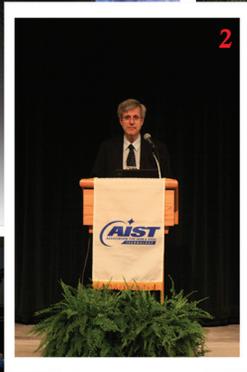


AISTech 2009 Conference Exposition Review



AISTech 2009, the steel industry's premier technology event in North America, took place May 4-7 at America's Center in St. Louis, Mo., with the backdrop of the impressive Gateway Arch on the banks of the Mississippi River. AIST members came together with key steel producers, suppliers, corporate executives and leaders, and academia to exchange technical information, connect with others in the industry and see new process or product technologies. Attendees and students had the opportunity to see hundreds of informative exhibits and presentations. By the end of the four-day event, those who attended AISTech met many interesting people and took part in numerous discussions, expanding their steel industry network.

Pictured on this page:

1. Andrew S. Harshaw, 2008-2009 AIST president.
2. Brian G. Thomas, Howe Memorial Lecturer.
3. Takafumi Kakudo, International Alliance Lecturer.



AIST Foundation Golf Outing

The annual AIST Foundation Golf Classic kicked off AISTech on Sunday, May 3 at the Stonewolf Golf Club in Fairview Heights, Ill. On this “shot maker’s course,” the golfers who took part in the Foundation Golf Classic enjoyed a round of golf on one of only four Jack Nicklaus Signature courses in Illinois and Missouri. The course made for an enjoyable tournament, with the bonus of great weather. A generous total of \$45,000 was raised to support the AIST Foundation’s programs. Special thanks to the AIST Foundation Golf Committee chair, **Randy Skagen** of Nucor Steel Tuscaloosa.

The AIST Foundation also thanks all the golfers who participated and the companies who sponsored the event. Plan now to participate in the AIST Foundation Golf Classic for 2010 in Pittsburgh, Pa. For more information on sponsorships, contact Lori Wharrey at (724) 814-3044 or lwharrey@aist.org.

Exhibit Hall

AISTech 2009 welcomed 372 exhibiting companies. Special thanks to Exhibitor Committee chair, **Laura Freehling** of Berry Metal Co., who helped make the exhibit floor a place where conference attendees could spend one-on-one time visiting booths and learning about the latest technologies in the steel industry. Attendees enjoyed the show floor and posed for photographs with the Anheuser-Busch Clydesdale horse.

Technical Sessions

The conference program for AISTech 2009, developed by AIST Technology Committee members from iron and steel producers, suppliers and academia, focused on all aspects of ironmaking, steelmaking, finishing processes and equipment technologies. AISTech registrants were invited to join their colleagues at the Welcome Reception

on Monday, May 4. A total of 352 papers were presented at 74 technical sessions. Conference registration totaled 3,571, with attendees representing 32 different countries.

The Asia-Pacific Partnership Technology Showcase

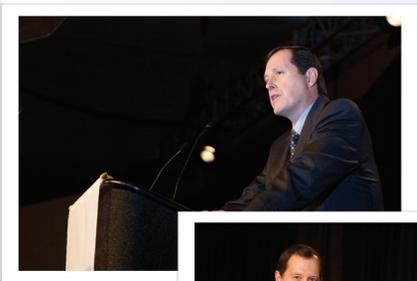
AIST joined the Asia-Pacific Partnership (APP) Technology Showcase and the 7th Steel Task Force Meeting this year at America’s Center. The APP represents another step in the global awareness of AIST partnerships with a similar mission to promote innovative efforts. APP’s focus on accelerating the development and deployment of clean energy technologies had an audience of thousands of steel-related professionals, including suppliers of clean-energy steel technologies from Pacific Rim countries. APP attendees took part in all the AISTech activities, as well as a special dinner sponsored by United States Steel Corporation.

Howe Memorial Lecture

The 2009 Howe Memorial Lecturer was **Dr. Brian G. Thomas**, Wilkins Professor of Mechanical Engineering at the University of Illinois at Urbana-Champaign and Director of the Continuous Casting Consortium. Dr. Thomas’ lecture, “Industry Implementation of Mathematical Models: Examples in Steel Processing,” was presented to more than 300 attendees.

