Buckner Companies
705 ..... AZZ Galvanizing Services
706 ..... Birmingham Fastener
709 ..... R.J. Watson, Inc.
710 ..... Fabreeka International, Inc.
711 ..... BendTec, Inc.
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723 ..... DOT Quality Services
724 ..... House of Threads
728 ..... Redaelli Structural Steel Cables
729 ..... Valmont Coatings
730 ..... LARSA, Inc.
732 ..... Vesam Group
733 ..... Simsona Corporation
734 ..... AT&F
734 ..... SPS North America Intelligent Engineering
800 ..... St. Louis Screw and Bolt
801 ..... Design Data
804 ..... Haydon Bolts, Inc.
806 ..... Core Brace, LLC
810 ..... International Design Services, Inc.
811 ..... Bentley Systems, Inc.
814 ..... Hougen Manufacturing, Inc.
815 ..... FabSuite – Steel Management Software
816 ..... Lohr Structural Fasteners, Inc.
820 ..... Applied Bolting Technology, Inc.
821 ..... New Millennium Building Systems
822 ..... P2 Programs
826 ..... Bluebeam Software, Inc.
827 ..... StruMIS LLC
830 ..... Qnect LLC
833 ..... Lindapter USA
836 ..... Steel Deck Institute
838 ..... Freedom Tools LLC
839 ..... Steel Joist Institute
905 ..... ArcelorMittal International
909 ..... Canam Buildings
915 ..... FabSuite – Steel Management Software
921 ..... Steel Dynamics Structural and Rail Division
929 ..... Paramount Roll and Forming, Inc.
929 ..... Totten Tubes, Inc.
935 ..... AISC
935 ..... National Steel Bridge Alliance
938 ..... SE University by SE Solutions, LLC
1000 ..... Nucor Grating
1001 ..... Nucor (Corporation/ Fastener Division/Plate Mill Group/ Verco Decking, Inc./Vulcraft Group/ Yamato Steel Company)
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1011 ..... Nucor (Corporation/ Fastener Division/Plate Mill Group/ Verco Decking, Inc./Vulcraft Group/ Yamato Steel Company)
1015 ..... Trimble
1021 ..... AVEVA Inc.
1026 ..... Future Fabricating
1027 ..... CADeploy, Inc.
1028 ..... Chicago Metal Rolled Products
1105 ..... Independence Tube Corp.
1109 ..... G.W.Y., Inc.
1121 ..... Autodesk, Ltd.
1129 ..... Radley Corporation
1131 ..... American Alloy Steel
1135 ..... Steel Studio, Inc.
1200 ..... FabSuite – Steel Management Software
1200 ..... Integrous Steel Software Solutions
1201 ..... Infra-Metals Co.
1202 ..... PPG Protective & Marine Coatings
1204 ..... NSSB/MISA
1205 ..... Delta Structural Steel Services Group
1207 ..... Techflow Inc.
1208 ..... Steelmax Tools LLC
1211 ..... V&S Galvanizing
1215 ..... Graitec
1221 ..... The Lincoln Electric Co.
1221 ..... PythonX – Lincoln Electric
1226 ..... Bushwick Metals/AZCO Steel
1228 ..... McLaren Engineering Group
1230 ..... Real Technology LLC
1235 ..... Inovatech Engineering
1300 ..... American Punch Co.
1301 ..... Peddinghaus Corporation
1304 ..... Allied Machine & Engineering Corp.
1306 ..... CAMBCO, Inc.
1308 ..... Meyer Borgman Johnson
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1312 ..... LTC, Inc.
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1706 ..... Kinetic Cutting Systems, Inc.
1722 ..... Daito U.S.A., Inc.
1730 ..... AGT Robotics
1734 ..... Ercolina – CML USA, Inc.
1801 ..... AKYAPAK USA, LLC
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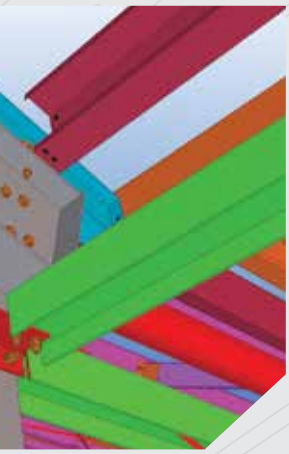

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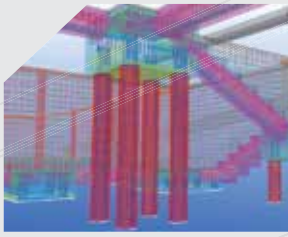
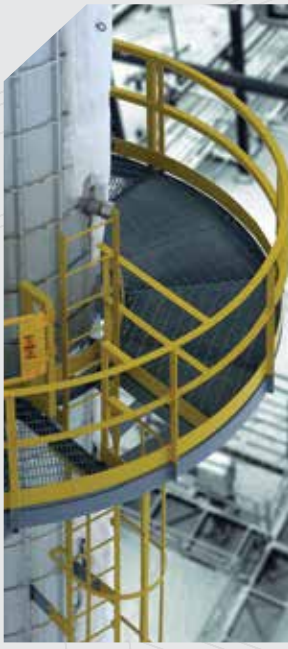


Nucor Buildings Group uses 3D digital modeling software to more effectively design, detail, manufacture and erect buildings.

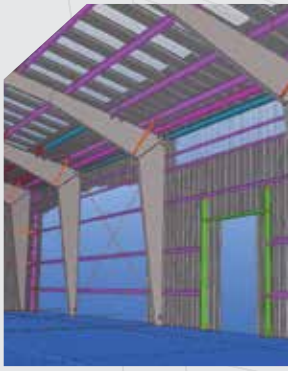


When viewing the BIM provided by Vulcraft, replicas of the steel joists represent the "as-built" product that will be delivered to the job site. While viewing designs of the joists in BIM, contractors and other parties have the advantage of reviewing the actual size of the member and panel layouts.

Harris Rebar's team of BIM experts utilize Tekla 3D modeling technology to provide concise and reliable information to work collaboratively, reduce risks, quantify feedback and truly add value to customer projects.

Armed with Tekla 3-D software, Fisher & Ludlow can take requirements from structural drawings to detailed grating drawings and then on to completely fabricated ready-to-install grating.

With BIM, Nucor considers the game changed in the construction industry.



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VISIT US AT BOOTH 1011 AT NASCC

8:00 a.m. – noon 4.0 PDHs/0.40 CEUs

SESSIONS		FOR	ROOM
SC1	Connection Design Short Course: Bracing Connections and Related Topics	D E F	Tallahassee
SC2	Stability Design Short Course: Beam Buckling and Bracing	E	Tampa
E1*	Educator Session	★	Naples

*Educator session provides 3.0 PDH/0.30 CEU credits.

8:00 a.m. – 10:00 a.m. 2.0 PDHs/0.20 CEUs

SESSION		FOR	ROOM
BK	World Steel Bridge Symposium Opening Session	ALL	Osceola C-D

10:30 a.m. – noon 1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B1	Accelerated Bridge Construction	E R G	Sun A
B2	Corrosion Protection Solutions	E F	Sun B

12:30 p.m. – 2:30 p.m. 1.0 PDHs/0.10 CEUs

SESSION		FOR	ROOM
K1	Keynote and Award Presentation: David Zweig, The Invisibles	ALL	Osceola C-D

Bolded sessions are streamed.

Of Interest Key

D // DETAILERS
E // ENGINEERS
R // ERECTORS
F // FABRICATORS
G // GENERAL CONTRACTORS
★ // EDUCATORS

SCHEDULE • AT-A-GLANCE •

WEDNESDAY

APRIL**13**

2:30 p.m. – 3:15 p.m.

Coffee Break (in Exhibit Hall)

3:15 p.m. – 4:15 p.m. 1.0 PDHs/0.10 CEUs

SESSIONS		FOR	ROOM
B3	Advanced Analysis Techniques for Design and Erection	E	Sun A
B4	Research in the Behavior Shear Connectors	E	Sun B
N6	Training the Trades Using a Distance Learning Model	R	Osceola 4-6
N7A	Crane Runway and Mill Buildings Design and Construction Issues	E F	Naples
N8A	Same Scenario, Different Codes: A Seismic Stability Evaluation of Buckling Restrained Braced Frames on West Coast	E	Sarasota
N9A	Design Guide 30: *Sound Isolation and Noise Control in Steel Buildings*	D E F	Tallahassee
N10A	**Stiffness Reduction Within the Direct Analysis Method—Composite Design**	**D E**	**Sun D**
N11A	**Connection Design, Detailing and Fabrication for Seismic Resistance**	**D E F**	**Sun C**
N12	Considerations in Qualifying and Vetting Your Detailers	D E F	Osceola 1-3
N13	A Primer on Fabrication Technology	F	Osceola B
N14A	It's Not All About Me: A Holistic Approach to Constructability	ALL	Miami
N22A	Hanger Loads: What's the Hang-up?	E	Tampa
N23A	Improved Design Assessment of Lateral Torsional Buckling of I-Section Members via Modern Computational Methods	E	Sanibel
N33A	Advances in Steel Connection Analysis	D E	Sun 1-3
N88A	New Wrinkles of Project Delivery	E G	Sun 4-6
S1	Stability at High Temperature Conditions	E	Osceola A
EW2*	SPS Steel Orthotropic Bridge Applications—Emerging Technologies	—	Captiva
EW7*	Reduce Material Handling and Maximize Material Usage	—	Daytona
EW11*	Advances in the Analysis and Design of Steel Structures	—	Destin

*Exhibitor Workshops do not provide PDH/CEU credits.

4:30 p.m. – 6:00 p.m. 1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B5	Evaluating the Challenges of Skewed Bridges	E R G	Sun A
B6	Case Studies in Construction Engineering of New and Existing Complex Steel Bridges	E G	Sun B
N1A	**Truss Design and Construction: Did I Consider Everything?**	**ALL**	**Sun D**
N2	Legal Issues for Project Managers	ALL	Osceola 1-3
N3A	100+ Years of Memories and Lessons Learned	ALL	Naples
N4A	Riveting Redux	D E F	Osceola 4-6
N5A	**Design of Stability Connections for Beams Used in Steel Seismic Frames**	**D E F**	**Sun C**
N15A	The *Code of Standard Practice*: A Legal and Practical Tool	ALL	Miami
N17	Electronic Model Review: Process, Advantages and Implementation	D E F	Sun 4-6
N40A	The Beauty and the Least	ALL	Sun 1-3
N42A	Steel Floor Design for Vibration-sensitive Equipment	E	Sarasota
N71A	Composite Plate Shear Walls—Concrete Filled (C-PSW/CF)	E	Sanibel
N72A	Combined Lateral Systems	E	Tallahassee
N82A	Tall Curtain Wall Systems and Large Seismic Drift	D E F	Tampa
S2	Stability of Beam-Columns	E	Osceola A

6:00 p.m. – 7:30 p.m.

Welcome Reception (in Exhibit Hall)

7:45 p.m. // Osceola C-D

Movie Night at The Steel Conference

SCHEDULE • AT-A-GLANCE •

THURSDAY APRIL14

Bolded sessions are streamed.

7:00 a.m. – 7:45 a.m.

SESSION		ROOM
EW26	Steel Construction in the Era of Connection	Daytona

8:00 a.m. – 9:30 a.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B7	Fracture Critical Determination: Existing and Future Policy, Part 1	E F	Sun A
N1B	Truss Design and Construction: Did I Consider Everything?	ALL	Tallahassee
N4B	Riveting Redux	D E F	Osceola 1-3
N15B	The *Code of Standard Practice:* A Legal and Practical Tool	ALL	Naples
N16	Effective Project Management	ALL	Tampa
N18A	Next Generation Approval	D E F	Sanibel
N19A	How to Avoid Costly Coating Failures	E F	Sarasota
N56	**Practical Implementation of Composite Floor Designs**	**E**	**Sun D**
N58A	Industrial Buildings and Nonbuilding Structures: Design Challenges	E	Miami
N69A	Improving Fracture Resistance in Cold Temperature Applications	ALL	Sun 1-3
N70A	Practical Steel Metallurgy for the Structural Steel User	E	Sun 4-6
N78A	**90 Seismic Design Ideas in 90 Minutes**	**E**	**Sun C**
Q1	New Certification Building Requirements: What Does This Mean for New Applicants and Existing Participants?	E F	Daytona
R1	Lessons I Wish I Had Known Starting Out: The Engineer Edition	E	Osceola B
S3	Stability Bracing Behavior and Consequences of Inadequate Bracing	E	Osceola A
EW5*	Eliminating Drawing Cleanup: Experience SD/2 Detailing	—	Captiva
EW22*	Joint-Type Connection Optimization Leads to Savings and Efficiency	—	Destin
EW27*	Digital Information Truth from Project Start to Finish	—	St. George 108

*Exhibitor Workshops do not provide PDH/CEU credits.

9:30 a.m. – 10:15 a.m.

Coffee Break (in Exhibit Hall)

10:15 a.m. – 11:45 a.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B8	Evaluation and Strengthening of In-Service Bridges	E	Sun A
B9	Advances in the Bridge Fabrication Shop	E F	Sun B
N3B	100+ Years of Memories and Lessons Learned	ALL	Naples
N39A	What's New with the 2016 *Code of Standard Practice* / An Overview of the 2016 AISC *Specification*	ALL	Miami
N40B	The Beauty and the Least	ALL	Osceola 4-6
N41A	Delegated Connection Design: What are the EOR's Responsibilities?	ALL	Tallahassee
N42B	Steel Floor Design for Vibration-sensitive Equipment	E	Tampa
N43A	Nonbuilding Structures and Nonstructural Components	E	Sanibel
N44	Ethics: A Practical Guide for Practicing Engineers	E	Sarasota
N45A	**Super Tall (and Super Cool) Buildings in Asia**	**E**	**Sun C**
N55A	**Classical Analysis Approaches Applied to 2nd-order Analysis**	**E**	**Sun D**
N57A	More Opportunities with the Direct Analysis Method	E	Sun 1-3
N62A	ASCE 37: *Design Loads on Structures During Construction*	D E F	Sun 4-6
N86A	Stability for Modular Construction	E	Osceola 1-3
R6	Fabricator Roundtable	E	Osceola B
S4	Stability of Steel Frames and Systems	E	Osceola A
EW4*	Leveraging the 3D Model for Steel Erection: Experience SDS/2 Erector	—	Captiva
EW12*	Construction Documents to Shop Drawings: Tekla Software for Structural Engineers	—	Destin
EW30*	BeamMaster Weld: Efficient Manufacturing from CAD to Production	—	Daytona

*Exhibitor Workshops do not provide PDH/CEU credits.

11:45 a.m. – 1:15 p.m.

Boxed Lunch (in Exhibit Hall) **Bring your lunch ticket.**

1:15 p.m. – 2:15 p.m.

1.0 PDHs/0.10 CEUs

SESSIONS		FOR	ROOM
B10	Recommendation for Improved Steel Design	E	Sun A
B11	Challenging Bridge Projects in Steel	E	Sun B
N7B	Crane Runway and Mill Buildings Design and Construction Issues	E F	Sarasota
N8B	Same Scenario, Different Codes: A Seismic Stability Evaluation of Buckling Restrained Braced Frames on West Coast	E	Sun 1-3
N25A	Recent Research on Embedded Column Base Connections	D E F	Naples
N46	Bidding Today's Steel Erection Projects: How to Best Prepare a Complete and Responsive Bid in Today's Risky Bid World	R	Captiva
N47	Staff Retention in Construction Employment	ALL	Miami
N48	**Current Views from Past Higgins Award Winners: Shankar Nair**	**D E**	**Sun C**
N49A	Flexural Members: Is my C_b Factor Correct?	D E	Tallahassee
N50	BIM as a Deliverable: New Falcons Stadium Roof	E F	Sun 4-6
N51	Introduction to LOD for Structural Steel	D F	Osceola 1-3
N52	New Supplement to Nuclear Specification on Composite SC Walls in Nuclear Facilities	E	Osceola 4-6
N53	The Chevron Effect Revisited	E	Tampa
N84	What's New in the World of Sustainability	ALL	Sanibel
N91A	**What Your Fabricator Wishes You Knew About HSS**	**E**	**Sun D**
Q2	Quick Methods for Quality Assurance Reviews	R F	Daytona
R3	What's Wrong with This Picture?	ALL	Osceola B
S5	Advances and Applications of Generalized Beam Theory	E	Osceola A
EW14*	The XTB Extra High Strength Bolt	—	St. George 106
EW16*	Lateral Analysis Using RAM Frame: How Accurate is It?	—	Destin
EW19*	Seamless Structural Analysis Utilizing RFEM and Tekla	—	St. George 108
EW23*	Bolt Optimization Resulting in up to 40% Fewer Bolts	—	St. George 104
EW25*	FabSuite – Steel Management Software	—	St. George 102

*Exhibitor Workshops do not provide PDH/CEU credits.

2:15 p.m. – 3:00 p.m.

Coffee Break (in Exhibit Hall)

STUDENT SESSIONS (SCIS)

9:00 a.m. – 2:30 p.m.

SESSIONS		ROOM
E2	Morning Meetup (9:00 a.m. – 10:00 a.m.)	Osceola C-D
E3	Morning Session and Lunch (10:00 a.m. – 12:45 p.m.)	Osceola C-D
E4	Direct Connect (1:00 p.m. – 2:30 p.m.)	Osceola C-D

3:00 p.m. – 4:00 p.m.

1.0 PDHs/0.10 CEUs

SESSIONS		FOR	ROOM
B12	Steel in Design Build Projects	E G	Sun A
B13	Successes in Short Span Steel Bridges	E G	Sun B
N10B	Stiffness Reduction Within the Direct Analysis Method—Composite Design	D E	Tallahassee
N11B	Connection Design, Detailing and Fabrication for Seismic Resistance	D E F	Miami
N29	The Hidden Value of Employee Development Plans	ALL	Tampa
N30	Preparing a Complete AND Compliant Site-specific Erection Plan	R	Sun 4-6
N31	Coping with an Aging Workforce	ALL	Sanibel
N32A	**Steel Structures in Fire: New Approaches for Modeling and Analysis**	**E**	**Sun C**
N33B	Advances in Steel Connection Analysis	D E	Naples
N34	Planning for Safety	F	Sun 1-3
N35	**SWOT Analysis of "BIM to FAB" Workflow Processes**	**D E F**	**Sun D**
N36	Benefits of Early Steel Detailing	D E F	Osceola B
N37	Steel Erection Fall Protection and Rescue Techniques	R	Osceola 1-3
N38	Solving the Dispute Resolution Process	D R F	Sarasota
N89	Advances in Welding Automation	R F	Osceola 4-6
Q3	Changing Management Perception of Root Cause Analysis	R F	Daytona
S6	Impact of Imperfections on Stability	E	Osceola A
EW6*	StruMIS: A Bird's Eye View of Your Fabrication at Your Fingertips	—	Captiva
EW9*	Expansion Bolts for Hollow Structural Steel Sections	—	St. George 108
EW15*	What's New in Structural Bolting: An Overview of Changes and Additions to the 2016 ASTM Specifications	—	Destin
EW21*	An Introduction to Nucor Grating	—	St. George 106
EW24*	CloudCalc: Structural Analysis in the Cloud	—	St. George 104
EW28*	Steel Connection Design – Reinvented	—	St. George 102

*Exhibitor Workshops do not provide PDH/CEU credits.

4:15 p.m. – 5:15 p.m.

