

CONFERENCES

Rethinking Architecture

“The idea of rethinking your space is essential for a city today,” said Chicago Mayor Rahm Emanuel in his keynote address at the 2014 AIA Convention in Chicago last month (at which AISC was an exhibitor).

Emanuel shared top keynote billing with two prominent Chicago designers—architect Jeanne Gang and artist Theaster Gates—and talked about next year’s inaugural Chicago Architecture Biennial (an international forum for the exploration of new ideas in architecture) as well as the city’s position as an influential leader in architecture.

“People from around the world are now migrating back to cities,” the mayor said. “In the same way that 100 years ago Chicago was at the epicenter of modern architecture, we are now at the epicenter of rethinking livable, sustainable and beautiful cities—and your work is essential to think through that effort.”

The idea of rethinking architecture was a running theme throughout the conference, which attracted nearly 20,000 attendees.

During the show, AIA announced the availability of its “AIA Foresight Report,” which highlights key trends in the architecture marketplace and their impact on business and growth. One trend is that design firms are exploring alternative ways to attract and retain key talent, including flexible work plans (in terms of hours and location) that allow for better work-life

balance, improved work environments, profit-sharing programs, fringe benefits and ongoing education. Another key finding was that crowdfunding and crowdsourcing signal major changes in the role of users and clients in the design process. The report also noted that more than half the design firm leaders in North America expect growth for the next year, and the Bureau of Labor Statistics anticipates nearly 19,000 architecture jobs will be added to the U.S. economy between 2012 and 2022, representing a greater-than-average growth rate of 17%.

On the show floor, the main focus of AISC’s booth was curved steel, which had architects reimagining their designs with the flexibility and creativity that steel can bring to a project. A wide-flange curved steel sculpture provided by AISC member Chicago Metal Rolled Products was a big draw, spurring questions about how steel can be bent. And the AISC-sponsored session “Innovative Applications in Architecturally Exposed Structural Steel (AESS)” was packed with attendees. Terri Meyer Boake, professor at the School of Architecture at the University of Waterloo, Cambridge, Ontario, Canada, talked about the many advantages of AESS, such as how it eliminates the need for cover systems due to its modern aesthetic.

You can find information about curved steel and AESS at www.aisc.org or by contacting AISC’s Steel Solutions Center at 866.ASK.AISC or solutions@aisc.org.

TECHNOLOGY

Printing out Steel

Using the latest 3D printing techniques, or “additive manufacturing,” engineering firm Arup has produced a design method for critical structural steel elements for use in complex projects.

Arup created a redesign of a steel node for a lightweight structure using additive manufacturing and claims that by using this new technique, complex individually designed pieces can be created far more efficiently.

“This has tremendous implications for reducing costs and cutting waste,” said

Salome Galjaard, a team leader with Arup. “But most importantly, this approach potentially enables a very sophisticated design, without the need to simplify the design in a later stage to lower costs.”

Arup funded the work and collaborated with a number of partners to realize the designs, including WithinLab (an engineering design software and consulting company), CRDM/3D Systems (the additive manufacturing partner) and EOS, who worked on the early development of the technology.

People and Firms

- **Structal-Bridges** (an AISC/NSBA member and AISC certified fabricator), a division of **Canam Group**, has launched a blog that will serve as a platform for sharing expertise on various topics related to the bridge construction industry. You can visit the blog at <http://blog.structalbridges.com>; it can also be accessed on Structal-Bridges’ website (www.structalbridges.com) by clicking on the “Blog” tab or on the banner “Follow our blog.”
- **Naik Consulting Group, P.C.**, has hired **John Tan**, P.E., as vice president/director of structural design services in the firm’s Edison, N.J., office. The company has also hired **Ken Standig**, P.E., as senior vice president, tasked with overseeing the New York office’s operations. In addition, **Samir D. Mody** has been hired as senior vice president to oversee the company’s New Jersey and Pennsylvania office operations and lead the firm’s short- and long-range plans.
- **Autodesk, Inc.**, has announced the release of the new **Autodesk 2015 Design Suites**, which are more tightly integrated with Autodesk cloud services. Each Autodesk 2015 Design Suite includes AutoCAD 2015, which includes a new interface and enhanced productivity tools.

STEELDAY

SteelDay Set for September 19

Where will you be on SteelDay this year?

Whether you visit a structural steel facility, tour a job site or attend a seminar, you can be part of the industry's largest educational and networking event on September 19. Hosted by AISC and its members and partners, SteelDay offers events all over the country for AEC professionals, university faculty and students and the public to get an inside look at how the structural steel industry works to build America.

Now in its sixth year, SteelDay is a great opportunity to see the structural steel industry's latest technologies and construction processes in action (and at some events, actually operate tools and machinery), learn directly from industry experts and build new relationships.

Can't get to an event on SteelDay? Don't fret! Live webinars will be offered. In addition, participants can request a brief informative video about the



structural steel industry. And if available, an industry representative in your area will even visit your office or school on SteelDay to answer any questions.

"Never before have there been as many ways to be involved with SteelDay," said Ross Allbritton, AISC's industry mobilization manager.

In addition, Illinois governor Pat Quinn has recognized the value and importance of the structural steel industry in Illinois with an official SteelDay proclamation. And AISC will be hosting a special SteelDay celebration in Chicago, which will include an architectural boat tour and more.

To sign up to attend or host a SteelDay event, visit www.steelday.org. You can also keep up with SteelDay updates and discussions via AISC's social media channels: www.facebook.com/AISCdotORG, www.twitter.com/aisc and www.youtube.com/AISCsteelTV.

BRIDGES

Biggest-Ever Bridge Slide

The largest bridge slide ever was completed at the site of the Milton-Madison Bridge over the Ohio River between Milton, Ky., and Madison, Ind., when the new bridge made its 55-ft journey from temporary piers to permanent, refurbished piers. Spanning nearly a half-mile, the truss of the Milton-Madison Bridge is now the longest bridge in North America to be slid laterally into place.

The slide began on a Wednesday morning but was halted in the late afternoon due to high winds over the Ohio River. Walsh Construction, who built the bridge, brought in materials from the Louisville-Southern Indiana Ohio River Bridges Project to help deal with windy conditions and assist in synchronizing the slide onto the five permanent piers, a decision that allowed the slide to resume the following morning.

“It’s great to see the bridge completed and sitting in its permanent location,” said Dav Kessinger, project manager for the Kentucky Transportation Cabinet. “This bridge will serve the area well for decades to come.”

“This is truly a historic accomplishment for everyone involved,” added Kevin Hetrick, project manager for the Indiana Department of Transportation (INDOT). “The people of Indiana and Kentucky should be proud to be a part of this amazing engineering feat.”

Polished steel sliding plates were secured on top of the refurbished piers. Steel cables and eight computer-controlled hydraulic jacks were used to pull the bridge through a series of grabs and pulls to slide it into place. The new 15,000-ton steel truss bridge is 2,428 ft long and 40 ft wide with two 12-ft lanes and 8-ft shoulders—

twice as wide as the old bridge, which opened in 1929. Following completion, it took approximately a week to finish inspections, road connections to the span and other work before the bridge reopened to traffic.

The Milton-Madison Bridge Project, which was a joint effort between the Indiana Department of Transportation and the Kentucky Transportation Cabinet, has received several state and national engineering awards for innovation.

The article “Move That Bridge” in the February 2012 issue of *Modern Steel* (www.modernsteel.com) also describes the project in detail and explains how the decision to use the innovative sliding technique stemmed from the system’s success on the Capilano River Bridge project in Vancouver, Canada.