AIST International Alliance Lecture

On Monday, May 4, the 2009 AIST International Alliance featured **Takafumi Kakudo**, director — Iron and Steel Technology Office, Ministry of Economy, Trade and Industry, Japanese Government, and chairman, Asia Pacific Partnership Steel Task Force. Mr. Kakudo presented his lecture, “Progress of APP Steel Task Force and Challenge for Climate Change in the Japanese Steel Sector.”



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President's Award Breakfast

As a highlight of the conference, AIST president **Andrew S. Harshaw** hosted the President's Award Breakfast on Tuesday, May 5 to a sell-out crowd of 750. **John J. Ferriola**, chief operating officer of steelmaking operations for Nucor Corp., was honored as Steelmaker of the Year by AIST. Ferriola was also presented with the William T. Hogan, S.J. Lecture Award at the President's Award Breakfast. Ferriola's keynote address, "Back to the Future," focused on the importance of the steel industry learning the right lessons from the past to set things on course and make sure the industry is not erased from the future. (See the July issue of *Iron & Steel Technology* for John Ferriola's entire keynote address.)

Other awards included:

- AIST's Distinguished Member and Fellow Award to **Michael D. Sullivan**, managing director of Ironmaster LLC, for his leadership in the steel industry through technological improvements in the melting, refining and casting of stainless and special alloys, and for his 40 years of service with AIST and its predecessor organizations, ISS and AISE.
- The Tadeusz Sendzimir Memorial Medal to **John A. Vallomy**, retired from Intersteel Technology Inc., for his invention of the Consteel process, his vision and entrepreneurial spirit.
- The Howe Memorial Lecture Award to **Brian G. Thomas**, Wilkins Professor of Mechanical Engineering, University of Illinois at Urbana-Champaign.
- The John F. Elliott Lectureship to Norbert **Bannenberg**, chief operating officer of Aktien-Gesellschaft der Dillingen Huttenwerke, Dillingen/Saar, Germany, for leadership in the development of physical and chemical fundamentals of secondary metallurgy.
- The AIST Benjamin F. Fairless Award to **Eugene B. Pretorius**, manager of steelmaking technology at Nucor

Steel-Berkeley, for his contributions in maximizing the productivity of electric arc furnace and ladle metallurgy furnace treatment processes by advancing the understanding of slag engineering.

- The AIST Hunt-Kelly Outstanding Paper Award to **Stanley S. Sun, Dongsheng Liao, Neal Pyke** and **Kevin Boylan** of ArcelorMittal Dofasco Inc., Hamilton, Ont., Canada, for their paper entitled, "Development of an Offgas/Model Technology in Replace Sublance Operation for KOBM Endpoint Carbon Control at Dofasco."
- The AIST Outstanding Chapter Award for greatest percentage increase in membership went to the Birmingham Member Chapter, which had a 28.3% increase in total membership. **Andre Pujadas** of Severstal Columbus is the chapter chair. The AIST Outstanding Chapter Award for greatest numerical increase in membership went to the Pittsburgh Member Chapter, which added 277 members. **Gary Urso** of Orbital Engineering is the chapter chair.
- The 2008 AIME Honorary Member Award went to **Alan W. Cramb**, provost and senior vice president for academic affairs, Illinois Institute of Technology.
- The 2008 Brimacombe Prize to **Gordon A. Irons**, Dofasco Professor of Ferrous Metallurgy and director, Steel Research Centre, McMaster University, Ont., Canada.

Pictured on this page:

1. Andrew S. Harshaw (left), 2008–2009 AIST president, presented the 2009 AIST Steelmaker of the Year Award to John J. Ferriola (right), chief operating officer of steelmaking operations, Nucor Corp.
2. Andrew S. Harshaw (left) presented the AIST Distinguished Member and Fellow Award to Michael D. Sullivan (right), managing member, Ironmaster LLC.
3. John Ferriola presented the keynote address at the 2009 President's Award Breakfast at AISTech 2009.