1.0 PDHs/0.10 CEUs

SESSIONS		FOR	ROOM
B14	Heat Straightening and Repair of Collision Damaged FCM Girder Bridge	E F G	Sun A
B15	Ideas from Abroad	E F	Sun B
N9B	Design Guide 30: *Sound Isolation and Noise Control in Steel Buildings*	D E F	Sarasota
N14B	It's Not All About Me: A Holistic Approach to Constructability	ALL	Sun 1-3
N20A	AISC Steel Solutions Center's Top Ten of 2015	ALL	Naples
N21	Hiring the Right People for the Right Job: Look Beyond the Resume	ALL	Sanibel
N22B	Hanger Loads: What's the Hang-up?	E	Miami
N23B	Improved Design Assessment of Lateral Torsional Buckling of I-Section Members via Modern Computational Methods	E	Tallahassee
N24A	Stability Matters—Even for Nonbuilding Structures	D E	Tampa
N25B	**Recent Research on Embedded Column Base Connections**	**D E F**	**Sun D**
N26	OSHA Crane Operator Certification Requirements	R	Captiva
N27	Training the Erector and Fabricator Workforce	R F	Osceola 4-6
N28A	**Fun is in the Details**	**ALL**	**Sun C**
N65A	Applications of Non-Contact Measurements in Steel Structures	D E	Sun 4-6
N88B	New Wrinkles of Project Delivery	E G	Osceola 1-3
N90	Quality and Safety Management: A Practical Approach for Erectors	R	Destin
Q4	Quality and Lean Manufacturing: How Can Lean Help Me Improve Quality in My Steel Fabrication Shop?	F	Daytona
S7	Stability of Angles, Channels, and Z-Shaped Members	E	Osceola A
EW8*	Build Smarter with Integrated Design and Detailing	—	St. George 104
EW10*	Intergraph: Evolutionary Not Revolutionary Change, Unconstrained Modeling Approach	—	St. George 108
EW13*	Trimble's Latest Software Developments: Tekla Model Sharing and Trimble Connect	—	St. George 106

*Exhibitor Workshops do not provide PDH/CEU credits.

5:30 p.m. – 6:15 p.m.

SESSIONS		ROOM
EW1	A Brief History of Steel and its Influence on the Skyscraper	Captiva
EW3	Designing Connections Using RISA and Tekla	Destin

7:00 p.m. – 10:00 p.m.

Conference Dinner: Pointe Orlando

Shuttle will depart from the transportation loop on the convention center side of the Gaylord at 6:40 p.m.

SCHEDULE • AT-A-GLANCE •

FRIDAY APRIL15

Of Interest Key

- D // DETAILERS
- E // ENGINEERS
- R // ERECTORS
- F // FABRICATORS
- G // GENERAL CONTRACTORS
- S // STUDENTS

8:00 a.m. – 9:30 a.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B16	Fracture Critical Determination: Research and Strategies, Part 2	E F	Sun A
N18B	Next Generation Approval	D E F	Sun 4-6
N19B	**How to Avoid Costly Coating Failures**	**E F**	**Sun C**
N41B	Delegated Connection Design: What are the EOR's Responsibilities?	ALL	Tallahassee
N54	Being a Socially Responsible—and Profitable—Company	ALL	Sanibel
N55B	Classical Analysis Approaches Applied to 2nd-order Analysis	E	Naples
N57B	More Opportunities with the Direct Analysis Method	E	Miami
N59A	**Demystifying Connection Design and Transfer Forces**	**E**	**Sun D**
N80A	Diaphragm Design 101	E	Sarasota
N87	The Splice is Right	E F	Tampa
Q5	Updates to the AISC Erector Certification Program	R F	Daytona
R4	Lessons I Wish I Had Known Starting Out: The Fabricator Edition	F	Osceola B
R5	Forgotten Workhorse: The Importance of QA/QC Steel Anchor Installation	ALL	Osceola C
S8	Advances in Analysis and Design for Stability	E	Osceola A

9:30 a.m. – 10:15 a.m.

Coffee Break (in Exhibit Hall)

10:15 a.m. – 11:45 a.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B17	Bridge Information Modeling—Towards an Industry Exchange Standard	D E F G	Sun B
B18	Fracture Critical Determination: Case Studies and Strategies, Part 3	E F	Sun A
N43B	Nonbuilding Structures and Nonstructural Components	E	Tallahassee
N60A	**Steel Joist Floor Systems: Best Practices**	**E**	**Sun D**
N61A	Analysis and Design of Stabilizer Plates in Single Plate Shear Connections	E F	Sanibel
N69B	Improving Fracture Resistance in Cold Temperature Applications	ALL	Sarasota
N70B	Practical Steel Metallurgy for the Structural Steel User	E	Sun 1-3
N71B	Composite Plate Shear Walls—Concrete Filled (C-PSW/CF)	E	Sun 4-6
N72B	**Combined Lateral Systems**	**E**	**Sun C**
N73A	Welcome to the SE's Construction Document World	D E F	Osceola 4-6
N74	A Preview of the 2016 AISC *Seismic Provisions* and AISC *Prequalified Connections for Seismic Moment Frames*	D R F	Naples
N75A	Simplifying Tricky Connections	ALL	Miami
Q6	The New Erector Certification Program Requirements Are Coming: An Erector's Point of View	R	Daytona
R2	Industry Roundtable	D R F	Osceola B
S9	Beedle Presentation Session: Professor Roger A. LaBoube	E	Osceola A
EW29*	StruMIS: Modern and Mobile Bar-Code App for full Traceability and Tracking Needs of Steel Fabrication	—	Captiva

*Exhibitor Workshops do not provide PDH/CEU credits.

11:45 a.m. – 1:15 p.m.

Boxed Lunch (in Exhibit Hall) **Bring your lunch ticket.**

1:00 p.m. – 2:30 p.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
B21	Phased Array Ultrasonic Testing—Real World Application and Results	E F	Sun A
N5B	Design of Stability Connections for Beams Used in Steel Seismic Frames	D E F	Tallahassee
N76	Negotiating for Results	ALL	Tampa
N77	Erecting a 300-ft Span Roof Truss Without Shoring	R	Miami
N79**	Get Fired Up: What Structural Engineers Should Know About Fire Design	E	Osceola D
N80B	**Diaphragm Design 101**	**E**	**Sun C**
N81	How GCs Use a Fabricator's Model	F	Sanibel
N82B	**Tall Curtain Wall Systems and Large Seismic Drift**	**D E F**	**Sun D**
N85	Proposals that Win	ALL	Naples
Q7	How to Write an Erector Quality Manual	R	Daytona
EW17*	Structural Engineering Advancement Through Integrated Design Workflows	—	Captiva

*Exhibitor Workshops do not provide PDH/CEU credits. **N79 is 1.0 PDH

2:45 p.m. – 3:45 p.m.

1.0 PDHs/0.10 CEUs

SESSIONS		FOR	ROOM
B19	Strengthening and Repair of In-Service Bridges	E F G	Sun A
B20	Kentucky Lake Bridges—Steel from Beginning to End	E R G	Sun B
N20B	AISC Steel Solutions Center's Top Ten of 2015	ALL	Tallahassee
N24B	Stability Matters—Even for Nonbuilding Structures	D E	Tampa
N28B	Fun is in the Details	ALL	Miami
N32B	Steel Structures in Fire: New Approaches for Modeling and Analysis	E	Sun 1-3
N49B	Flexural Members: Is my C_b Factor Correct?	D E	Sun 4-6
N63	When Doing Nothing Is the Right Thing to Do: Managing Your Business More Effectively Using Statistical Variation	ALL	Sanibel
N64	From Complex Problems to Simple Solutions	ALL	Sarasota
N65B	**Applications of Non-Contact Measurements in Steel Structures**	**D E**	**Sun C**
N66	Empowering Fabricators and Suppliers to Improve the Design of Steel Structures	E F	Osceola 1-3
N67	**Increasing the Downstream Value of Design Models**	**D E F**	**Sun D**
N68	Winning Change Orders	F R	Naples
N83	How Long Will the Recovery Last?	ALL	Osceola B
N91B	What Your Fabricator Wishes You Knew About HSS	E	Osceola 4-6
Q8	Safety Management Systems and the Erector	R	Daytona
S10	Stability of Castellated Beams and Tapered Members	E	Osceola A
EW18*	OpenBridge Modeler: What is it and how can I use it today?	—	Captiva
EW20*	Seamless Structural Analysis Utilizing RFEM and Tekla	—	St. George 104

*Exhibitor Workshops do not provide PDH/CEU credits.

4:00 p.m. – 5:30 p.m.

1.5 PDHs/0.15 CEUs

SESSIONS		FOR	ROOM
N39B	What's New with the 2016 *Code of Standard Practice* / An Overview of the 2016 AISC *Specification*	ALL	Sun A
N45B	Super Tall (and Super Cool) Buildings in Asia	E	Tallahassee
N58B	**Industrial Buildings and Nonbuilding Structures: Design Challenges**	**E**	**Sun C**
N59B	Demystifying Connection Design and Transfer Forces	E	Sanibel
N60B	Steel Joist Floor Systems Best Practices	E	Miami
N61B	**Analysis and Design of Stabilizer Plates in Single Plate Shear Connections**	**E F**	**Sun D**
N62B	ASCE 37: *Design Loads on Structures During Construction*	D E F	Sun 1-3
N73B	Welcome to the SE's Construction Document World	D E F	Sun 4-6
N75B	Simplifying Tricky Connections	ALL	Sarasota
N78B	90 Seismic Design Ideas in 90 Minutes	E	Sun B
N86B	Stability for Modular Construction	E	Osceola 1-3
Q9	Chapter N and the Erector: What Does It Mean for Quality?	R	Daytona
S11	Stability of Wall Systems	E	Osceola A

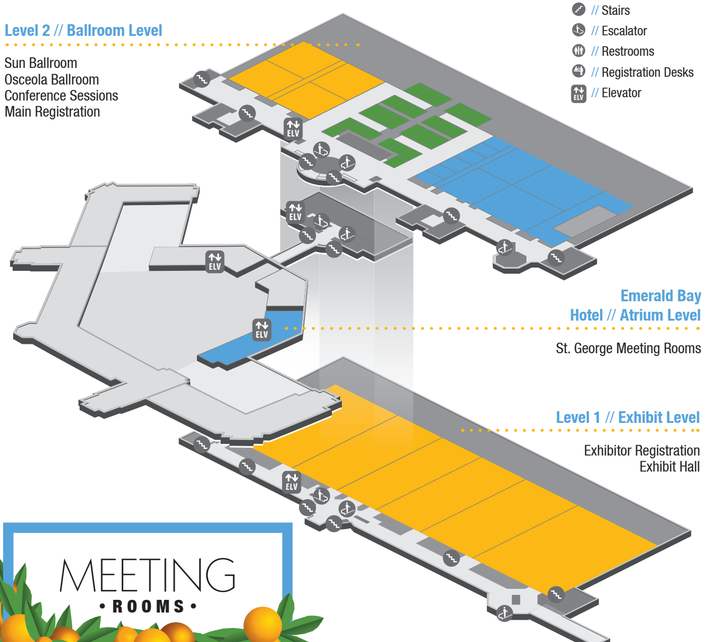
Bolded sessions are streamed.

Key

- // Stairs
- // Escalator
- // Restrooms
- // Registration Desks
- // Elevator

Level 2 // Ballroom Level

Sun Ballroom
Osceola Ballroom
Conference Sessions
Main Registration



Emerald Bay Hotel // Atrium Level

St. George Meeting Rooms

Level 1 // Exhibit Level

Exhibitor Registration
Exhibit Hall

MEETING • ROOMS •

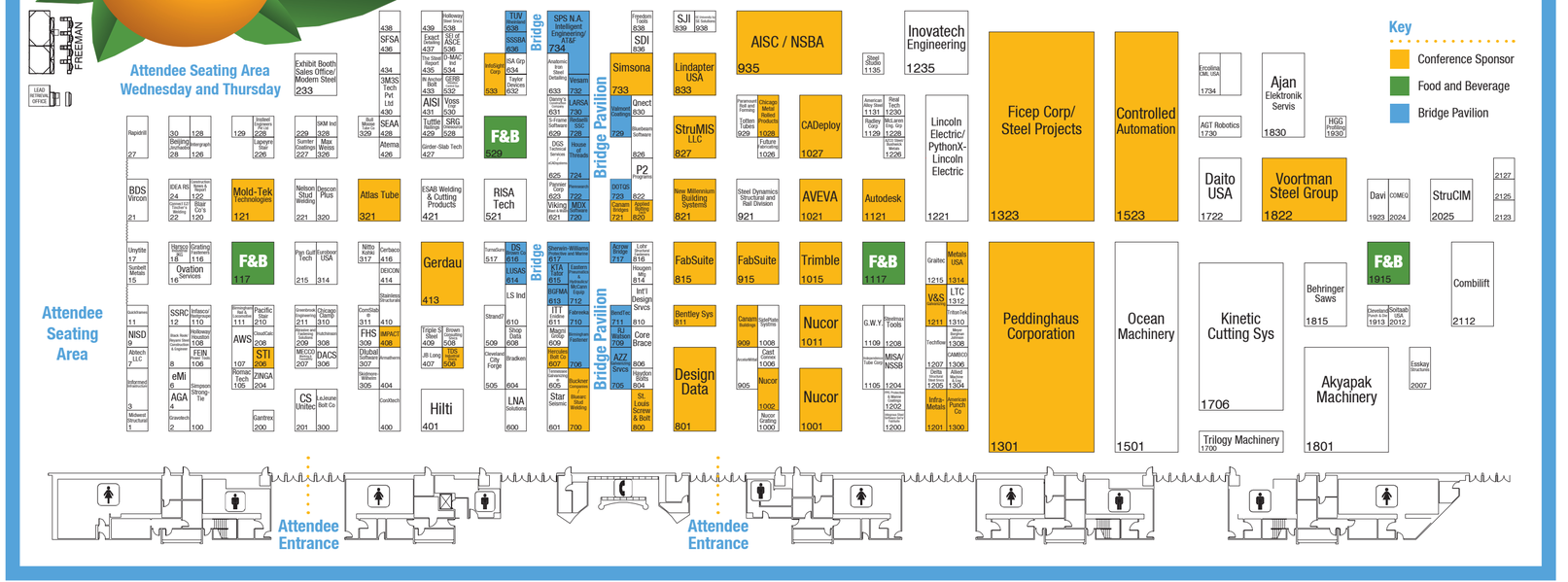
EXHIBIT HALL • FLOOR PLAN •

Level 1 // Halls A–F

SEE YOU NEXT YEAR!

NASCC

THE STEEL CONFERENCE
SAN ANTONIO
HENRY B. GONZALES CONVENTION CENTER
MARCH 22–24, 2017



Plan Your NASCC

Use the chart on the inside back cover or the NASCC mobile app to create your personalized schedule for the week and record important PDH codes.

CONFERENCE TIPS

Ironworkers Apprenticeship and Training Center Tour

Wednesday 8:00 a.m.

Bus will board from Gaylord Palms at 8:00 a.m.

Please visit the registration desk to sign up for the tour. Max Capacity: 55 people

$25 Payment for tour will be donated to the AISC Education Foundation.

Exhibit Hall Hours

Wednesday // 4.13.16
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 // 4.14.16
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 // 4.15.16
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

Stop at the registration desk to pick up your conference registration package, to register on site, or to purchase extra tickets (when available) to events and guest tours. The registration desk is located on the second floor of the convention center.

Tuesday // 4.12.16 noon – 4:00 p.m.
Wednesday // 4.13.16 7:00 a.m.– 6:00 p.m.
Thursday // 4.14.16 7:00 a.m.– 5:00 p.m.
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Truss Design and Construction: Did I Consider Everything?

N1A* Wednesday 4:30 p.m. – 6:00 p.m. // Sun D
N1B Thursday 8:00 a.m. – 9:30 a.m. // Tallahassee

Speakers: Derek Beaman, Magnusson Klemencic Associates; Scott Armbrust, LeJeune Steel Company

Moderator: Tom Meyer, Magnusson Klemencic Associates

Steel truss design and construction involves more than simply resisting imposed loads. This presentation will provide insights into the design and construction of floor and roof trusses, covering unique load considerations like rigging, operable partitions and maintenance vehicles that are often required in facilities with long-span framing. Truss deflection and vibration considerations will also be discussed. Attendees will learn about shipping limitations, splice locations, welding and bolting in the shop and field, the pros and cons of changing chord sizes and erection considerations. **1.5 PDHs**

ALL

Legal Issues for Project Managers

N2 Wednesday 4:30 p.m. – 6:00 p.m. // Osceola 1-3

Speaker: Angela Stephens, Stites & Harbison

Moderator: Glenn Tabolt, STS Steel

Attendees will learn how to minimize (and even avoid) the potential harm arising from some of the common legal issues confronting project managers in today's complex construction environment. Contract formation, scope, schedule, changes, delays, and dispute resolution will be discussed on a basic level from the fabricator's perspective. Learn about important contract clauses that will enable you to preserve your company's rights and keep the job moving forward. **1.5 PDHs**

ALL

100+ Years of Memories and Lessons Learned

N3A Wednesday 4:30 p.m. – 6:00 p.m. // Naples
N3B Thursday 10:15 a.m. – 11:45 a.m. // Naples

Speakers: James Fisher, Computerized Structural Design; Larry Kloiber, Lejeune Steel

Moderator: Curt Miller, Computerized Structural Design

Preeminent engineers Jim Fisher and Larry Kloiber share the knowledge and experience they have gained from their long and varied careers. **1.5 PDHs**

ALL

Riveting Redux

N4A Wednesday 4:30 p.m. – 6:00 p.m. // Osceola 4-6
N4B Thursday 8:00 a.m. – 9:30 a.m. // Osceola 1-3

Speakers: Quentin Collette, Sparks Engineering; Matt Hebdon, Virginia Tech; Vern Mesler, VJM Metal Craftsman

Moderator: Frank Hatfield, Michigan State University

Are you rehabilitating an historic metal bridge or assessing the safety of a riveted iron or steel structure? This session will enhance your understanding of the design, fabrication and behavior of riveted connections, beginning with necessary background on the history, development, technology and theory of structural riveting, leading into guidance on appraising and renovating riveted structures. Results of recent experiments investigating fracture resilience and redundant behavior of riveted built-up members will presented next, followed by a fabricator's perspective on equipment and procedures for rehabilitating riveted structures. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Design of Stability Connections for Beams Used in Steel Seismic Frames

N5A* Wednesday 4:30 p.m. – 6:00 p.m. // Sun C
N5B Friday 1:00 p.m. – 2:30 p.m. // Tallahassee

Speaker: Patrick J. Fortney, Cives Engineering Corporation

The AISC *Seismic Provisions* (AISC 341-10) require lateral bracing for beams used in seismic frames. This presentation will summarize the bracing requirements given in AISC 341 for brace locations adjacent to and away from plastic hinge locations. Design examples for two different types of connections—"lateral" bracing and "torsional" bracing—will be presented. Differences in the connection design approaches for equal depth beams and unequal depth beams will also be discussed. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Training the Trades Using a Distance Learning Model

N6 Wednesday 3:15 p.m. – 4:15 p.m. // Osceola 4-6

Speaker: Bryan McClure, LPR Construction Co.

Moderator: Mark Yerke, S&R Enterprises

Attendees will learn how LPR Construction partners with SEAA and NCCER to provide its award winning ironworker apprentice program to more than 150 apprentices working in eight to ten different states monthly, through the use of new video conferencing technology. **1.0 PDHs**

ERECTORS

Crane Runway and Mill Buildings Design and Construction Issues

N7A Wednesday 3:15 p.m. – 4:15 p.m. // Naples
N7B Thursday 1:15 p.m. – 2:15 p.m. // Sarasota

Speaker: Tim Bickel, CSD

Moderator: John Rolfes, Computerized Structural Design

This session will focus on crane buildings and crane support structure design requirements. Topics will include crane ratings, applicable standards and guides, component and detail design, fabrication, erection, inspection and maintenance issues. **1.0 PDHs**

ENGINEERS // FABRICATORS

Same Scenario, Different Codes: A Seismic Stability Evaluation of Buckling Restrained Braced Frames on West Coast

N8A Wednesday 3:15 p.m. – 4:15 p.m. // Sarasota
N8B Thursday 1:15 p.m. – 2:15 p.m. // Sun 1-3

Speakers: Robert Tremblay, École Polytechnique de Montréal; Larry Fahnestock, University of Illinois–UC

Buckling restrained braced frames (BRBF) have become popular seismic force resisting systems for low- and medium-rise buildings located in moderate and high seismic zones around the world. Using a 9-story steel-frame prototype, building performance based on code provisions from the U.S., Canada and Chile will be compared, particularly in terms of design seismic loads, drift limits, and requirements for P-delta effects. The three structures are considered to be located on the Pacific west coast on sites exposed to crustal and interface earthquakes. Seismic stability is examined through nonlinear response history analyses under representative site-specific earthquake record ensembles. **1.0 PDHs**

ENGINEERS

Design Guide 30: *Sound Isolation and Noise Control in Steel Buildings*

N9A Wednesday 3:15 p.m. – 4:15 p.m. // Tallahassee
N9B Thursday 4:15 p.m. – 5:15 p.m. // Sarasota

Speaker: Benjamin Markham, Acentech

Moderator: Margaret Matthew, AISC

Modern buildings must protect their occupants from excessive noise intrusion, assure their acoustical comfort and provide favorable conditions for listening and communication. In order to achieve these goals efficiently and economically, building designers need to take the relevant considerations into account beginning early in the design process and to pursue their proper implementation. The new AISC Design Guide 30—*Sound Isolation and Noise Control in Steel Buildings* provides the design team with readily accessible background information and with guidance aimed at achieving acoustical conditions suitable for a building's planned occupancies. It also discusses sound isolation in detail—including the related metrics, effects of structural parameters and acoustical treatments, the effects of "weak links" such as acoustically inappropriate windows and gaps at doors, and the isolation performance of wall configurations that are widely used in steel buildings. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Stiffness Reduction Within the Direct Analysis Method—Composite Design

N10A* Wednesday 3:15 p.m. – 4:15 p.m. // Sun D
N10B Thursday 3:00 p.m. – 4:00 p.m. // Tallahassee

Speaker: Mark Denavit, Stanley D. Lindsey and Associates, Ltd.

Moderator: Jerry Hajjar, Northeastern University

The forthcoming 2016 AISC 360 *Specification for Structural Steel Buildings* will contain new explicit provisions for applying the direct analysis method to the design of steel-concrete composite structures. The background of these provisions will be presented in this session, along with practical design examples that illustrate their application. **1.0 PDHs**

ENGINEERS // DETAILERS

Connection Design, Detailing and Fabrication for Seismic Resistance

N11A* Wednesday 3:15 p.m. – 4:15 p.m. // Sun C
N11B Thursday 3:00 p.m. – 4:00 p.m. // Miami

Speaker: Robert Whyte, LBYD, Inc.

Moderator: Joel Hicks, NISD/Techflow, Inc.

So let's say a structure has a seismc force resisting system (SFRS). Is it defined clearly? How will that affect me? Learn how the SFRS affects the connection design, painting and erection of a structure. The connections must be designed and detailed to meet the seismic requirements and the fabrication, welding and erection must also. These requirements affect the costs in all these areas. We will go through these steps to provide an overview of what to watch for and how best to get it done. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Considerations in Qualifying and Vetting Your Detailers

N12 Wednesday 3:15 p.m. – 4:15 p.m. // Osceola 1-3

Speakers: Don Engler, BDS Global; Rob Schoen, Axis Steel Detailing

Moderator: Rob Schoen, Axis Steel Detailing

This session will discuss the consequences of not properly vetting your detailer. How can you actually qualify your detailers and verify their qualification and performance? How can a fabricator or engineer prevent picking the wrong detailer for the right job? **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

A Primer on Fabrication Technology

N13 Wednesday 3:15 p.m. – 4:15 p.m. // Osceola B

Speaker: Chris Moor, Steel Projects

Moderator: Luke Faulkner, AISC

A look into the current and upcoming hardware/software technology available to the steel fabricator, including CNC, robotics, automated welding and automated assembly. Attendees will gain increased awareness of technology trends and learn how to evaluate new technologies as well as the ROI associated with them. **1.0 PDHs**

FABRICATORS

It's Not All About Me: A Holistic Approach to Constructability

N14A Wednesday 3:15 p.m. – 4:15 p.m. // Miami
N14B Thursday 4:15 p.m. – 5:15 p.m. // Sun 1-3

Speaker: Phil Jones, EllisDon

This session will focus on achieving construction success by holistic thinking, which involves collaborative macro-planning with consideration for the involved micro-planning. Attendees will learn how this approach involves understanding the requirements and tolerances needed for other trades and consultants to ensure you achieve your construction goals. It will also focus on recent project successes with structural steel, looking at design detailing, transportation considerations and collaboration with consultants, steel fabricators and other subtrades. **1.0 PDHs**

ALL

The *Code of Standard Practice*: A Legal and Practical Tool

N15A Wednesday 4:30 p.m. – 6:00 p.m. // Miami
N15B Thursday 8:00 a.m. – 9:30 a.m. // Naples

Speakers: David Ratterman, Stites & Harbison; Babette Freund, Ritner Steel; Mike West, Computerized Structural Design; Phil Torchio, Williams Erection Company

Moderator: Charlie Carter, AISC

Come listen to examples of how the AISC *Code of Standard Practice* is used in resolving disputes. Members of the *Code* committee, as well as a fabricator, erector and engineer, will review the code and how it is applied. Bring your questions and ask this experienced panel about practical applications of the *Code*. **1.5 PDHs**

ALL

Effective Project Management

N16 Thursday 8:00 a.m. – 9:30 a.m. // Tampa

Speaker: Lyn Busby, Cives Steel

Moderator: Glenn Tabolt, STS Steel

Whether you work on large projects or small, effective project management is crucial to your success. In this session, one of our industry's top project managers provides tips for setting up a job and keeping it under control for profitability and customer satisfaction. **1.5 PDHs**

ALL

Electronic Model Review: Process, Advantages and Implementation

N17 Wednesday 4:30 p.m. – 6:00 p.m. // Sun 4-6

Speakers: Andrew Hermiz, KPFF; Greg Carnaghi, United Investigation Services

Moderator: Luke Faulkner, AISC

This presentation will discuss the general process of electronic model review and its implementation within an A/E office. Discussion will focus on advantages to the owner, architect, detailer/fabricator, and construction team. A case study and "lessons learned" will be presented along with a Q&A session. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Next Generation Approval

N18A Thursday 8:00 a.m. – 9:30 a.m. // Sanibel
N18B Friday 8:00 a.m. – 9:30 a.m. // Sun 4-6

Speakers: David Ruby and John Matuska, Ruby + Associates

Today's shop drawings are just as likely to be electronic files as paper sheets. This session explores how you can eliminate the need for excess paper and email submittals while saving time. You'll learn about the various approval options and explore how to review major joints in 3D as-built configuration, and will come away with a greater understanding of the benefits of model sharing; the advantages of joint approval in the 3D orientation versus reviewing individual members; and techniques for accurately reviewing models. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

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How to Avoid Costly Coating Failures

N19A Thursday 8:00 a.m. – 9:30 a.m. // Sarasota
N19B* Friday 8:00 a.m. – 9:30 a.m. // Sun C

Speaker: Phil Jones, EllisDon

Through a series of case studies of coating failures in buildings, this session will show engineers what they need to know to properly specify coating systems, as well as provide fabricators with some critical considerations. **1.5 PDHs**

ENGINEERS // FABRICATORS

AISC Steel Solutions Center's Top Ten of 2015

N20A Thursday 4:15 p.m. – 5:15 p.m. // Naples
N20B Friday 2:45 p.m. – 3:45 p.m. // Tallahassee

Speakers: Larry Muir, Carlo Lini and Katherine Quigg, AISC

This session takes a look at AISC's most frequently asked questions over the past year—and what those questions say about the rest of us. **1.0 PDHs**

ALL

Hiring the Right People for the Right Job: Look Beyond the Resume

N21 Thursday 4:15 p.m. – 5:15 p.m. // Sanibel

Speakers: Charlie Kimmel and Dennis Myers, Kimmel & Associates

Learn how to dig deeper in determining a candidate's proper fit for a position. This presentation will teach you proper interview techniques to ensure the candidate fits into your company's culture. Key tools include: formal and informal reference checking; thorough candidate vetting; specific interview techniques for both phone and in-person interviews; techniques for determining a candidate's cultural fit to the company; and how to analyze a candidate's career motivations and soft skills. **1.0 PDHs**

ALL

Hanger Loads: What's the Hang-up?

N22A Wednesday 3:15 p.m. – 4:15 p.m. // Tampa
N22B Thursday 4:15 p.m. – 5:15 p.m. // Miami

Speaker: Bill Thornton, Cives Engineering Corporation

Moderator: Jon Beier, SMBH, Inc.

Hanger connections are used in a multitude of structures. This session will discuss the design of hangers and their connections, including effects on other members such as imposed stresses on truss chords and prying action. **1.0 PDHs**

ENGINEERS

Improved Design Assessment of Lateral Torsional Buckling of I-Section Members via Modern Computational Methods

N23A Wednesday 3:15 p.m. – 4:15 p.m. // Sanibel
N23B Thursday 4:15 p.m. – 5:15 p.m. // Tallahassee

Speaker: Don White, Georgia Institute of Technology

Recent research to accurately compute the LTB strength of flexural members has resulted in efficient computational buckling procedures that can be implemented within today's design procedures. Such methods are able to account more rigorously for member inelasticity, moment gradient effects, load height effects, bracing effects and end restraint effects from connection details and member continuity across braced points. Employing experimental databases used in the 2003 and 2005 AASHTO and AISC *Specification* developments, this session will take a fresh look at design strength predictions using advanced software capabilities, providing new knowledge regarding the LTB limit state and the practical benefits of using such capabilities. **1.0 PDHs**

ENGINEERS

Stability Matters— Even for Nonbuilding Structures

N24A Thursday 4:15 p.m. – 5:15 p.m. // Tampa
N24B Friday 2:45 p.m. – 3:45 p.m. // Tampa

Speakers: Perry Green, Bechtel Power Company; Jules Van de Pas, Computerized Structural Design

Moderator: Francis Byrne, Chicago Bridge & Iron Company

The unique stability aspects of a Module Assembly Building will be examined in this session. An MAB is a single-purpose temporary structure used to facilitate the fabrication of large structural steel-plate composite modules weighing up to 1,150 tons for use in the nuclear generating plants currently under construction in the U.S. Come learn how the engineers resolved the stability design challenges of a structural system that not only provides three overhead bridge cranes that share a common set of crane rails, but also a structural system that is able to resist significant wind loads even when one of its walls is disassembled allowing for the removal of these large structural modules. **1.0 PDHs**

ENGINEERS // DETAILERS

Recent Research on Embedded Column Base Connections

N25A Thursday 1:15 p.m. – 2:15 p.m. // Naples
N25B* Thursday 4:15 p.m. – 5:15 p.m. // Sun D

Speakers: Paul Richards, Brigham Young University; Amit Kanvinde, University of California, Davis

Moderator: Tom Schlafly, AISC

Column base connections are often embedded in concrete due to the presence of a floor slab, or by design, to provide flexural strength. Despite their prevalence, the response of these connections is not well understood, and their design often relies on ad hoc assumptions about their behavior. This session will present research on embedded column base connections focusing on two recent experimental programs—one at Brigham Young University, and one at the University of California, Davis. Based on these tests, new strength models for the connections will be presented, along with guidelines for their simulation in structural analysis. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

OSHA Crane Operator Certification Requirements

N26 Thursday 4:15 p.m. – 5:15 p.m. // Captiva

Speaker: Chip Pocock, Buckner Companies

Moderator: Josh Cilley, American Steel & Precast Erectors

This session will review OSHA 1926.1400 Subpart CC of the OSHA Construction Safety Standards for Crane Safety including Crane operator certification, its history, current status and an update on the current status of proposed requirements. **1.0 PDHs**

ERECTORS

Training the Erector and Fabricator Workforce

N27 Thursday 4:15 p.m. – 5:15 p.m. // Osceola 4-6

Speaker: Tim Eldridge, Educational Services Unlimited

Moderator: Tom Underhill, Steel Erectors Association of America

The session will present an approach to develop and implement a nationally recognized Craft Training Program. Highlights include assessing your current workforce, providing training prescriptions and flexible personalized training. This approach uses NCCER's nationally recognized training, USDOL Apprenticeship Standards along with other recognized resources. **1.0 PDHs**

FABRICATORS // ERECTORS

Fun is in the Details

N28A* Thursday 4:15 p.m. – 5:15 p.m. // Sun C
N28B Friday 2:45 p.m. – 3:45 p.m. // Miami

Speaker: Terri Meyer Boake, University of Waterloo

What sets Architecturally Exposed Structural Steel well apart from almost any other type of application in steel is the focus on connection detailing that is critically important to the conveyance of the aesthetics of the design. This talk will draw from the exploration of AESS detailing in Professor Boake's recent book *Architecturally Exposed Structural Steel Design: Specification/Connections/Details*, using a myriad of examples of high quality bolted, welded and custom connections. The visuals in this presentation will be extensive, drawn from the speaker's extraordinary collection of AESS projects from around the globe. **1.0 PDHs**

ALL

The Hidden Value of Employee Development Plans

N29 Thursday 3:00 p.m. – 4:00 p.m. // Tampa

Speakers: Gabriel Munoz, Reliance Steel & Aluminum Co.; Mark Trimble, Huntington Steel

Moderator: Mark Trimble, Huntington Steel

Your employees want to know what the future holds—especially those in the younger generations. A good employee development plan incorporates employee expectations with the reality of managing your business. **1.0 PDHs**

ALL

Preparing a Complete AND Compliant Site-specific Erection Plan

N30 Thursday 3:00 p.m. – 4:00 p.m. // Sun 4-6

Speaker: Josh Collins, S&R Enterprises LLC

Moderator: Mark Yerke, S&R Enterprises

With the various requirements, guidelines and suggestions for site-specific erection plans from OSHA and others, developing a useful SSEP can be a challenge. This session will help you develop a useful erection plan for your field crews. **1.0 PDHs**

ERECTORS

Coping with an Aging Workforce

N31 Thursday 3:00 p.m. – 4:00 p.m. // Sanibel

Speakers: Charlie Kimmel and Dennis Myers, Kimmel & Associates

Learn about the issues facing companies with aging workforces and how to successfully manage the transition to new staff. You'll learn how to bridge the age gap, understand how to recruit the best employees for key positions and how to implement effective succession planning techniques. The topics of mentoring programs and how to challenge and engage your employees will also be addressed. **1.0 PDHs**

ALL

Steel Structures in Fire: New Approaches for Modeling and Analysis

N32A* Thursday 3:00 p.m. – 4:00 p.m. // Sun C
N32B Friday 2:45 p.m. – 3:45 p.m. // Sun 1-3

Speakers: Mina Seif and Joseph Main, National Institute of Standards and Technology

Moderator: Nestor Iwankiw, Jensen Hughes

Evaluating the stability of steel structures under fire-induced thermal loads is challenging. When the system components are subjected to high temperatures and steep non-uniform thermal gradients, connections and members are often required to resist large compressive forces induced by restraint against thermal expansion, followed by large deflections, rotations, axial deformations and/or potential destabilization. This session will present reduced-order modeling approaches to enable modeling of large systems under fire conditions. **1.0 PDHs**

ENGINEERS

Advances in Steel Connection Analysis

N33A Wednesday 3:15 p.m. – 4:15 p.m. // Sun 1-3
N33B Thursday 3:00 p.m. – 4:00 p.m. // Naples

Speakers: Bo Dowswell, ARC International; Jonathan Weigand, National Institute of Standards and Technology

Moderator: Larry Kloiber, Lejeune Steel

New analysis methods for gusset plates and single-plate shear connections will be presented. With these approaches, the true connection behavior can be accurately predicted without the need for empirical factors or idealized boundary conditions. The first part of the session will discuss gusset plate stability using notional loads and the second part will focus on a component-based model for single-plate shear connections. **1.0 PDHs**

ENGINEERS // DETAILERS

Planning for Safety

N34 Thursday 3:00 p.m. – 4:00 p.m. // Sun 1-3

Speakers: David Sailing, Zalk Josephs Fabricators; Steve Hess, Heico Companies

Moderator: Larry Kruth, Douglas Steel Fabricating Corporation

Every day in fabrication shops across our country, workers are injured. Companies are faced with skyrocketing workers compensation costs, and managers are left asking themselves, "What more can we do?" Find out how this AISC fabricator member has worked more than ten years and well over one million employee hours without a lost time injury with periods of up to eighteen months without a single recordable injury. And learn how they have changed the safety culture in their organization by adopting nine simple safety principles! **1.0 PDHs**

FABRICATORS

SWOT Analysis of "BIM to FAB" Workflow Processes

N35* Thursday 3:00 p.m. – 4:00 p.m. // Sun D

Speakers: Jerod Hoffman, Meyer Borgman Johnson; Michael Gustafson, Autodesk

Moderator: Luke Faulkner, AISC

This presentation will define the challenges and current practices in transitioning BIM from design to fabrication for structural steel and steel joists using the SWOT (strength-weakness-opportunity-threat) approach. The different workflow processes currently being used in practice will be compared and contrasted, and successful examples of these processes will highlight opportunities to leverage LEAN methodologies in steel construction. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Benefits of Early Steel Detailing

N36 Thursday 3:00 p.m. – 4:00 p.m. // Osceola B

Speakers: Don Engler, BDS Global; Rob Schoen, Axis Steel Detailing; Darren Hartman, Thornton Tomasetti

Moderator: Jeff Dave, Dave Steel

In recent years technology has advanced at a very rapid rate. Steel detailers were among the first to embrace 3D modeling. Whether a project has contractual BIM requirements, there are definite advantages and benefits to involving the detailer early in the design process. If the detailer is a part of the design team, or working hand in glove with the designer during the design process there is a definite savings of time, money and problems. Learn about the benefits, hear the precautions and see examples of projects. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Steel Erection Fall Protection and Rescue Techniques

N37 Thursday 3:00 p.m. – 4:00 p.m. // Osceola 1-3

Speaker: Travis Weber, LPR Construction

Moderator: Travis Weber, LPR Construction

A review of the different fall protection applications that can be used in the erection of structural steel and the methods that industry leaders are utilizing. This session will include a discussion and training on fall protection rescue techniques that are simple and easy to use in structural steel erection. **1.0 PDHs**

ERECTORS

Solving the Dispute Resolution Process

N38 Thursday 3:00 p.m. – 4:00 p.m. // Sarasota

Speaker: Helen Christodoulou, Canadian Institute of Steel Construction

Avoiding and successfully disputing claims decreases company costs and increases the chances for a negotiated settlement. Attendees will learn how to effectively use the dispute resolution process to negotiate a claim and the best project management principles in settlement of your claims (including defining scope, planning, timeline, budgeting, risk management and control of costs). **1.0 PDHs**

FABRICATORS // DETAILERS // ERECTORS

What's New with the 2016 *Code of Standard Practice* / An Overview of the 2016 AISC *Specification*

N39A Thursday 10:15 a.m. – 11:45 a.m. // Miami
N39B Friday 4:00 p.m. – 5:30 p.m. // Sun A

Speakers: Charlie Carter and Cynthia Duncan, AISC

Moderator: Eric Bolin, AISC

This session will explore the changes in the 2016 AISC *Code of Standard Practice*, including two of the most significant: the generalization of the AISC *Code of Standard Practice* to include use of models, either in place of drawings or in combination with them; and an expansion of architecturally exposed structural steel (AESS) requirements to provide for multiple levels of finish. It also covers changes in the 2016 AISC 360 *Specification for Structural Steel Buildings*, ranging from updated material and bolting standards to new stability bracing provisions for beam-columns. Both new standards will be available later in 2016. **1.5 PDHs**

ALL

The Beauty and the Least

N40A Wednesday 4:30 p.m. – 6:00 p.m. // Sun 1-3
N40B Thursday 10:15 a.m. – 11:45 a.m. // Osceola 4-6

Speakers: Patrick McManus, Martin & Martin;
Mark Holland, Paxton & Vierling Steel

Moderator: Jules Van de Pas,
Computerized Structural Design

This session will focus economy in steel design, providing insights and guidance to engineers and fabricators. It will explore the issues of economy in steel beyond the notion that least weight means least cost. **1.5 PDHs**

ALL

Delegated Connection Design: What Are the EOR's Responsibilities?

N41A Thursday 10:15 a.m. – 11:45 a.m. // Tallahassee
N41B Friday 8:00 a.m. – 9:30 a.m. // Tallahassee

Speaker: Pat Fortney, S.E., P.E., P.Eng., Ph.D.,
Cives Engineering Corporation

Moderator: Scott Bigley, 4g engineering, LLC

Delegated connection design is common in various areas of the country. However, the EOR's responsibility for connection design is unclear when the connection design is delegated to third parties. Is the EOR responsible for reviewing and approving the connections designed by another licensed engineer? Can they mandate connection types that will be designed by others? And what is their responsibility if there is a connection failure? This session will attempt to answer these and other questions. **1.5 PDHs**

ALL

Steel Floor Design for Vibration-sensitive Equipment

N42A Wednesday 4:30 p.m. – 6:00 p.m. // Sarasota
N42B Thursday 10:15 a.m. – 11:45 a.m. // Tampa

Speaker: Brad Davis, University of Kentucky

Moderator: Thomas M. Murray,
Professor Emeritus, Virginia Tech

An overview of floor vibration considerations for sensitive equipment will be presented. Evaluation methods based on a recent AISC research project will be explained and examples will be presented. **1.5 PDHs**

ENGINEERS

Nonbuilding Structures and Nonstructural Components

N43A Thursday 10:15 a.m. – 11:45 a.m. // Sanibel
N43B Friday 10:15 a.m. – 11:45 a.m. // Tallahassee

Speaker: Chris Kimball, Kimball Engineering

Moderator: Zach Hansen, ARW Engineers

This session will explore various issues surrounding seismic design requirements of non-building structures based on ASCE 7 Chapters 13 and 15. **1.5 PDHs**

ENGINEERS

Ethics: A Practical Guide for Practicing Engineers

N44 Thursday 10:15 a.m. – 11:45 a.m. // Sarasota

Speaker: Barry Arnold, ARW Engineers

Moderator: Steve Ericksen, ARW Engineers

This session will explore real-life situations in which engineering integrity is challenged. **1.5 PDHs**

ENGINEERS

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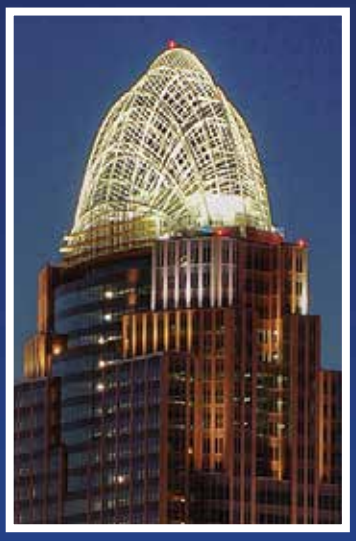

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Super Tall (and Super Cool) Buildings in Asia

N45A* Thursday 10:15 a.m. – 11:45 a.m. // Sun C
N45B Friday 4:00 p.m. – 5:30 p.m. // Tallahassee

Speakers: Dennis Poon, Thornton Tomasetti; James C. Swanson, Halvorson and Partners

With more tall buildings exceeding 500 meters, a new age of mega tall buildings has begun and introduces a new level of design challenges. The Ping An Finance Center (PAFC) will be one of the tallest towers in China and this presentation will touch on shape optimization for the building and how a comprehensive structural analysis lead to a more sustainable project. In addition, the presentation will highlight the unique attributes of the VietinBank Business Centre Complex in Hanoi, Vietnam, which features two towers (including a 360-meter-tall office building), focusing on its shape: an equilateral triangle in plan with a sharply sloped roof and full-height atriums. **1.5 PDHs**

ENGINEERS

Bidding Today's Steel Erection Projects: How to Best Prepare a Complete and Responsive Bid in Today's Risky Bid World

N46 Thursday 1:15 p.m. – 2:15 p.m. // Captiva

Speaker: Mark Yerke, S&R Enterprises

Moderator: Todd Alwood, AISC

This session will help erectors plan, prepare and produce a complete bid to fabricators (and fabricators to general contractors and owners) in a market where erectors are now responsible for thousands of bid documents and coordination with other trades; tasks that were not part of the bidding process 20—or even ten—years ago. **1.0 PDHs**

ERECTORS

Staff Retention in Construction Employment

N47 Thursday 1:15 p.m. – 2:15 p.m. // Miami

Speakers: Charlie Kimmel and Dennis Myers, Kimmel & Associates

Learn the top ten reasons why employees change jobs and find out about low-cost but effective solutions to create high retention rates at your company. **1.0 PDHs**

ALL

Current Views from Past Higgins Award Winners: Shankar Nair

N48* Thursday 1:15 p.m. – 2:15 p.m. // Sun C

Speaker: Shankar Nair, Shankar Nair, exp U.S. Services Inc.

Moderator: Charlie Carter, AISC

Nearly a decade ago, Shankar Nair won the T.R. Higgins Award, and now is your chance to hear about his professional experiences since and the work he has been involved with as current Chair of AISC's Committee on Specifications. **1.0 PDHs**

ENGINEERS // DETAILERS

Flexural Members: Is my C_b Factor Correct?

N49A Thursday 1:15 p.m. – 2:15 p.m. // Tallahassee
N49B Friday 2:45 p.m. – 3:45 p.m. // Sun 4-6

Speaker: Todd Helwig, University of Texas at Austin

Moderator: Anna Milligan, SMBH Structural Engineers

Engineers often use the lateral-torsional buckling modification factor C_b to adjust the strength of flexural members. Although one possible equation for C_b is provided in Chapter F of the AISC 360 *Specification for Structural Steel Buildings*, there exist several other possibilities in the Commentary and literature that may be more conducive to the situation at hand. Come hear about the possibilities, and drastically improve the odds of employing the correct C_b when designing your next beam. **1.0 PDHs**

ENGINEERS // DETAILERS

BIM as a Deliverable: New Falcons Stadium Roof

N50 Thursday 1:15 p.m. – 2:15 p.m. // Sun 4-6

Speaker: Erleen Hatfield, Buro Happold Engineering

Moderator: Luke Faulkner, AISC

The new stadium for the Atlanta Falcons will seat 75,000 fans and feature a roof opening that will provide flexibility in hosting a wide variety of events. Eight unique roof petals can open in less than eight minutes, creating a "camera lens-like" effect that exposes the inside of the facility to the open air on game and event days. Another first of its kind is the nearly five-story-tall, 360-degree HD video halo board, which will be the largest video board in the world. An overview of the sophisticated long-span structural steel framing that makes these innovations possible will be presented. **1.0 PDHs**

ENGINEERS // FABRICATORS

Introduction to LOD for Structural Steel

N51 Thursday 1:15 p.m. – 2:15 p.m. // Osceola 1-3

Speaker: David Merrifield, SteelFab, Inc.

Moderator: Luke Faulkner, AISC

Level of Development (LOD) is becoming an increasingly import concept within the model driven world. This session introduces the fundamental concept of LOD and how it applies to the structural steel fabricator. The session will then trace the evolution of a structural steel beam from Level 100 up to Level 500. **1.0 PDHs**

FABRICATORS // DETAILERS

New Supplement to Nuclear Specification on Composite SC Walls in Nuclear Facilities

N52 Thursday 1:15 p.m. – 2:15 p.m. // Osceola 4-6

Speakers: Amit Varma, Purdue University; Taha Al-Shawaf, AREVA Inc.

In recent years, there has been a move to explore modularized construction methods for nuclear power plants to improve overall cost and schedule. A closer look at current research resulted in the development of design criteria for modular steel plate composite (SC) walls. Design provisions for SC walls in safety related nuclear facilities are included in Supplement No. 1 to AISC N690-12 *Specification for Safety Related Steel Structures in Nuclear Facilities*. This presentation will provide an overview of the contents to this supplement. **1.0 PDHs**

ENGINEERS

The Chevron Effect Revisited

N53 Thursday 1:15 p.m. – 2:15 p.m. // Tampa

Speaker: Rafael Sabelli, Walter P Moore

This session will continue the recent discussion on brace-to-beam connections away from the beam-to-column joint. Focusing on seismic force resisting systems where the brace vertical components are unequal, the presentation will demonstrate how to derive the forces imparted to the beam and evaluate the beam strength for those forces. It will also provide practical guidance on how the gusset plate geometry or stiffeners may be chosen to avoid beam web reinforcement. **1.0 PDHs**

ENGINEERS

Being a Socially Responsible—and Profitable—Company

N54 Friday 8:00 a.m. – 9:30 a.m. // Sanibel

Speaker: Jay Stewart, Drake-William Steel; Robin Stauffer, High Industries, Inc.

Moderator: Mark Trimble, Huntington Steel

Explore how firms of any size can contribute to the welfare of their communities through conservation, wellness programs, volunteerism and financial support. Being a socially responsible can bring significant benefits at little cost. **1.5 PDHs**

ALL

Classical Analysis Approaches Applied to Second-order Analysis

N55A* Thursday 10:15 a.m. – 11:45 a.m. // Sun D
N55B Friday 8:00 a.m. – 9:30 a.m. // Naples

Speaker: Louis F. Geschwindner, Emeritus Professor, Penn State University

So-called "modern methods" of analysis will be presented and related to classical methods of analysis, and a discussion of second-order analysis will also be included. Classical methods of analysis will be used in an iterative way to carry out second-order analysis and to help explain the concepts of second-order analysis. The link between moment distribution and the approximate second-order analysis approach of AISC 360 Appendix 8 will also be discussed. **1.5 PDHs**

ENGINEERS

Practical Implementation of Composite Floor Designs

N56* Thursday 8:00 a.m. – 9:30 a.m. // Sun D

Speaker: Will Jacobs, Stanley D. Lindsey and Associates

This session takes composite floor design out of the classroom and into the field by examining common design and detailing issues such as the effects of conduit, penetrations and openings on composite floor designs. Options for reinforcing composite beams in-place will also be presented. In addition, best practices for more constructible composite designs, from deck attachment to contraction joints, will be explored. **1.5 PDHs**

ENGINEERS

More Opportunities with the Direct Analysis Method

N57A Thursday 10:15 a.m. – 11:45 a.m. // Sun 1-3
N57B Friday 8:00 a.m. – 9:30 a.m. // Miami

Speakers: Larry Griffis, Walter P Moore; Ron Ziemian, Bucknell University

Moderator: Tom Poulos, Thornton Tomasetti

The 2016 AISC *Specification for Structural Steel Buildings* provides engineers with the opportunity to use the direct analysis method to design structures of complex geometries with challenging unbraced compressive length scenarios. After reviewing the background and requirements of these new provisions, several design examples will be presented. **1.5 PDHs**

ENGINEERS

Industrial Buildings and Nonbuilding Structures: Design Challenges

N58A Thursday 8:00 a.m. – 9:30 a.m. // Miami
N58B* Friday 4:00 p.m. – 5:30 p.m. // Sun C

Speakers: Bill Scott, Scott Engineering; James Ryan, Bechtel; Krunal Patel, Sargent and Lundy; John Rolfes, Computerized Structural Design

Moderator: Brent Leu, AISC

This session presents three different design challenges for industrial buildings and nonbuilding structures: steel design for cold operating temperatures; nuances in finite element modeling of industrial structures; and changes slated for the next edition of AIST Technical Report 13, *Guide for the Design, Construction and Maintenance of Mill Buildings*. **1.5 PDHs**

ENGINEERS

Demystifying Connection Design and Transfer Forces

N59A* Friday 8:00 a.m. – 9:30 a.m. // Sun D
N59B Friday 4:00 p.m. – 5:30 p.m. // Sanibel

Speakers: Sayle Lewis and David Hosking, Fluor

Moderator: Pat Fortney, Cives Engineering Corporation

Transfer forces remain a mysterious entity, often misunderstood and in many cases undetermined. However, accurate and economical connection design can only be accomplished when the connection engineer considers all forces, including transfer forces. This session will discuss transfer forces and documentation of connection design forces by the design engineer. The speakers will also describe their own program developed to accurately determine transfer forces. **1.5 PDHs**

ENGINEERS

Steel Joist Floor Systems Best Practices

N60A* Friday 10:15 a.m. – 11:45 a.m. // Sun D
N60B Friday 4:00 p.m. – 5:30 p.m. // Miami

Speakers: Michael West, Computerized Structural Design; David Samuelson, Nucor-Vulcraft

Moderator: Ken Charles, Steel Joist Institute

This presentation will discuss successful methods of specifying open web steel joist products in floor designs. Included will be a demonstration of the new Floor Bay Analysis tool, as well as a review of joist and joist girder options found in several structural modeling software packages. **1.5 PDHs**

ENGINEERS

Analysis and Design of Stabilizer Plates in Single Plate Shear Connections

N61A Friday 10:15 a.m. – 11:45 a.m. // Sanibel
N61B* Friday 4:00 p.m. – 5:30 p.m. // Sun D

Speakers: Pat Fortney and William Thornton, Cives Engineering Corporation

This session will present various options for the types of stabilizer plates used, when and if required, to provide lateral bracing to connection plates in single plate shear connections. Four types of stabilizer plates will be presented along with the analysis and design methodologies for each type of plate. The impact on the behavior and design of the single plate shear connection, as well as the supporting member, will also be discussed. **1.5 PDHs**

ENGINEERS // FABRICATORS

ASCE 37: *Design Loads on Structures During Construction*

N62A Thursday 10:15 a.m. – 11:45 a.m. // Sun 4-6
N62B Friday 4:00 p.m. – 5:30 p.m. // Sun 1-3

Speakers: David I. Ruby and Jeffrey Gasparott, Ruby+Associates

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*. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

When Doing Nothing Is the Right Thing to Do: Managing Your Business More Effectively Using Statistical Variation

N63 Friday 2:45 p.m. – 3:45 p.m. // Sanibel

Speaker: Richard English, Huntington Steel & Supply

Making the right decision based on good information can improve your company's profitability. This session will provide guidance on how to use the information that you already have on hand, plus some data sources that you may not have considered, as tools to help manage your business. You will also see examples where the use of "bad" data can be as unreliable as the "gut feel" we have a tendency to rely upon. Attendees will leave the session with a powerful new tool for knowing when the best thing is to do nothing at all! **1.0 PDHs**

ALL

From Complex Problems to Simple Solutions

N64 Friday 2:45 p.m. – 3:45 p.m. // Sarasota

Speakers: Carol Drucker and Michael Herriges, DZSE; Tom Petrilla, Steel Fabricators, LLC

Moderator: Carrie Warner, Halvorson and Partners

This session will examine complex connections that are both cost effective and fabricator and erector friendly. Connections developed for the new AMEX headquarters in south Florida will be used to illustrate the principles presented. **1.0 PDHs**

ALL

Applications of Non-Contact Measurements in Steel Structures

N65A Thursday 4:15 p.m. – 5:15 p.m. // Sun 4-6
N65B* Friday 2:45 p.m. – 3:45 p.m. // Sun C

Speakers: Jerry Hajjar, Northeastern University; Cris Moen, Virginia Tech

Moderator: Bill McEleny, NSBA

Translation of engineering from 2D line drawings to 3D objects is occurring at an ever-increasing pace. Today, non-contact measurement methods—lasers, photogrammetry, and other methods—have the potential to not only help engineers create 3D models of buildings but also to populate those models with useful information about the current state of a building structure in terms of exact dimensions, damage, etc. Recent research projects using cameras and lasers in the field and in the laboratory will be shared in this session, demonstrating the potential of these technologies and how they are already being used to advance our capabilities and knowledge in structural engineering. **1.0 PDHs**

ENGINEERS // DETAILERS

Empowering Fabricators and Suppliers to Improve the Design of Steel Structures

N66 Friday 2:45 p.m. – 3:45 p.m. // Osceola 1-3

Speaker: Forest Flager, Stanford University

Moderator: Michael Gustafson, AutoDesk

This session will present a BIM plug-in developed collaboratively by Stanford University and leading BIM technology providers that enables architects and engineers to use steelXML receive real time feedback on the installed cost, lead time and environmental impact of steel structural design options based on current information provided by steel mills, fabricators and erectors. The plug-in will be discussed in the context of two industry case study applications. **1.0 PDHs**

ENGINEERS // FABRICATORS

Increasing the Downstream Value of Design Models

N67* Friday 2:45 p.m. – 3:45 p.m. // Sun D

Speaker: Joshua Bradshaw, Thornton Tomasetti

Moderator: Luke Faulkner, AISC

Typically, design models are not used in construction processes. This is usually because the designers won't give up their model, and if they do they use a liability waiver releasing them from any inaccuracies. In this session, you will learn how leading structural engineering firm Thornton Tomasetti bridges the gaps between the design and construction trades helping design and construction timelines overlap by delivering an accurate detailing- and fabrication-ready model. **1.0 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

Winning Change Orders

N68 Friday 2:45 p.m. – 3:45 p.m. // Naples

Speaker: Michael Senneway, MJS Management

Moderator: Ted Sheppard, The DuRoss Group

Collecting for change orders can make or break even a good project. The session will cover everything from before the contract is signed through the final close out meeting, including a look at each step in the change order process. You'll come away with ideas designed to improve your collection success rate. **1.0 PDHs**

FABRICATORS // ERECTORS

Improving Fracture Resistance in Cold Temperature Applications

N69A Thursday 8:00 a.m. – 9:30 a.m. // Sun 1-3
N69B Friday 10:15 a.m. – 11:45 a.m. // Sarasota

Speaker: Duane Miller, Lincoln Electric

Moderator: Glenn Tabolt, STS Steel

When structures are exposed to cold temperatures, the likelihood of brittle fracture increases. Too often, the knee-jerk reaction is to demand more notch toughness from the steel and welds in order to provide more resistance to fracture. However, fracture resistance is dependent on many factors beyond the material property of notch toughness. In this presentation, the basics of fracture mechanics are reviewed and 43 ideas are presented that will increase the fracture resistance of structures in cold temperature applications, only one of which involves increased material notch toughness. Case studies are presented that demonstrate how a holistic approach solved fracture problems—without changing the steel notch toughness. **1.5 PDHs**

ALL

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Practical Steel Metallurgy for the Structural Steel User

N70A Thursday 8:00 a.m. – 9:30 a.m. // Sun 4-6
N70B Friday 10:15 a.m. – 11:45 a.m. // Sun 1-3

Speaker: Doug Rees-Evans, New Millennium Building Systems, LLC

This session will present what a structural engineer needs to know about steel metallurgy. Topics to be addressed include the differences between iron and steel; the effects of processing on steel properties; the reasons for the multiple grades of steel; and things to consider when selecting a grade of steel. **1.5 PDHs**

ENGINEERS

Composite Plate Shear Walls—Concrete Filled (C-PSW/CF)

N71A Wednesday 4:30 p.m. – 6:00 p.m. // Sanibel
N71B Friday 10:15 a.m. – 11:45 a.m. // Sun 4-6

Speakers: Michel Bruneau, University of Buffalo; Amit Varma, Purdue University; John Hooper, Magnusson Klemencic Associates

Composite plate shear walls—concrete filled (C-PSW/CF)—are an alternative to reinforced concrete walls especially when relatively large seismic demand on the walls leads to dense reinforcement and large thicknesses in conventional concrete shear walls, or to relatively large walls thicknesses of the web infill and boundary elements in SPSW. New design provisions have been introduced in Section H7 of the AISC 341-16 *Seismic Provisions*, allowing the design of C-PSW/CF with or without boundary elements to address high seismic demands. This session will provide an overview of the new design requirements in that Section H7 and of the research that supports those requirements, followed by a description of a 59-story building in Seattle designed with a central core of concrete-filled composite plate shear walls (and supplemented by mid-height outriggers and belt trusses to enhance the overall stability and stiffness of the tower). **1.5 PDHs**

ENGINEERS

Combined Lateral Systems

N72A Wednesday 4:30 p.m. – 6:00 p.m. // Tallahassee
N72B* Friday 10:15 a.m. – 11:45 a.m. // Sun C

Speaker: Jerod Johnson, Reaveley Engineers

Moderator: Troy Dye, ARW Engineers

Combined lateral systems affect building performance. This session will tell engineers what they need to know when designing these types of lateral systems. **1.5 PDHs**

ENGINEERS

Welcome to the SE's Construction Document World

N73A Friday 10:15 a.m. – 11:45 a.m. // Osceola 4-6
N73B Friday 4:00 p.m. – 5:30 p.m. // Sun 4-6

Speakers: Carol Post, Thornton Tomasetti; Cathleen Jacinto, FORSE Consulting

Moderator: Carrie Warner, Halvorson and Partners – A WSP | Parsons Brinckerhoff Company

We all would love to have structural documents that are 100% complete, but that can be an ivory tower wish. There are often many unknowns outside of the Structural Engineer's control that are not set in time to coordinate into the structural designs—such as elevators, MEP "stuff", exterior wall, and all the other latecomers. This presentation will suggest ways to tighten up the construction drawings, as well as to suggest honest conversations during the bid that would lead to managed expectations versus change orders. As an added bonus, SE University will email their architectural coordination checklist to anyone who attends this session and leaves their email address. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

A Preview of the 2016 AISC *Seismic Provisions* and AISC *Prequalified Connections for Seismic Moment Frames*

N74 Friday 10:15 a.m. – 11:45 a.m. // Naples

Speakers: James O. Malley, Degenkolb Engineers; Ronald O. Hamburger, Simpson Gumpertz & Heger

This session will introduce the major changes in the 2016 *Seismic Provisions* (AISC 341-16) and the *Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications* (AISC 358-16) presented by the chairmen of the committees responsible for those standards. AISC 341-16 will include provisions for multi-tiered braced frames, concrete-filled steel sandwich panel walls, and updated requirements for continuity plate and doubler plate welding, among others. AISC 358-16 will add three new connections to its list of prequalified connections: the SidePlate, the Simpson Strong Frame, and the double-tee moment connections. **1.5 PDHs**

FABRICATORS // DETAILERS // ERECTORS

Simplifying Tricky Connections

N75A Friday 10:15 a.m. – 11:45 a.m. // Miami
N75B Friday 4:00 p.m. – 5:30 p.m. // Sarasota

Speaker: Logan Callele, Waiward Steel

When designing steel connections, it is common to encounter situations where there is no clear guidance from design standards or codes to apply, which leads to a tricky situation. Often, by choosing a load path consistent with the design intent for the structure and assessing the connection boundaries, a connection can be designed using standard code provisions. Connection boundaries subjected to moment are typically the most tricky connection elements to asses, and this session will focus on three common connection design boundaries: a connection plate subject to moment connected with fillet welds, bolts in shea, and bolts in tension. In each of these three cases, a simplified approach will be presented that will allow greater understanding and design efficiency for these connections. **1.5 PDHs**

ALL

Negotiating for Results

N76 Friday 1:00 p.m. – 2:30 p.m. // Tampa

Speaker: James Reeves, Washington University St. Louis

Moderator: Glenn Tabolt, STS Steel

Whether your dealing with co-workers, vendors, contractors or others, conflicts often arise. Attendees will learn how to turn frustrating conflicts into meaningful results from a leading expert in the field of conflict resolution and negotiation. **1.5 PDHs**

ALL

Erecting a 300-ft Span Roof Truss Without Shoring

N77 Friday 1:00 p.m. – 2:30 p.m. // Miami

Speakers: William Merrell, WW Merrell, PE; Jeff Minter, Ben Hur Construction Co.

Moderator: Ted Sheppard, The DuRoss Group

The double hinge pick procedure is an innovative method of erecting long-span arched trusses and was used for a hangar structure at Wright Patterson Air Force Base in Dayton, Ohio. This session will focus on the erection design and process, showing how the three segments were ground-assembled at each of two end pins and hinged up by a special truss lift frame before the keystone piece was then installed. **1.5 PDHs**

ERECTORS

90 Seismic Design Ideas in 90 Minutes

N78A* Thursday 8:00 a.m. – 9:30 a.m. // Sun C
N78B Friday 4:00 p.m. – 5:30 p.m. // Sun B

Speakers: James O. Malley, Degenkolb Engineers; Rafael Sabelli, Walter P Moore; Patrick Hassett, Hassett Engineering, Inc.

Moderator: John Kennedy, Structural Affiliates International

In this session, three highly-esteemed engineers with decades of combined experience in seismic design of structural steel buildings will present 90 design ideas for your future projects. **1.5 PDHs**

ENGINEERS

Diaphragm Design 101

N80A Friday 8:00 a.m. – 9:30 a.m. // Sarasota
N80B* Friday 1:00 p.m. – 2:30 p.m. // Sun C

Speakers: Justin Naser and Robert Moyle, ARW Engineers

Moderator: Troy Dye, ARW Engineers

This session will address basic diaphragm design topics such as force distribution, chord and drag forces, subdiaphragms, deflection calculations and out-of-plane anchorage forces. **1.5 PDHs**

ENGINEERS

How GCs Use a Fabricator's Model

N81 Friday 1:00 p.m. – 2:30 p.m. // Sanibel

Speakers: John Leuenberger, Herrero Builders; Wayne Morrison, Herrick

Moderator: Michael Gustafson, AutoDesk

This session will be presented as a case study with a Q&A session at the end and will cover the following topics: model based quantity takeoff and pricing, creating small batches in modeling and model based review with SEOR, creating a "second pass" in shop drawings/model to better synch up with MEP modeling, steel model coordination with MEP where there were more than 5,000 beam penetrations to fit sprinkler system in tight slab to slab height, detailed simulation and animation of steel deliveries in a tight urban site and tracking shop fabrication and production in a 3D model. **1.5 PDHs**

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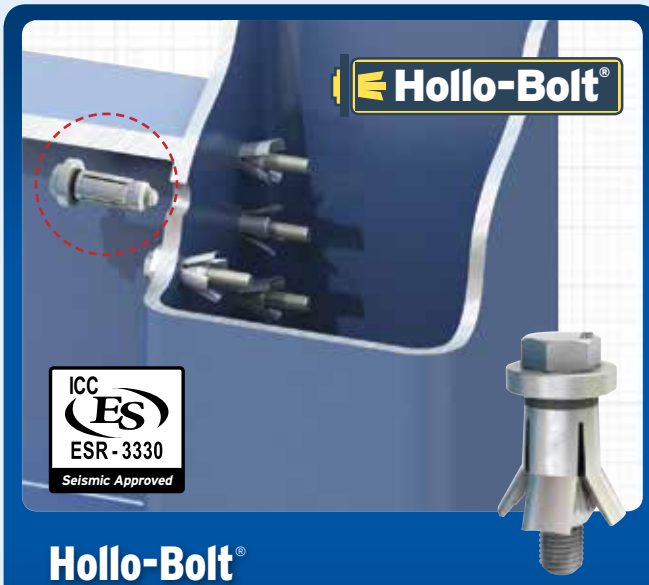

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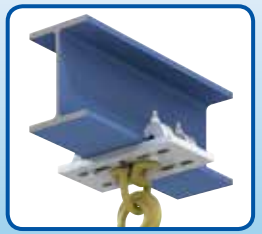
The original expansion bolt for steel is a fast, cost-effective connection for Hollow Structural Section (HSS). Hollo-Bolt is approved by ICC-ES for use in all seismic design categories (SDC) A through F.

Girder Clamp

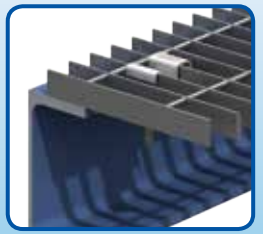
A high strength clamp for quickly connecting steel beams together. Like most Lindapter products, it does not require drilling or welding, resulting in a faster installation and lower labor costs.

HSS Connections

Steel-to-Steel



Lifting Points



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Tall Curtain Wall Systems and Large Seismic Drift

N82A Wednesday 4:30 p.m. – 6:00 p.m. // Tampa
N82B* Friday 1:00 p.m. – 2:30 p.m. // Sun D

Speakers: Robert Kritzler and Brian Lammert, Raths, Raths & Johnson

This case study examines the curtain wall system for a new airport terminal building featuring 20 ft-to-65 ft-tall steel curtain wall frames supporting large glass window panels with up to +/-12 in. of seismic interstory drift between the curtain wall base and the building roof structure. Attendees will learn how to accommodate large inter-story drift movements and how to provide installation tolerances in the design of curtain wall systems; the process of designing curtain wall structural steel framing and connections to meet AISC 360; and how to use full-scale curtain wall mockup testing to demonstrate seismic drift performance and damage limit requirements. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS

How Long Will the Recovery Last?

N83 Friday 2:45 p.m. – 3:45 p.m. // Osceola B

Speaker: John Cross, AISC

Construction activity is cyclical with the average time from the bottom of one cycle to the peak of the next cycle being six years. The Great Recession cycle bottomed out in 2010. Does that mean that construction activity will peak in 2016 and start to decline in 2017? Or will the current slow expansion of construction activity continue for several more years? Join AISC construction economist John Cross for a look into the crystal ball to see what the future may hold for the construction industry in general and the structural steel industry in particular. **1.0 PDHs**

ALL

What's New in the World of Sustainability

N84 Thursday 1:15 p.m. – 2:15 p.m. // Sanibel

Speaker: John Cross, AISC

The world of sustainability is in constant flux with new priorities and ideas for improving the sustainable performance of the built environment. Join AISC's representatives on the major green code-making bodies for a discussion of the current requirements of LEED, the International Green Construction Code and the Green Globes program and the impact that these requirements have on the structural steel industry. **1.0 PDHs**

ALL

Proposals that Win

N85 Friday 1:00 p.m. – 2:30 p.m. // Naples

Speakers: Sara Collins and Karen Cotton, HITT

Moderator: Jacinda Collins, AISC

What are the keys to developing proposals that win work? This session will take you through the planning, strategy and general rules of proposals. Attendees will receive a comprehensive outline of proposal writing that will allow you to approach proposals in a more methodical fashion. **1.5 PDHs**

ALL

Stability for Modular Construction

N86A Thursday 10:15 a.m. – 11:45 a.m. // Osceola 1-3
N86B Friday 4:00 p.m. – 5:30 p.m. // Osceola 1-3

Speakers: John Kennedy, SAI; David Farnsworth, ARUP; Walter Schachtschneider, PCL

Moderator: Martin Anderson, AISC

Steel modular buildings come in many shapes and sizes, and stability considerations change depending on the height and type of modular units used. This panel will discuss the various considerations for designers when using storage container units, stand alone steel modules with low- to mid-rise construction, and stand alone steel modules for high-rise construction. **1.5 PDHs**

ENGINEERS

The Splice is Right

N87 Friday 8:00 a.m. – 9:30 a.m. // Tampa

Speakers: Carol Drucker, DZSE; Sylvie Boulanger, Supermetal Southern, Inc.; Larry Kruth, Douglas Steel Fabricating Corporation; Duane Miller, Lincoln Electric; Terri Meyer Boake, University of Waterloo

Moderator: Sylvie Boulanger, Supermetal Southern, Inc.

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 aesthetic, welding, fabrication, transport, erection and/or seismic requirements. **1.5 PDHs**

ENGINEERS // FABRICATORS

STEEL **SESSIONS**

*streamed session

New Wrinkles of Project Delivery

N88A Wednesday 3:15 p.m. – 4:15 p.m. // Sun 4-6
N88B Thursday 4:15 p.m. – 5:15 p.m. // Osceola 1-3

Speaker: Rex D. Huffman, Huffman Consulting

Moderator: Bill Pascoli, AISC

The Design-Build Institute of America (DBIA) will provide an overview of the recent trends for the delivery for the private and public construction projects. In addition, DBIA will discuss the advantages and disadvatages of the most frequently used project delivery methods available for project teams. **1.0 PDHs**

ENGINEERS // GENERAL CONTRACTORS

Advances in Welding Automation

N89 Thursday 3:00 p.m. – 4:00 p.m. // Osceola 4-6

Speaker: Jack Schroeder, ESAB Automation

Moderator: Kenny Waugh, IMPACT

Attendees will learn about new advances in welding automation that are creating productivity gains and allowing fabricators and erectors to stay competitive in a global marketplace. **1.0 PDHs**

FABRICATORS // ERECTORS

Quality and Safety Management: A Practical Approach for Erectors

N90 Thursday 4:15 p.m. – 5:15 p.m. // Destin

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

Moderator: Kenny Waugh, IMPACT

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. **1.0 PDHs**

ERECTORS

What Your Fabricator Wishes You Knew About HSS

N91A* Thursday 1:15 p.m. – 2:15 p.m. // Sun D
N91B Friday 2:45 p.m. – 3:45 p.m. // Osceola 4-6

Speaker: Kim Olson, FORSE Consulting

Moderator: Joseph Anderson, Steel Tube Institute

The Steel Tube Institute has conducted surveys and focus groups with fabricators to learn how to reduce the cost of HSS connections. Attendees at this session will learn which details work (and which don't); what you need to know about HSS in AESS applications; tolerances and how to detail for them; and relative costs of HSS fabrication. **1.0 PDHs**

ENGINEERS

QUALITY **SESSIONS**

New Certification Building Requirements: What Does This Mean for New Applicants and Existing Participants?

Q1 Thursday 8:00 a.m. – 9:30 a.m. // Daytona

Speakers: Jacques Cattan and Lisa Patel, AISC

AISC Certification will introduce new *Program Requirements for Certified Building Fabricators* in 2016. This will be the governing document and will reference the *Standard for Steel Building Structures*—2006 (AISC 201-06). Why is AISC transitioning from checklist criteria to standards-based criteria? What does this new AISC document mean for building fabricators? This session will answer these questions and many more! **1.5 PDHs**

ENGINEERS // FABRICATORS

Quick Methods for Quality Assurance Reviews

Q2 Thursday 1:15 p.m. – 2:15 p.m. // Daytona

Speaker: Larry Martof, AISC

What are some things a fabricator or erector can do as spot checks or reviews for their quality assurance programs? This session will cover such topics as performing mini-audits, targeted audits, product audits, and others as means to do spot checks through quick-hit reviews. **1.0 PDHs**

FABRICATORS // ERECTORS

Changing Management Perception of Root Cause Analysis

Q3 Thursday 3:00 p.m. – 4:00 p.m. // Daytona

Speaker: Denise Robitaille, Robitaille Associates

Moderator: Todd Alwood, AISC

Management is on board with the value of corrective actions, however many still don't have a clear understanding of the link between "We've got a problem" and "This is what we have to do to make sure it doesn't happen again." There's an underlying assumption we know why something went wrong, but without thorough root cause analysis we end up spinning our wheels. This session will deal with the essential needs for an effective root cause analysis process. **1.0 PDHs**

FABRICATORS // ERECTORS

Quality and Lean Manufacturing: How Can Lean Help Me Improve Quality in My Steel Fabrication Shop?

Q4 Thursday 4:15 p.m. – 5:15 p.m. // Daytona

Speaker: Chris Crosby, Cianbro

Moderator: Todd Alwood, AISC

We have heard the term "Lean Manufacturing" for many years now but what does it actually mean? But more importantly how do I use it in my steel fabrication shop? How does Lean help me improve my quality? **1.0 PDHs**

FABRICATORS

Updates to the AISC Erector Certification Program

Q5 Friday 8:00 a.m. – 9:30 a.m. // Daytona

Speakers: Lisa Patel and Larry Martof, AISC

AISC Certification introduced new *Program Requirements for Certified Steel Erectors* in 2014. This will be the governing document and will reference the *Standard for Structural Steel Erectors*—2013 (AISC 206-13). Why is AISC transitioning from checklist criteria to standards-based criteria? What does this new AISC document mean for erectors? This session will answer these questions and many more! **1.5 PDHs**

FABRICATORS // ERECTORS

The New Erector Certification Program Requirements Are Coming: An Erector's Point of View

Q6 Friday 10:15 a.m. – 11:45 a.m. // Daytona

Speakers: Jerry Cagle, C.P. Buckner Steel Erection, Inc.; Rick Zaske, L.P.R. Construction Co.; Philip, Torchio, Williams Enterprises of Georgia, Inc.

Moderator: Larry Kruth, Douglas Steel Fabricating Corporation

Most erectors are aware that the new program requirements for the erector certification were released in 2014 with reference to the *Standard for Structural Steel Erectors* (AISC 206-13). If you are feeling a little overwhelmed with the changes, are under-prepared or are just looking for some additional insight from a certified steel erector's point of view, then this is a must-attend session. During this session we will examine the new requirements as well as discuss ways to better prepare for the upcoming transition. **1.5 PDHs**

ERECTORS

How to Write an Erector Quality Manual

Q7 Friday 1:00 p.m. – 2:30 p.m. // Daytona

Speaker: Ted Sheppard, The DuRoss Group, Inc.

Moderator: Todd Alwood, AISC

The updated certification program for erectors requires you to produce a real, tangible, quality manual. There is no magic involved in doing so, just some hard work. The presenter will offer suggestions on getting started and organizing your manual. You may find that a lot of what is required is already in your existing documents! **1.5 PDHs**

ERECTORS

Safety Management Systems and the Erector

Q8 Friday 2:45 p.m. – 3:45 p.m. // Daytona

Speaker: Larry Kruth, Douglas Steel Fabricating Corporation

Moderator: Mark Yerke, S&R Enterprises

As a part of the new program requirements for erector certification with regard to the *Standard for Structural Steel Erectors* (AISC 206-13), a new program requirement was added regarding the erector's Safety Management System. Section 20 of this *Standard* outlines specific safety requirements that must be addressed in a Safety Management System for certification as an erector. During this session you will learn what items must be addressed as well as how these can be implemented within your company to not only comply with the standard but also to aid you in becoming a leader in safety in the erection industry. **1.0 PDHs**

ERECTORS

Chapter N and the Erector: What Does it Mean for Quality?

Q9 Friday 4:00 p.m. – 5:30 p.m. // Daytona

Speaker: Mike Gase, Midwest Steel, Inc.

Moderator: Larry Kruth, Douglas Steel Fabricating Corporation

Chapter N has been a part of the AISC *Specification for Structrual Buildings* (ANSI/AISC 360-10) since 2010. But what does it mean for structural steel erectors? And what does it mean for a company's quality program? This session will help to address these questions and provide the attendees with helpful insight into this Chapter. **1.5 PDHs**

ERECTORS

Lessons I Wish I Had Known Starting Out: The Engineer Edition

R1 Thursday 8:00 a.m. – 9:30 a.m. // Osceola B

Speakers: Iris Leoncio, Hardesty & Hanover; Will Kolbuk, Sargent & Lundy; Angie Sommer, ZFA Structural Engineers; Matt Cummins, Thornton Tomasetti; Sophie Pennetier, Arup

Moderator: Katherine Quigg, AISC

This fascinating session will feature a series of presentations from top designers discussing the lessons they learned the hard way and wish they had known starting out. Each speaker will discuss their "lessons" for eight minutes (12 slides at 40 seconds each—a variation on the fast-paced Pecha Kucha presentation format). Afterwards, there will be a Q&A period with the speakers. **1.5 PDHs**

ENGINEERS

Industry Roundtable

R2 Friday 10:15 a.m. – 11:45 a.m. // Osceola B

Moderator: John Cross, 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. **1.5 PDHs**

FABRICATORS // DETAILERS // ERECTORS

What's Wrong with This Picture?

R3 Thursday 1:15 p.m. – 2:15 p.m. // Osceola B

Speaker: Socrates Ioannides, Structural Affiliates International; Tony Hazel, Ferrell Engineering

Moderator: John Kennedy, Structural Affiliates International

In this fun, interactive session, pictures of design and construction errors—some of which may not be patently obvious—will be shown to attendees seated at roundtables by engineers with careers spanning over 40 years. Guided discussion will encourage interaction with the presenters. **1.0 PDHs**

ALL

Lessons I Wish I Had Known Starting Out: The Fabricator Edition

R4 Friday 8:00 a.m. – 9:30 a.m. // Osceola B

Speakers: Chris Crosby, Cianbro; Margaret Hanley, A. Lucas & Sons; Jake Thomas, Thomas Steel; Steve Knitter, Geiger & Peters, Inc.; Hollie Noveletsky, Novel Iron Works, Inc.

Moderator: Carly Hurd, AISC

This session will feature a series of presentations from top designers discussing the lessons they learned the hard way and wish they had known starting out. Each speaker will discuss their "lessons" for eight minutes (12 slides at 40 seconds each—a variation on the fast-paced Pecha Kucha presentation format). Afterwards, there will be a Q&A period with the speakers. **1.5 PDHs**

FABRICATORS

Forgotten Workhorse: The Importance of QA/QC Steel Anchor Installation

R5 Friday 8:00 a.m. – 9:30 a.m. // Osceola C

Speakers: Robert Chmielowski, S.E., P.E., Magnusson Klemencic Associates; Todd Weaver, Metals Fab; Hulya Kayir, Sellen Construction

Moderator: Kristy Davis, AISC

Have you ever stopped to think about the importance of steel anchors in the design and construction of composite structures? The workhorse of today's efficient composite floor framing systems, steel anchors are critical elements of diaphragm force transfer mechanisms. They can also transfer steel-framing end reactions, large and small, to concrete elements of hybrid structures. This session will highlight steps that a leading steel fabricator, general contractor and structural engineer are taking to improve quality at the critical interface between steel and concrete. A background on basic shop and field stud anchor installation procedures will be covered, and potential improvements to code quality control and quality assurance measures will be discussed. Each presenter will bring their unique insight on this topic beginning at the design phase, through the fabrication process, and finally to the field. The session will conclude with a roundtable discussion where engineers, fabricators and erectors can share experiences and insights. **1.5 PDHs**

ALL

Fabricator Roundtable

R6 Thursday 10:15 a.m. – 11:45 a.m. // Osceola B

Moderator: John Cross, 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! **1.5 PDHs**

FABRICATORS

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2016 WORLD STEEL BRIDGE SYMPOSIUM

APRIL 13–15 // ORLANDO, FLORIDA

GAYLORD PALMS RESORT & CONVENTION CENTER

Opening Session

BK Wednesday 8:00 a.m. – 10:00 a.m. // Osceola C-D

Speakers: Roger Ferch, AISC; Bill McEleney, NSBA; Brian Kozy, Federal Highway Administration; Basia Myszynski, sOlar eye communications

Moderator: Bill McEleney, NSBA

- Welcome
- Open Remarks
- Bridging Urban America—The Story of Ralph Modjeski

The session will provide a glimpse into the brilliant mind and artful soul of a Polish-born Paris-trained bridge builder as he journeys across America. Through strategic thinking, diplomacy and ingenuity, Ralph Modjeski designed and constructed over forty superstructures across treacherous waterways, contributing to the building of a modern America. **2.0 PDHs**

ALL

Accelerated Bridge Construction

B1 Wednesday 10:30 a.m. – noon // Sun A

Speakers: Norm McDonald, Iowa DOT; Vincent Gastoni, Parsons; Karl Barth, West Virginia University

Moderator: Ben Beerman, Federal Highway Administration

Accelerated Bridge Construction (ABC) replaces or rehabilitates bridges in days, much to the delight of owners and the traveling public. This session will look at specific case studies where structural steel played an integral role in the overall project success. Additionally, the application of new structural forms for short span applications in West Virginia will be presented. **1.5 PDHs**

ENGINEERS // ERECTORS // GENERAL CONTRACTORS

Corrosion Protection Solutions

B2 Wednesday 10:30 a.m. – noon // Sun B

Speakers: Tom Langill, American Galvanizers Association; Brian Raff, Canam Bridges; Charles-Darwin Annan, Université Laval (Québec)

Moderator: Finn Hubbard, Fish and Associates

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 using galvanizing and metalizing. **1.5 PDHs**

ENGINEERS // FABRICATORS

Advanced Analysis Techniques for Design and Erection

B3 Wednesday 3:15 p.m. – 4:15 p.m. // Sun A

Speakers: Paul Biju-Duval, The University of Texas at Austin; Duncan Paterson, HDR Inc.; Anna Rakoczy, AAR Transportation Technology Center, Inc.

Moderator: Allan Berry, Stantec

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. This presentation will look at the analysis of several curved multi-girder, multi-span structures of increasing complexity.

Through-plate girders (TPGs) are a common structural choice for medium span railroad bridges and knee brace connections are integral to their behavior. This presentation will summarize results of finite element studies, field instrumentation results and proposed change to AREMA. **1.0 PDHs**

ENGINEERS

Research in the Behavior Shear Connectors

B4 Wednesday 3:15 p.m. – 4:15 p.m. // Sun B

Speakers: Jason Provines, Federal Highway Administration; Gary Prinz, University of Arkansas

Moderator: Brandon Chavel, HDR Inc.

Shear connectors are commonly used to join concrete decks and steel superstructures, providing a mechanism for shear transfer across the steel-concrete interface. The resulting composite steel-concrete section has added strength over the sum of its individual components. This session will present results from an ongoing experimental and numerical study into the behavior of headed shear studs. Additionally, an overview of large- and small-scale fatigue tests constructed with steel beams and precast concrete deck panels will be discussed. **1.0 PDHs**

ENGINEERS

Evaluating the Challenges of Skewed Bridges

B5 Wednesday 4:30 p.m. – 6:00 p.m. // Sun A

Speakers: Brandon Chavel, HDR Inc.; Dusten Olds and Julie Rivera, HDR Inc.; Myles Lewis, Stantec

Moderator: Greg Grant, RS&H

Skewed supports are frequently required to span highways and streams not perpendicular to the bridge alignment and some bridges are sensitive to the construction and design behavior decision. In these cases girders have a tendency to twist or lay over under the self-weight of a skewed and/or curved bridge. This session will look at the challenges encountered during the design and construction of three different projects with varying severity of skew. Included in the discussion will be a consideration of alternate cross-frame layouts to assess the economics of a staggered cross-frame layout versus an in-line layout. **1.5 PDHs**

ENGINEERS // ERECTORS // GENERAL CONTRACTORS

Case Studies in Construction Engineering of New and Existing Complex Steel Bridges

B6 Wednesday 4:30 p.m. – 6:00 p.m. // Sun B

Speakers: Andrew Keaschall, Alfred Benesch & Co.; James Gregg, HNTB; Bob Cisneros, High Steel Structures

Moderator: Domenic Coletti, HDR Inc.

This session will discuss several case studies focusing on the detailing, fabrication and erection of complex, steel bridges. The challenges associated with various construction methods and how they were addressed will also be presented. This session will also include a discussion of the detailed removal and replacement procedure for truss pins in the US 84 Mississippi River Bridge. **1.5 PDHs**

ENGINEERS // GENERAL CONTRACTORS

Fracture Critical Determination: Existing and Future Policy, Part 1

B7 Thursday 8:00 a.m. – 9:30 a.m. // Sun A

Speakers: Brian Kozy, Federal Highway Administration; Dennis Mertz, University of Delaware

Moderator: Bill McEleney, 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 1 of this series will look at current federal policy and future practices regarding fracture critical determination. **1.5 PDHs**

ENGINEERS // FABRICATORS

Evaluation and Strengthening of In-Service Bridges

B8 Thursday 10:15 a.m. – 11:45 a.m. // Sun A

Speakers: William Collins, University of Kansas; James Seal, Alta Vista Solutions; Kerry Kreitman, The University of Texas at Austin

Moderator: Duncan Paterson, HDR Inc.

Extending the service life of the existing steel bridge inventory is of great importance to owners, engineers, and end users. Quantitative information on the behavior of in-service steel bridges is required to determine the need and type of rehabilitation for aging bridges, gauge the remaining life in existing structures, and asses the performance of new technologies. This session will look at methods for evaluation and strengthening of existing in-service bridges. Included will be an overview of the use of phased array ultrasonic testing (PAUT) of the orthotropic deck panels of the Verrazano-Narrows Bridge, application of master curve and fitness-for-service principles for understanding the possibility of brittle fracture in an older bridge and lastly, strengthening of existing bridges with “post-installed” shear connectors. **1.5 PDHs**

ENGINEERS

Advances in the Bridge Fabrication Shop

B9 Thursday 10:15 a.m. – 11:45 a.m. // Sun B

Speakers: Terry Logan, Atema; Karl Frank, Hirschfeld Industries–Bridge; Ronnie Medlock, High Steel Structures

Moderator: Chris Garrell, NSBA

Hear about technologies that steel bridge fabricators are beginning to employ that may save man-hours in the shop. For example, robotics being used to meet the requirements for rib to deck panel production of orthotropic steel deck (OSD). Also, the introduction of LiDAR and 3D modeling have created a date rich environment that may reduce erros, production time and ultimately cost in the fabrication of steel bridge girders. This session will include a look at the curent state of both virtual fabrication and BrIM in the modern steel bridge shop. **1.5 PDHs**

ENGINEERS // FABRICATORS

Recommendation for Improved Steel Design

B10 Thursday 1:15 p.m. – 2:15 p.m. // Sun A

Speakers: Domenic Coletti, HDR Inc.; Dennis Golabek, KCA

Moderator: William Collins, University of Kansas

This session is comprised of two presentations regarding improved design recommendations:

Traditionally, cross-frames for straight steel I-girder bridges have been designed with consideration of little more than wind loads and individual member slenderness criteria. This session will include a discussion of the practical implementation of Yura and Helwig's guidelines. Additionally, recent implementation of these recommendations by the NCDOT and recommendations published by the PennDOT will be presented.

Florida designers have been required to design for wind loads on partially constructed bridges since 2000 using either a reduced wind pressure or lower load factor on the wind loading included in the AASHTO Specifications. In 2015, the Florida Department of Transportation (FDOT) design requirements for wind load design were updated with revised pressure coefficients based on several years of research and wind tunnel testing. This session additionally look at the development of the current FDOT design for wind load recommendations. **1.0 PDHs**

ENGINEERS

Challenging Bridge Projects in Steel

B11 Thursday 1:15 p.m. – 2:15 p.m. // Sun B

Speakers: Chris Stine and Shane Beabes, AECOM

Moderator: Kevin Irving, AZZ Galvanizing

This session will focus on three challenging bridge projects in steel. The first presentation will be of the 11th St. Bridge design-build-to-budget project let by the District Department of Transportation in Washington, DC. Challenges associated with revisions to construction staging will also be discussed. The final presentation will look at the durable replacement and the complex staging and geometry encountered in I-55 and Lake Shore Drive Interchange in Chicago. Included as part of this presentation will be an overview of the design of long-span, curved plate girders with radii less than 600 feet will be discussed. **1.0 PDHs**

ENGINEERS

Steel in Design Build Projects

B12 Thursday 3:00 p.m. – 4:00 p.m. // Sun A

Speakers: Frank Blakemore, Garver; Amanda White, Bohannan Huston

Moderator: Calvin Schrage, NSBA

This session will look at two design build projects and how steel provided the most effective, efficient, and economical solution. First, the Paseo del Norte Boulevard which is a main connection between the east and west sides of the Albuquerque Metropolitan and then the replacement of the existing US 69 Missouri River crossing in Kansas City with a low maintenance bridge designed for a 100-year life expectancy of service. **1.0 PDHs**

ENGINEERS // GENERAL CONTRACTORS

Successes in Short Span Steel Bridges

B13 Thursday 3:00 p.m. – 4:00 p.m. // Sun B

Speakers: James Carpita, Beaverhead County–Montana (Retired); Carlos Duart, CDR Bridge Systems

Moderator: Rich Tavoletti, Steel Market Development Institute

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 look at recent successes of steel use in the short span market; specifically the application of the Folded Steel Plate Girder bridge system. Additionally, an owner's perspective on utilizing a detailed analysis to compare steel with concrete for a short span bridge replacement projects will be presented. **1.0 PDHs**

ENGINEERS // GENERAL CONTRACTORS

Heat Straightening and Repair of Collision Damaged FCM Girder Bridge

B14 Thursday 4:15 p.m. – 5:15 p.m. // Sun A

Speakers: Eric Setzler, SAI Consulting Engineers; Tyler Thomas, Flame On

Moderator: Sougata Roy, Consultant

A curved two-girder fracture critical bridge near Pittsburgh sustained significant damage when it was struck by an over-height truck. A 3D finite element model was utilized to evaluate dead and live load stresses in the damaged girder. Heat straightening was used to restore the damaged girder bottom flange and web nearly to their original alignment. Web cracks that developed during the impact and during heat straightening were retrofit to prevent future fatigue and fracture problems. **1.0 PDHs**

ENGINEERS // FABRICATORS // GENERAL CONTRACTORS

Ideas from Abroad

B15 Thursday 4:15 p.m. – 5:15 p.m. // Sun B

Speakers: Juan Sobrino, PEDELTA Inc.; Riccardo Zanon, ArcelorMittal Europe – EuroStructures Beam Finishing

This session will provide an international look at what is being done in other countries. Over the last decade, the European market of steel fabrication has experienced various changes in term of standard, practice, and supply chain layout. The first presentation will include the point of view of a steel producer providing an extended offer in structural solution, giving an overview on general trends as well as some changes in the daily practice. The second presentation will provide an overview of the conceptual design, structural behavior and erection of the new vehicular crossing over the Ter River in Girona (northeastern Spain). This design was based on an aesthetic philosophy of "complex simplicity", a contemporary interpretation of a classic structure type that gives a unique identity to the bridge. What are they doing in other countries? Why don't we do that here? **1.0 PDHs**

ENGINEERS // FABRICATORS

Fracture Critical Determination: Research and Strategies, Part 2

B16 Friday 8:00 a.m. – 9:30 a.m. // Sun A

Speakers: Rob Connor, Purdue University; Matt Hebdon, Virgina Tech; Ryan Sherman, Purdue University

Moderator: Matt Shergalis, NSBA

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. Additionally, the development of an integrated fracture control plan (FCP) will be presented. Lastly, a more rational inspection strategy for built-up members will be discussed. **1.5 PDHs**

ENGINEERS // FABRICATORS

Bridge Information Modeling— Towards an Industry Exchange Standard

B17 Friday 10:15 a.m. – 11:45 a.m. // Sun B

Speakers: Luke Faulkner, AISC; Samy Elsayed, MC Ironworks; Ian Trudeau, Canada BIM Council Inc.

Moderator: Brian Kozy, Federal Highway Administration

The use of Bridge information Modeling (BrIM) is being promoted as a technological advancement to the way the bridge engineering community executes workflow and manages data across the full life cycle of bridges. Today, bridge project delivery involves various software applications that support most or all of the activities involved in design and construction. However, there is a need for data interoperability industry standards spanning the entire bridge lifecycle. This session will provide an overview and status of efforts to develop an industry standard. Additionally, AISC's BIMsteel initiatives to help the industry develop new processes and improved methods of data transfer and sharing will be presented. **1.5 PDHs**

ENGINEERS // FABRICATORS // DETAILERS // GENERAL CONTRACTORS

Fracture Critical Determination: Case Studies and Strategies, Part 3

B18 Friday 10:15 a.m. – 11:45 a.m. // Sun A

Speakers: Reed Ellis, Stantec; Greg Hasbrouck, Parsons; Seth Condell, Parsons

Moderator: Matt Hebdon, Virginia Tech

Part 3 of this series will present three case studies in design and repair. First, the case study investigation and repair the 7 span fracture critical Diefenbaker Bridge, which experienced brittle fracture, will be presented. Next, a presentation of the design and construction of a load path redundant truss, which eliminated all fracture critical members and the necessity of fracture critical member inspection, will be given. And lastly, this session will include an overview of the superstructure of the cable stayed spans of the Goethals Bridge that provided a unique level of redundancy and improved overall structural resiliency. **1.5 PDHs**

ENGINEERS // FABRICATORS

Strengthening and Repair of In-Service Bridges

B19 Friday 2:45 p.m. – 3:45 p.m. // Sun A

Speakers: Dennis Noernberg, AFCO Steel; Steve Olson, Olson & Nesvold Engineers, P.S.C.

Moderator: Calvin Schrage, NSBA

Faced with aging bridge inventories, limited budgets and increased truck loadings, owners are often interested in repairing and strengthening existing bridges. This session will present case studies to illustrate repair and strengthening strategies fabicators, engineers and owners can use for in-service steel bridges. **1.0 PDHs**

ENGINEERS // FABRICATORS // GENERAL CONTRACTORS

Kentucky Lake Bridges— Steel from Beginning to End

B20 Friday 2:45 p.m. – 3:45 p.m. // Sun B

Speakers: Jason Stith, Michael Baker International; Brad Robson, Palmer Engineering

The Lake Bridges Project addresses the long-term transportation needs in the Lake Barkley and Kentucky Lake region. The bridge type selection process concluded July 14, 2009 with the selection of a Basket-Handle Tied Arch, for Kentucky Lake and Lake Barkley. The selection took into account public input, cost and engineering feasibility. This session will focus on the design process and rationale for the selection of various features of the bridge superstructure such as the selection of the network hanger arrangement, integral floor system, an open H-section rib, a non-welded knuckle plate connection and seismic isolation system. Because these structures will serve as a main route for evacuations and first responders, they were designated "essential" for seismic design. This session will also look at the seismic design of the Kentucky Lake and Lake Barkley Approach Spans. **1.0 PDHs**

ENGINEERS // ERECTORS // GENERAL CONTRACTORS

Phased Array Ultrasonic Testing— Real World Application and Results

B21 Friday 1:00 p.m. – 2:30 p.m. // Sun A

Speakers: Terry Logan, Atema; Mark Davis, NDE Inc.; Rob Connor, Purdue University; Daly Souissi, Scanbec NDT

Moderator: Ronnie Medlock, High Steel Structures

Phased array ultrasonic inspection (PAUT) offers several improvements, including faster testing and digital record of test results. As this technology has moved from the research laboratory to real world application, there are lessons learned that can help other achieve success. This session will look at a case study application of PAUT in steel bridge fabrication. Also included in this session will be an update regarding the NCHRP project currently underway at Purdue University. **1.5 PDHs**

ENGINEERS // FABRICATORS

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A Brief History of Steel and its Influence on the Skyscraper

EW1 Thursday 5:30 p.m. – 6:15 p.m. // Captiva

Presented by: ArcelorMittal

In the early 1900s building design began to evolve, with perhaps the most notable change being development of the skyscraper. From the introduction of wide-flange sections in 1897 to today's advances in steel production technology, numerous high-rise buildings have been influenced by innovations in steel. In this presentation, we will study the history of steel production and the value in design, efficiency and sustainability that steel brings to high-rise buildings.

SPS Steel Orthotropic Bridge Applications—Emerging Technologies

EW2 Wednesday 3:15 p.m. – 4:15 p.m. // Captiva

Presented by: SPS North America

SPS is a new and creative steel technology that can replace both stiffened steel and reinforced concrete. SPS is a composite material of two metal plates bonded together with a polyurethane core. SPS has been used in structures and projects such as ships, ship decks, bridges, sports stadium and arena terraces, building floors, walls, roofs, core systems and blast protection walls. SPS can be designed and shaped for a wide variety of geometries, including use in circular buildings.

Designing Connections Using RISA and Tekla

EW3 Thursday 5:30 p.m. – 6:15 p.m. // Destin

Presented by: RISA Technologies

The RISA-Tekla link allows users to design connections within their Tekla Structures model and view the connection design calculations within RISAConnection. This seminar will show how to use this link to transfer your connections between these two programs and how to converge on a connection design solution. The RISA-Tekla link is available for free to all RISAConnection and Tekla Structures customers.

Leveraging the 3D Model for Steel Erection: Experience SDS/ 2 Erector

EW4 Thursday 10:15 a.m. – 11:45 a.m. // Captiva

Presented by: Design Data

Good steel erectors can eyeball a piece of steel and instinctively know whether it will meet crane capacity. But to be AISC certified, you've got to provide documentation which takes time to compile. SDS/2 Erector enables erectors to fast-track the documentation by utilizing the fabricator's model to create lift plans and calculations, as well as manage and track steel on the site. Join us to learn more about how steel erectors are profiting from this technology.

Eliminating Drawing Cleanup: Experience SD/2 Detailing

EW5 Thursday 8:00 a.m. – 9:30 a.m. // Captiva

Presented by: Design Data

Consider how much time you would save on every project if you could eliminate drawing cleanup. SDS/2's detailing templates are taking drawing automation to a whole new level, reducing and in some cases completely eliminating clean-up time for shop drawings. Learn how this new ground-breaking technology works and our experts will work with your drawing standards and show you what it will take to eliminate drawing cleanup.

StruMIS: A Bird's Eye View of Your Fabrication at Your Fingertips

EW6 Thursday 3:00 p.m. – 4:00 p.m. // Captiva

Presented by: StruMIS LLC

Integration, mobility, production control, estimating speed. StruMIS is the complete software system for every steel fabrication company. With StruMIS, you can optimize material and labor resources and reduce production time and overhead costs for greater efficiencies, traceability, productivity and profitability in every step of the steel fabrication process. Come see why StruMIS is the easy-to-learn, easy-to-use leading technology for steel fabricators.

Reduce Material Handling and Maximize Material Usage

EW7 Wednesday 3:15 p.m. – 4:15 p.m. // Daytona

Presented by: Jim Moody, Principal Application Consultant, AVEVA

Do you ever take remnants to the stockyard only to pull them right back into the shop for processing? Do you ever sort through stacks of cut lists to find pre-planned remnants? Using powerful planning tools can minimize, if not eliminate, the additional costs associated with unnecessary material handling. Learn how nesting multiple jobs together and easily utilizing drops (that do not exist) can bolster profitability.

Build Smarter with Integrated Design and Detailing

EW8 Thursday 4:15 p.m. – 5:15 p.m. // St. George 104

Presented by: Dan Istvan, Technical Manager, AVEVA

Learn how integrated design and detailing software can help accelerate and control the iterative processes and allow multi-discipline engineers to share and collaborate on design changes, in real-time, from anywhere in the world. See first-hand how this integrated BIM collaboration can help improve project schedules and maximize fabrication efficiency.

Expansion Bolts for Hollow Structural Steel Sections

EW9 Thursday 3:00 p.m. – 4:00 p.m. // St. George 108

Presented by: Lindapter

Connecting to steel hollow structural steel sections (HSS) from a single side has troubled engineers for decades. However, there are now numerous types of fasteners and connection methods for this increasingly popular structural material outside of welding. The attendee will leave the session with a technical understanding that expansion bolts for HSS are a viable option to consider when there are restrictions in welding or through-bolting HSS.

Intergraph: Evolutionary Not Revolutionary Change, Unconstrained Modeling Approach

EW10 Thursday 4:15 p.m. – 5:15 p.m. // St. George 108

Presented by: Intergraph

Intergraph's structural portfolio rewrites the way that structural engineers and designers analyze and design the structures that support all types of facilities. As a customer-focused company, we've created an efficient, simple user experience that models faster, more efficiently, and with fewer assumptions, all without being constrained to software makers' workflows. Increase the return on investment that your company needs to stay competitive and learn how you can consolidate your structural analysis tools.

Advances in the Analysis and Design of Steel Structures

EW11 Wednesday 3:15 p.m. – 4:15 p.m. // Destin

Presented by: Trimble Solutions (Tekla Software)

The ease of modeling with BIM-based 3D modeling solutions is pushing structural engineers to deliver structural designs for more geometrically challenging buildings than ever before. Traditional approaches used for regular-shaped buildings no longer apply. Full consideration of the overall 3D analytical effects, combined with a code-complaint design and BIM interfacing process are now required. This session will explore how one tool, Tekla Structural Designer, helps engineers meet these modern, everyday requirements. By considering different methods of analysis simultaneously with code compliant design, Tekla Structural Designer helps engineers to examine, simulate, and converge on better structural designs for their clients.

Construction Documents to Shop Drawings: Tekla Software for Structural Engineers

EW12 Thursday 10:15 a.m. – 11:45 a.m. // Destin

Presented by: Trimble Solutions (Tekla Software)

This session will demonstrate how you can utilize Tekla for the full project lifecycle, starting with schematic framing plans to full construction documents to shop drawings and the construction administration phase. Create SSKs directly from the model and update your construction documents for as-builts simultaneously!

Trimble's Latest Software Developments: Tekla Model Sharing and Trimble Connect

EW13 Thursday 4:15 p.m. – 5:15 p.m. // St. George 106

Presented by: Trimble Solutions (Tekla Software)

See the latest developments of Tekla Model Sharing and Trimble Connect! Tekla Model Sharing allows Tekla Structures users the flexibility to work in a collaborative BIM environment, online or offline, along with the ability to sync only changes in a model, instead of the entire file. Cloud-based, Trimble Connect gives users the ability to exchange files and project information through shared file management, viewing, and planning activities in one simple tool, available anywhere, anytime.

The XTB Extra High Strength Bolt

EW14 Thursday 1:15 p.m. – 2:15 p.m. // St. George 106

Presented by: NSS Bolten

The XTB high-strength structural bolt, with 200-ksi tensile strength, is now available as ASTM 3043 for twist-off-type tension control bolt assemblies and as ASTM 3111 for heavy-hex assemblies. Get design aids, connection design comparisons and cost comparisons to know when the XTB is the superior choice over large diameter A325 and A490 bolts for your building projects, saving money in connection materials, hole-making and installation. For engineers, fabricators, erectors and detailers.

What's New in Structural Bolting: An Overview of Changes and Additions to the 2016 ASTM Specifications

EW15 Thursday 3:00 p.m. – 4:00 p.m. // Destin

Presented by: Jeff Greene, Vice President
LeJeune Bolt Company

In this workshop, the discussion will focus on two recent standards, ASTM F3125 and ASTM F3148. Attendees will leave the workshop with a clear working knowledge of each of these specifications and how to apply them in future work. ASTM F3125, also known as the "combined standard," combines the existing structural bolt standards into a single document for better reference, clarity and accuracy. ASTM F3148 is the new specification for the torque and angle fastening system. This part of the discussion will provide insight into this innovative system as well as the torque and angle installation method.

Lateral Analysis Using RAM Frame: How Accurate is It?

EW16 Thursday 1:15 p.m. – 2:15 p.m. // Destin

Presented by: Bentley Systems, Inc.

Precise? Accurate? Approximate? Wrong? What kind of analytical results are you getting from your software? When can a more precise analysis method give more inaccurate results than an approximate method? When are simplified or approximate techniques sufficient to get the job done productively? In this workshop, the analysis techniques and options, both exact and approximate, employed by RAM Frame will be discussed and critiqued, with comparisons with other software and methods presented.

Structural Engineering Advancement Through Integrated Design Workflows

EW17 Friday 1:00 p.m. – 2:30 p.m. // Captiva

Presented by: Bentley Systems, Inc.

How can you harness interoperability improvements in structural engineering software to advance your design workflow and improve your engineering project performance? In this presentation we will discuss how software integration and interoperability with STAAD.Pro can be maximized to save time, improve accuracy, increase structural design efficiency, reduce construction costs, and increase design safety. We will discuss implementation of integrated design workflows from project conception through project completion and what benefits can be achieved by these advancements in structural design workflows.

OpenBridge Modeler: What is it and how can I use it today?

EW18 Friday 2:45 p.m. – 3:45 p.m. // Captiva

Presented by: Bentley Systems, Inc.

Develop intelligent, 3D, parametric bridge models within the context of an overall highway project with Bentley's OpenBridge Modeler. Easily manage changes with built-in, user-defined relationships among bridge components and reference DGN models throughout the lifecycle of the bridge. This presentation highlights modeling a steel I-girder bridge with Bentley's latest addition to its Bridge portfolio, OpenBridge Modeler and its interoperability with OpenRoads and LEAP Bridge Steel. Learn how to layout a multi-span steel I-girder bridge using user-defined sections and design and analyze your bridge using integration with LEAP Bridge Steel.

Seamless Structural Analysis Utilizing RFEM and Tekla

EW19 Thursday 1:15 p.m. – 2:15 p.m. // St. George 108

Presented by: Dlubal Software, Inc.

When in the design phases of a project, typically there are multiple models used for both construction drawings and the structural analysis. As a result, these isolated models may cause planning and communication errors. In addition, they require double the time and effort. Integrated interfaces between RFEM and Tekla Structures allow for bidirectional exchange of information to eliminate these sharing issues. The direct connection between BIM and structural analysis ensures powerful, efficient and reliable planning.

Seamless Structural Analysis Utilizing RFEM and Tekla

EW20 Friday 2:45 p.m. – 3:45 p.m. // St. George 104

Presented by: Dlubal Software, Inc.

When in the design phases of a project, typically there are multiple models used for both construction drawings and the structural analysis. As a result, these isolated models may cause planning and communication errors. In addition, they require double the time and effort. Integrated interfaces between RFEM and Tekla Structures allow for bidirectional exchange of information to eliminate these sharing issues. The direct connection between BIM and structural analysis ensures powerful, efficient and reliable planning.

An Introduction to Nucor Grating

EW21 Thursday 3:00 p.m. – 4:00 p.m. // St. George 106

Presented by: Nucor Grating / Fisher & Ludlow

Your construction projects demand the highest quality products and on time deliveries. At Nucor Grating, we deliver. Nucor Grating and its Canadian affiliate, Fisher & Ludlow, are proud to be your first choice in the North American grating market. Please join us for a brief presentation outlining our market-driven products and services that will assist you in satisfying your customer on the next grating project.

Joint-Type Connection Optimization Leads to Savings and Efficiency

EW22 Thursday 8:00 a.m. – 9:30 a.m. // Destin

Presented by: Qnect LLC

Qnect has created sophisticated cloud-based software to engineer and connect steel joints directly into a Tekla model. At the speed of one joint per second, Qnect optimizes the steel project for a faster schedule and lower cost. This session will show how our Preference Optimization feature gives EOR's, detailers and fabricators capability to connect jobs multiple times so the joint type that produces lowest cost can be chosen.

Bolt Optimization Resulting in up to 40% Fewer Bolts

EW23 Thursday 1:15 p.m. – 2:15 p.m. // St. George 104

Presented by: Qnect LLC

Qnect has created sophisticated cloud-based software to engineer and connect steel joints directly into a Tekla 3D model. At the speed of one joint per second, Qnect optimizes the steel project for a faster schedule and lower cost. This session will show how our Bolt Optimization feature reduces bolts needed on a project by as much as 40%. This data is uniquely available with QuickQnect® software service.

CloudCalc: Structural Analysis in the Cloud

EW24 Thursday 3:00 p.m. – 4:00 p.m. // St. George 104

Presented by: CloudCalc, Inc.

Discover the advantages that a cloud-based application can bring to your design/engineering process. Sharing analytical models promotes design team collaboration. Device independence, including mobile device support, lets engineers run analyses from the job site, client's office or anywhere. Licensing flexibility balances software against cyclic project workloads. Reduced IT support requirements means lower operating costs and ensures that you are always using the latest version of the software.

FabSuite – Steel Management Software

EW25 Thursday 1:15 p.m. – 2:15 p.m. // St. George 102

Presented by: FabSuite, LLC

Join us for NOT your typical software demo. Hear about the FabSuite program from the developers and product managers, as well as current FabSuite users. Ask questions and gain insights not available in typical presentations. You'll hear from our users directly and see why they love FabSuite software and the culture of our company. Come find out why FabSuite is the software of choice for your fabrication shop!

Steel Construction in the Era of Connection

EW26 Thursday 7:00 a.m. – 7:45 a.m. // Daytona

Presented by: Autodesk, Inc.

The steel industry is seeing trends like globalization, labor shortages, and changing client expectations. In addition, the technology sector is going through a transformation in how products are imagined and produced, as well as how they interact with consumers. These trends are all converging and will redefine how steel professionals stay competitive in a new, connected landscape. Engineers, detailers, fabricators and erectors will hear why this new "era of connection" is important and how they can prepare for it.

Digital Information Truth from Project Start to Finish

EW27 Thursday 8:00 a.m. – 9:30 a.m. // St. George 108

Presented by: Erik Schonsett, Industry Specialist, Bluebeam Software

Leveraging digital information is a common goal for steel detailers, fabricators, estimators and erectors, but finding a solution allowing for information to be shared throughout the entire project lifecycle remains a challenge. We will discuss how project teams maintain a single source of truth from project start to finish with tools like Bluebeam Revu by digitally collaborating on documents, sharing information downstream to the field and leveraging 3D PDFs.

Steel Connection Design – Reinvented

EW28 Thursday 3:00 p.m. – 4:00 p.m. // St. George 102

Presented by: IDEA RS - Juraj Sabatka, Martin Rolny; Autodesk - Michael Gustafson, Udo Haedicke

IDEA RS (Autodesk Industry Partner) has developed new software for the structural design of steel connections/joints—IDEA StatiCa Connection. It is based on a new CBFEM method and allows structural engineers to design and check connections of all topologies in minutes. Attendees of this workshop will investigate this new software, understand revolutionary CBFEM method and learn how this tool can help in their daily work. Interoperability with Advance Steel and Robot Structural Analysis will be demonstrated.

StruMIS: Modern and Mobile Bar-Code App for full Traceability and Tracking Needs of Steel Fabrication

EW29 Friday 10:15 a.m. – 11:45 a.m. // Captiva

Presented by: StruMIS LLC

StruMIS offers tailored mobile options to provide easy access to information and data from anywhere, on any type of device, with the best solution to suit your specific needs. Available on iPhone, Android and Windows devices, the StruMIS mobile app is usable online and offline, providing you with the ability to update all users in real-time, ideal for use on-site. StruMIS also offers integrated bar coding to address the traceability and tracking needs of steel fabricators.

BeamMaster Weld: Efficient Manufacturing from CAD to Production

EW30 Thursday 10:15 a.m. – 11:45 a.m. // Daytona

Presented by: AGT Robotics

The BeamMaster WELD is a Robotic Welding Line specially engineered to answer all the welding needs of structural steel fabricators. It features a complete robotic automation and integration with dedicated software. Fabrication shops can solve production issues with robotic welding.

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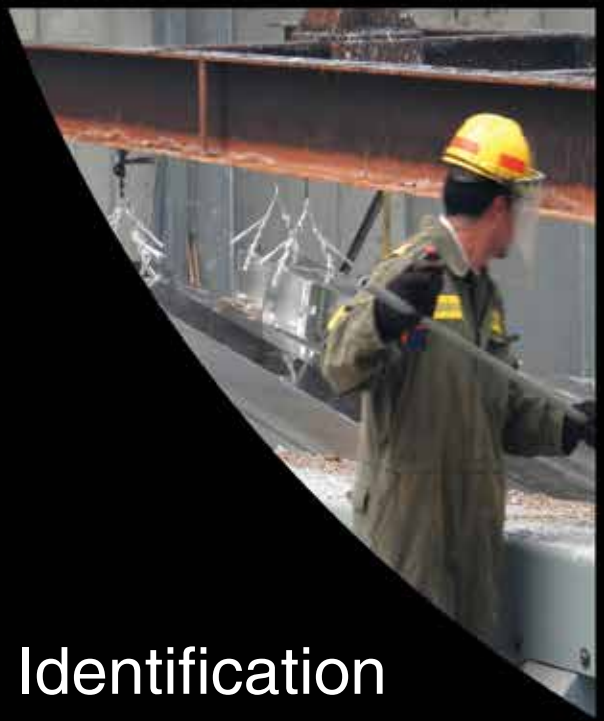

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Educator Session

E1 Wednesday 8:00 a.m. – noon // Naples

Note: Full-time faculty members who teach at U.S. universities that attend the Educator Session may 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.

- Digital Teaching Modalities for Structural Steel Courses
  By: Prof. Patrick Tripeny, Director of the Center for Teaching and Learning Excellence at the University of Utah
  Digital teaching modalities are becoming the norm in higher education. This presentation will help faculty get the most out of this technology for your steel design course.
- Teaching Chapter C, Design for Stability – One Faculty Member's Perspective
  By: Prof. Ron Ziemian, P.E., Ph.D., Bucknell University
  In 2005, the system stability provisions appearing in AISC's *Specification for Structural Steel Buildings* became a great deal more transparent. Coupling this with the advent of the Direct Analysis Method has greatly improved the opportunities for students of all ages to better learn and effectively apply AISC's stability provisions. Come hear how one faculty member approaches this subject, and also be prepared to contribute your insights during the discussion time scheduled at the conclusion of this session.

EDUCATORS

Morning Meetup

E2 Thursday
9:00 a.m. – 10:00 a.m.
Osceola C-D

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

STUDENTS

Morning Session and Lunch

E3 Thursday 10:00 a.m. – 12:45 p.m. // Osceola C-D

Students attending E3 will receive a complimentary lunch.

- What They Didn't Teach Me at College (Or, at Least I Don't Think They Did)
  Duane Miller, Manager of Engineering Services and Welding Design Consultant, Lincoln Electric
- Insights Into a Career as a Bridge Engineer
  Carmen Swanwick, Chief Structural Engineer, Utah D.O.T.

Students will have the opportunity to hear career insights and important lessons learned 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

Direct Connect

E4 Thursday
1:00 p.m. – 2:30 p.m. // Osceola C-D

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 may 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 and are 21 years of age or older 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.

Welcome

SS1 Tuesday 1:30 p.m. – 1:40 p.m. // Osceola A

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

Technical Presentations: Lateral Torsional Buckling of Beams/ Girders in Bridges and Buildings

SS1A Tuesday 1:40 p.m. – 3:00 p.m. // Osceola A

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

- Lateral Torsional Buckling of Steel Bridge Girders
  Raphaël Thiébaud and Jean-Paul Lebet, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; André Beyer, CTICM, Saint-Aubin, France; Nicolas Boissonnade, University of Applied Sciences of Western Switzerland – Fribourg, Fribourg, Switzerland
- Stability Considerations for the Construction of Steel I-Girder Bridges Using the Incremental Launching Method
  Maria Emilia Ponton and Andres F. Robalino, ADSTREN, Quito, Ecuador; Telmo Andres Sanchez, Universidad San Francisco de Quito, Quito, Ecuador
- Lateral Torsional Buckling of Welded Wide Flange Beams
  Md. Imran Kabir and Anjan K. Bhowmick, Concordia University, Montreal, QC, Canada
- Influence of Plate Stiffener Geometry on LTB Capacity
  Piyachai Chansuk, Aaron G. Freidenberg, Craig E. Quadrato and Megan M. Rogers, United States Military Academy, West Point, NY

Technical Presentations: Stability of Thin Walled Members

SS1B Tuesday 1:40 p.m. – 3:00 p.m. // Osceola 4-5

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

- Experimental Studies on the Composite Action in Wood-Sheathed and Screw-Fastened Built-Up Cold-Formed Steel Columns
  David C. Fratamico, Shahabeddin Torabian and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Kim J. R. Rasmussen, University of Sydney, Sydney, Australia
- Stability of Buried Corrugated Metal Pipe
  P. Graham Cranston and Matthew C. Richie, Simpson Gumpertz & Heger Inc., Waltham, MA; Luiz C. M. Vieira, Jr., University of Campinas, Campinas, Brazil
- Full Field Cold-Formed Steel Column Buckling Measurements with High Resolution Image-Based Reconstruction
  Abraham Lama Salomon and Christopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA; Dave Fratamico and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD
- Axial Stability of Columns Composed of Combined Sigma CFS
  Mohamed El Aghoury, Ain Shams University, Cairo, Egypt; Maged T. Hanna, Housing and Building National Research Center, Giza, Egypt; Essam A. Amoush, Higher Technological Institute, Tenth of Ramadan City, Egypt

Break Tuesday 3:00 p.m. – 3:15 p.m.

Technical Presentations: Web Stability of I-Shaped Members

SS2A Tuesday 3:15 p.m. – 4:35 p.m. // Osceola A

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

- Shear Strength of Unstiffened Steel Plate Girders
  Aaron J. Daley, Brown + Kubican Structural Engineers, Lexington, KY; D. Brad Davis, University of Kentucky, Lexington, KY; Donald W. White, Georgia Institute of Technology, Atlanta, GA
- Vertical, Bending, and Warping Stresses from Field Testing of Skewed Steel I-Girder Bridges
  Jennifer McConnell, University of Delaware, Newark, DE
- Revisiting Web Compression Buckling for Wide Flange Sections
  Fatmir Menkulasi and Nahid Farzana; Louisiana Tech University, Ruston, LA; Cristopher D. Moen and Matthew R. Eatherton, Virginia Polytechnic Institute and State University, Blacksburg, VA
- Improved Stability Design of Longitudinally Stiffened Plate Girders
  Lakshmi P. Subramanian and Donald W. White, Georgia Institute of Technology, Atlanta, GA

Technical Presentations: Special Topics in Structural Stability

SS2B Tuesday 3:15 p.m. – 4:35 p.m. // Osceola 4-5

Moderator: P. Graham Cranston, Simpson Gumpertz & Heger, Waltham, MA

- Dynamic Stability of Deep and Slender Wide-Flange Steel Columns—Full Scale Experiments
  Ahmed Elkady and Dimitrios G. Lignos, McGill University, Montreal, QC, Canada
- Finite Element Simulation of Buckling of Extended Beam-to-Girder Shear Tab Connections under Gravity Induced Shear Force
  Mohammad Motallebi, Dimitrios G. Lignos and Colin A. Rogers, McGill University, Montreal, QC, Canada
- Buckling of FRP Long Tubes Lined with Steel Pipe under External Pressure
  Hayder A. Rasheed, Kansas State University, Manhattan, KS
- Stability Design of Columns with Intermediate Gravity Loads
  Lip H. Teh, University of Wollongong, Wollongong, Australia; Benoit P. Gilbert, Griffith University, Gold Coast, Australia

Overview of Task Group Objectives

Tuesday 4:35 p.m. – 4:45 p.m. // Osceola A

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

Break Tuesday 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. // Osceola A

- TG02 Members: Stability of Steel Members // Osceola 1
  Chair: Lt. Col. Craig E. Quadrato, United States Military Academy, West Point, NY
- TG03 Systems: Stability of Steel Systems, Especially Frames // Osceola 2
  Chair: Luiz Vieira, University of Campinas, Campinas, Brazil

Break Tuesday 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. // Osceola A

- TG04 Stability of Metal Bridges and Bridge Components // Osceola 1
  Chair: Daniel Linzell, The University of Nebraska-Lincoln, Lincoln, NE
- TG05 Thin-Walled Structures // Osceola 2
  Chair: Kara Peterman, Northeastern University, Boston, MA
- TG06 Extreme Loads: Stability Under Extreme Loads // Osceola 3
  Chair: Mina Seif, National Institute of Standards & Technology, Gaithersburg, MD

SSRC Annual Business Meeting

SS5 Tuesday 6:30 p.m. – 6:50 p.m. // Osceola A

- SSRC Business Meeting
- Presentation of the 2016 Vinnakota Award

SSRC Social Hour

SS6 Tuesday 6:50 p.m. – 8:00 p.m. // Osceola A

SSRC 2016

ANNUAL STABILITY

• CONFERENCE •

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

Stability at High Temperature Conditions

S1 Wednesday 3:15 p.m. – 4:15 p.m. // Osceola A

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

- Welcome to the 2016 SSRC Annual Stability Conference
  Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD
- Experimental Examination of Creep Buckling of Steel Columns in Fire
  Mohammed A. Morovat, Michael D. Engelhardt, Todd A. Helwig and Eric M. Taleff, University of Texas at Austin, Austin, TX
- Analysis and Design of Noncompact and Slender Rectangular CFT Columns Subjected to Ambient and Elevated Temperature
  Zhichao Lai and Amit H. Varma, Purdue University, West Lafayette, IN; Hua Yang, Harbin Institute of Technology, Harbin, China; Anil Agarwal, Indian Institute of Technology Hyderabad, Telangana, India

ENGINEERS **1.0 PDHs**

Stability of Beam-Columns

S2 Wednesday 4:30 p.m. – 6:00 p.m. // Osceola A

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

- Elasto-Plastic Stress States and Reduced Flexural Stiffness of Steel Beam-Columns
  Barry T. Rosson, Florida Atlantic University, Boca Raton, FL
- Stability of Perforated Cold-Formed Steel Beam-Columns
  Yared Shifferaw and Trevor Rabare, Drexel University, Philadelphia, PA
- Finite Element Modeling Protocols and Parametric Analyses for Short Cold-Formed Steel Zee-Section Beam-Columns
  Shahabeddin Torabian and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Hamed Amouzegar and Mazdak Tootkaboni, University of Massachusetts, Dartmouth, MA
- An Introspective Assessment of Buckling and Second-Order Load-Deflection Analysis Based Design Calculations
  Woo Yong Jeong, Oguzhan Togay, Ajinkya M. Lokhande and Donald W. White, Georgia Institute of Technology, Atlanta, GA

ENGINEERS **1.5 PDHs**

Stability Bracing Behavior and Consequences of Inadequate Bracing

S3 Thursday 8:00 a.m. – 9:30 a.m. // Osceola A

Moderator: Perry S. Green,
Bechtel Power Corporation, Frederick, MD

- The Impact of Girder Geometry and Bracing Details on the Stability of Steel Tub Girder
  Yang Wang, Stalin Armijos Moya, John Kintz, Todd A. Helwig, Patricia Clayton, Michael D. Engelhardt and Eric Williamson, University of Texas at Austin, Austin, TX
- Stiffened Shear Diaphragm Design Requirements for Bracing of Beams
  Colter E. Roskos, Paul Biju-Duval and Todd A. Helwig, University of Texas at Austin, Austin, TX
- Buckling and Design of Columns with Intermediate Elastic Torsional Restraint
  Hannah B. Blum and Kim J.R. Rasmussen, University of Sydney, Sydney, Australia
- Instability of Solar Power Tower Structures during Construction
  Cliff D. Bishop, Morgan Griffith and Brian M. McDonald, Exponent Inc., Menlo Park, CA

ENGINEERS **1.5 PDHs**

Stability of Steel Frames and Systems

S4 Thursday 10:15 a.m. – 11:45 a.m. // Osceola A

Moderator: Luiz Vieira,
University of Campinas, Campinas, Brazil

- Progressive Collapse Resistance of Composite Steel Frame Structures under Corner Column Removal
  Safa S. Masajedian and Robert G. Driver, University of Alberta, Edmonton, AB, Canada
- New Euler-type Progressive Collapse Curves for Steel Frames
  Simos Gerasimidis and Panos Pantidis, University of Massachusetts, Amherst, MA
- Dynamic Stability of Planar Frames Supported by Elastic Foundation
  Bulent N. Alemdar, Bentley Systems, Inc., Carlsbad, CA; Çigdem Dinçkal, Çankaya University, Ankara, Turkey
- Effect of Girder Continuity and Imperfections on System Buckling of Narrow I-Girder Systems
  Liwei Han and Todd A. Helwig, University of Texas at Austin, Austin, Texas

ENGINEERS **1.5 PDHs**

Advances and Applications of Generalized Beam Theory

S5 Thursday 1:15 p.m. – 2:15 p.m. // Osceola A

Moderator: Lt. Col. Craig E. Quadrato, United States Military Academy, West Point, NY

- GBT-Based Buckling Analysis of Circular Cylindrical Steel Shells under Uniform External Pressure
  Cilmar Basaglia and Leandro Palermo Jr., University of Campinas, Campinas, Brazil; Dinar Camotim and Nuno Silvestre, Technical University of Lisbon, Lisbon, Portugal
- Recent Developments in the GBT-Based Numerical Modeling of Steel-Concrete Composite Beams
  Rodrigo Gonçalves, Universidade Nova de Lisboa, Caparica, Portugal; David Henriques and Dinar Camotim, Technical University of Lisbon, Lisbon, Portugal
- GBT-Based Buckling Analysis of Thin-Walled Steel Frames with Semi-Rigid Joints
  Enio Mesacasa Jr. and Maximiliano Malite, University of São Paulo, Brazil; Cilmar Basaglia, University of Campinas, Brazil; Dinar Camotim, Technical University of Lisbon, Lisbon, Portugal

ENGINEERS **1.0 PDHs**

Impact of Imperfections on Stability

S6 Thursday 3:00 p.m. – 4:00 p.m. // Osceola A

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

- The Effect of Geometric Imperfections on the Flexural Buckling Strength of Tapered Spirally Welded Steel Tubes
  Angelina Jay, Fariborz Mirzaie and Andrew Myers, Northeastern University, Boston, MA; Shahabeddin Torabian, Abdullah Mahmoud and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Eric Smith, Keystone Tower Systems, Westminster, CO
- Effect of Imperfections on Faceplate Slenderness Requirements for SC Walls
  Saahastaranshu R. Bhardwaj and Amit H. Varma, Purdue University, West Lafayette, IN; Kai Zhang, Westinghouse Electric Company, Pittsburgh, PA
- Influence of Imperfections on the Local Buckling Response of Hollow Structural Shapes
  Joanna Nseir, Marielle Hayeck, Elsy Saloumi and Nicolas Boissonnade, University of Applied Sciences of Western Switzerland – Fribourg, Fribourg, Switzerland

ENGINEERS **1.0 PDHs**

Stability of Angles, Channels, and Z-Shaped Members

S7 Thursday 4:15 p.m. – 5:15 p.m. // Osceola A

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

- Short-to-Intermediate Slender Pin-Ended Cold-Formed Steel Equal-Leg Angle Columns: Experimental Investigation and DSM Design
  Alexandre Landesmann and Renato Cruz, Federal University of Rio de Janeiro, Brazil; Dinar Camotim and Pedro B. Dinis, Technical University of Lisbon, Lisbon, Portugal
- Discrete Bracing Displacement Compatibility Solutions for Cold-Formed C- and Z-Sections in Flexure in Torsion
  Michael W. Seek, Old Dominion University, Norfolk, VA
- Quantitative Determination of Elastic Buckling Modes for Cold-Formed Steel Members
  Robert S. Glauz, RSG Software, Inc., Lee's Summit, MO

ENGINEERS **1.0 PDHs**

Advances in Analysis and Design for Stability

S8 Friday 8:00 a.m. – 9:30 a.m. // Osceola A

Moderator: Leroy Lutz, Computerized Structural Design, Milwaukee, WI

- Constrained Finite Element Method for the Modal Analysis of Thin-walled Members with Holes
  Sándor Ádány, Budapest University of Technology and Economics, Budapest, Hungary
- Elastic Buckling Mode Decomposition of Displacement, Strain Energy and Stress Components for Thin-Walled Structural Members
  Junle Cai and Cristopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA
- Energy Dissipation of Transversely-Loaded, Rubber-Filled Closed Sections
  Konstantinos V. Belivanis and Todd A. Helwig, University of Texas at Austin, Austin, TX
- Local-Distortional-Global Interaction in Cold-Formed Steel Lipped Channel Columns: Behavior, Strength and DSM Design
  Pedro B. Dinis and Dinar Camotim, Technical University of Lisbon, Lisbon, Portugal; Ben Young, The University of Hong Kong, Hong Kong, China

ENGINEERS **1.5 PDHs**

Beedle Presentation Session: Professor Roger A. LaBoube

S9 Friday 10:15 a.m. – 11:45 a.m. // Osceola A

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

- Beedle Presentation: Cold-Formed Steel – Research to Practice
  Roger A. LaBoube, Missouri University of Science & Technology, Rolla, MO
- Distortional Failure of Cold-Formed Steel Beams under Uniform Bending: Behavior, Strength and DSM Design
  André Dias Martins, Dinar Camotim and Pedro B. Dinis, Technical University of Lisbon, Lisbon, Portugal; Alexandre Landesmann, Federal University of Rio de Janeiro, Brazil
- Impact of Fabrication Tolerances on Cold-Formed Steel Section Properties, Stability, and Strength
  Astrid Winther Fischer, Technical University of Denmark, Lyngby, Denmark; Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD

ENGINEERS **1.5 PDHs**

Beedle Award Details

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.

Stability of Castellated Beams and Tapered Members

S10 Friday 2:45 p.m. – 3:45 p.m. // Osceola A

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

- Collapse Analyses on Spirally Welded Tapered Tubes using EC3 Generated Imperfections
  Abdullah Mahmoud, Shahabeddin Torabian and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD; Angelina Jay, Fariborz Mirzaie and Andrew T. Myers, Northeastern University, Boston, MA; Eric Smith, Keystone Tower Systems, Westminster, CO
- Strong-Axis Flexural Buckling of Cellular and Castellated Members
  Delphine Sonck and Jan Belis, Ghent University, Ghent, Belgium
- Ultimate Strength of Tapered Bridge Girders under Combined Bending and Shear
  Metwally Abu-Hamd, Cairo University, Giza, Egypt; Farah El-Dib, Housing and Building National Research Center, Giza, Egypt

ENGINEERS **1.0 PDHs**

Stability of Wall Systems

S11 Friday 4:00 p.m. – 5:30 p.m. // Osceola A

Moderator: Jean Batista Abreu, Bucknell University, Lewisburg, PA

- Cyclic Simulation of Cold-Formed Steel Shear Walls with Corrugated Steel Sheathing
  Mahsa Mahdavian and Cheng Yu, University of North Texas, Denton, TX; Wenying Zhang, Tongji University, Shanghai, China; Chu Ding and Cristopher D. Moen, Virginia Polytechnic Institute and State University, Blacksburg, VA
- Stiffness, Stability, and Strength of Floor-to-Wall Connections in Ledger-Framed Cold-Formed Steel Construction
  Deniz Ayhan and Benjamin W. Schafer, Johns Hopkins University, Baltimore, MD
- Nonlinear Analyses of Stiffened Steel Plate Shear Walls Considering Gravity Effects
  Qiuhong Zhao and Jing Qiu, Tianjin University, Tianjin, China
- Ultimate Strength of Expanded Metal Panels Subjected to Shear Loading
  Carlos Graciano, National University of Colombia, Bogotá, Colombia; Paulo Teixeira and Gabriela Martínez, Simón Bolívar University, Caracas, Venezuela

ENGINEERS **1.5 PDHs**

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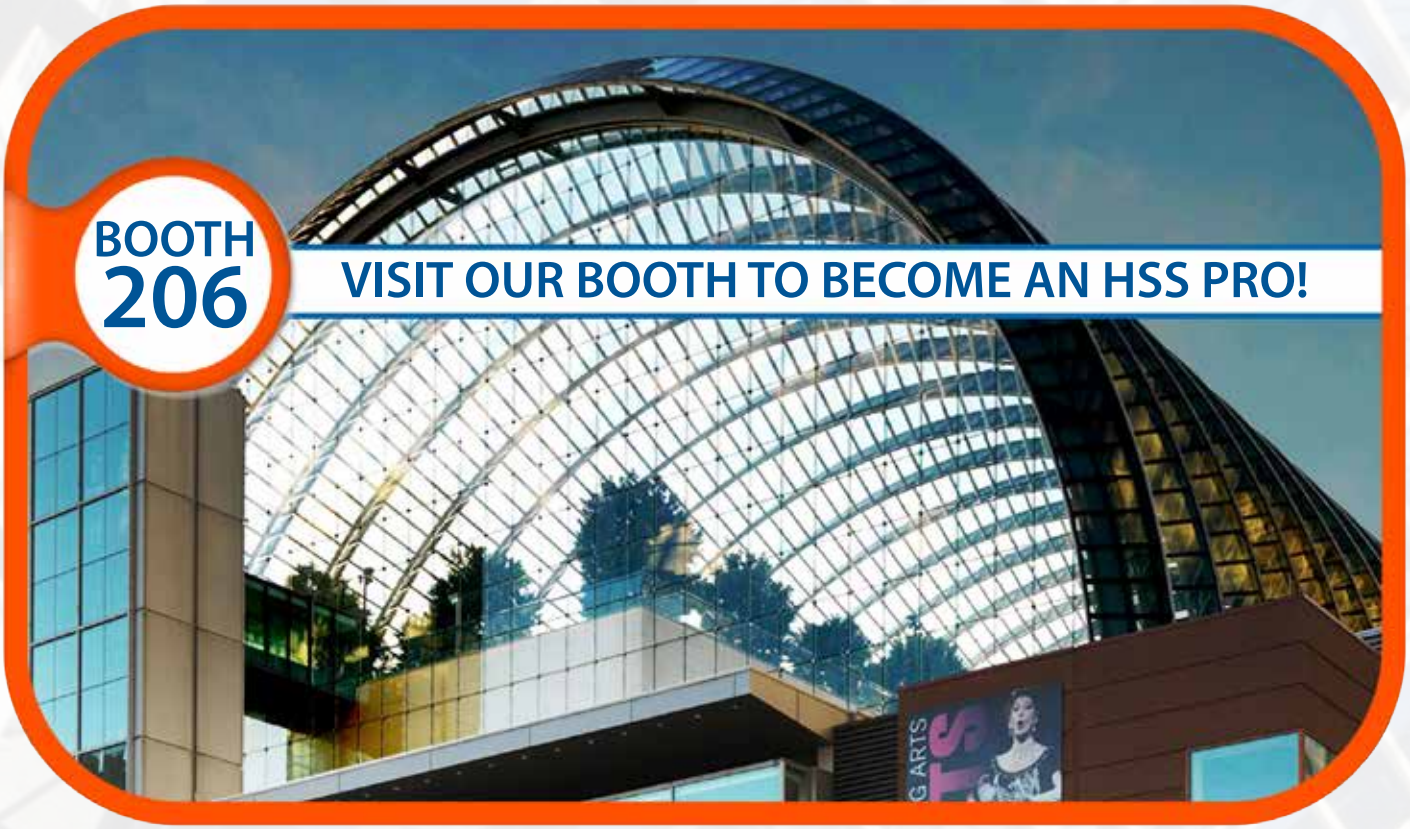

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Ironworkers Apprenticeship and Training Center Tour

X1 Wednesday 8:00 a.m.
Bus will board from the transportation loop on the convention center side of the Gaylord at 8:00 a.m.

Max Capacity: 55 people

Cost: $25 *Payment for tour will be donated to the AISC Education Foundation.*

Have you ever picked up a welding torch or climbed a steel column? This unique tour lets you experience a day in the life of an Ironworker through a tour of the Ironworkers 808 Apprenticeship and Training Center. You'll learn about the training program and have the opportunity to experience what ironworker training is like, first hand. Stations will be set up to weld, learn to use a torch, climb a column and more. Attendees will also have the opportunity to experience a demonstration of the erection of structural steel on state-of-the-art structural steel mock-up equipment that the Orlando Ironworkers use for training. Lunch will be provided, compliments of the Ironworkers Apprenticeship and Training Center.

COMMITTEE **INFORMATION**

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Coffee Breaks
AVEVA: Wednesday p.m. //
Mold-Tek Technologies Ltd.: Thursday p.m.

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Canam Buildings
Controlled Automation, Inc.
FabSuite, LLC
St. Louis Screw & Bolt

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WEDNESDAY 4/13	SESSION	SESSION TITLE	ROOM	PDHS*	PDH CODE**
8:00 a.m. – noon				4.0	
12:30 p.m. – 2:30 p.m.	K1	Wednesday Keynote and Award Presentation: David Zweig, The Invisibles	Osceola C-D	1.0	
2:30 p.m. – 3:15 p.m.	—	Coffee Break	Exhibit Hall	—	—
3:15 p.m. – 4:15 p.m.				1.0	
4:30 p.m. – 6:00 p.m.				1.5	
6:00 p.m. – 7:30 p.m.	—	Welcome Reception	Exhibit Hall	—	—

THURSDAY 4/14	SESSION	SESSION TITLE	ROOM	PDHS*	PDH CODE**
8:00 a.m. – 9:30 a.m.				1.5	
9:30 a.m. – 10:15 a.m.	—	Coffee Break	Exhibit Hall	—	—
10:15 a.m. – 11:45 a.m.				1.5	
11:45 a.m. – 1:15 p.m.	—	Boxed Lunch (ticket required)	Exhibit Hall	—	—
1:15 p.m. – 2:15 p.m.				1.0	
2:15 p.m. – 3:00 p.m.	—	Coffee Break	Exhibit Hall	—	—
3:00 p.m. – 4:00 p.m.				1.0	
4:15 p.m. – 5:15 p.m.				1.0	

FRIDAY 4/15	SESSION	SESSION TITLE	ROOM	PDHS*	PDH CODE**
8:00 a.m. – 9:30 a.m.				1.5	
9:30 a.m. – 10:15 a.m.	—	Coffee Break	Exhibit Hall	—	—
10:15 a.m. – 11:45 a.m.				1.5	
11:45 a.m. – 1:15 p.m	—	Boxed Lunch (ticket required)	Exhibit Hall	—	—
1:00 p.m. – 2:30 p.m.					
2:45 p.m. – 3:45 p.m.				1.0	
4:00 p.m. – 5:30 p.m.				1.5	

*1.0 PDHs = 0.10 CEUs

**PDH codes are session specific and given by speakers during individual sessions.

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