Plant Tours

AISTech attendees had the opportunity to attend plant tours of Alton Steel and the ABB Transformer Remanufacturing and Engineering Services facility on Thursday, May 7. **Michael Fitch**, president and CEO of Alton Steel Inc., welcomed 54 attendees to the informative tour featuring raw materials to finished products and displayed excellent housekeeping of the facility. Attendees also found the detailed tour of ABB to be interesting and rewarding, with highlights of the engineering areas through the winding stations to the final assembly and testing areas. The tour left an amazing impression of what is involved in designing and manufacturing industrial-sized transformers. AIST thanks both Alton Steel and ABB for hosting the plant tours and for their warm hospitality.

Town Hall Forum

On Wednesday, May 6, more than 700 attendees gathered for the Town Hall Forum to hear seven leading steel industry executives participate in a panel discussion at the Ferrara Theater inside the America's Center in St. Louis. Moderated by **John D. Callaway**, the open discussion has become AISTech's signature session, including extensive dialogue of global steel industry issues, concerns and opportunities. Those in attendance had the opportunity to submit questions to the panelists: **Keith E. Busse**, chairman and CEO, Steel Dynamics Inc.; **Joseph Curtin**, vice chairman and COO, Tube City IMS LLC; **John H. Goodish**, executive vice president and COO, United States Steel Corporation; **Ladd R. Hall**, executive vice president of sheet products, Nucor Corp.; **Dieter Hoeppli**, manag-

ing director — investment banking, UBS Securities LLC; **James P. Hrusovsky**, CEO, Severstal Columbus LLC; **Louis L. Schorsch**, executive vice president, ArcelorMittal, and president and CEO, ArcelorMittal Flat Americas.

In his opening remarks, John Callaway told the audience that, in reporting and hosting programs on economic and financial issues for more than 50 years, he could not remember a year more challenging than 2008. Stock market crashes and recessions of the past appear pale by comparison to the drying up of credit and financial virus of today's economy with no quick fix in sight, a scenario labeled by Callaway as a "train wreck."

The executives discussed safety, the steel economy, the auto and housing industries, capital spending, cap and trade, and other issues having a profound impact on the global economy. All panelists concurred that the previous U.S. demand for steel, being pegged at 130 million tons annually, is a level that will most likely not be reached again. With the lingering weak demand in the United States, panelists stated the obvious of steel orders being down and plants being idled or operating at 40% of capacity. "To return to profitability, facilities need to be operating at 65 to 70% capacity," said Ladd Hall, executive vice president of steel products for Nucor.

It was speculated that steel plants that have been idled are unlikely to return to operation, but Dieter Hoeppli, managing director of investment banking at UBS Securities LLC, expressed hope for the steel industry going forward. "The industry went into the current downturn

Pictured on pages 30–31:

1. Keith E. Busse, chairman and CEO, Steel Dynamics Inc.
2. Joseph Curtin, vice chairman and COO, Tube City IMS LLC.
3. George Koenig, Town Hall Forum session chair.
4. Ladd R. Hall, executive vice president of sheet products, Nucor Corp.
5. John H. Goodish, executive vice president and COO, United States Steel Corporation.

6. Dieter Hoeppli, managing director — investment banking, UBS Securities LLC.
7. James P. Hrusovsky, CEO, Severstal Columbus LLC.
8. John D. Callaway, Town Hall Forum moderator.
9. Louis L. Schorsch, executive vice president, ArcelorMittal, and president and CEO, ArcelorMittal Flat Americas.
10. The Town Hall Forum drew more than 700 attendees.



being better prepared than it was in the past,” Hoeppli said. The steel industry’s global consolidation made for more stable companies. He reminded the Town Hall audience and other panelists that, in the period between 2001 and 2003, there were 45 filings for bankruptcy, yet in the current downturn, there have been zero filings. It was also pointed out that U. S. Steel and ArcelorMittal were able to raise a combined \$5.5 billion in capital in late April, a scenario that would not be possible if investors believed the industry downturn was irreversible.

When Callaway asked the panelists about the impact of the automotive industry on the steel industry, most believed in the possibility of the automotive industry emerging from bankruptcy stronger and more efficient. John Goodish, United States Steel Corporation’s executive vice president and COO, said that the United States will produce fewer vehicles and, as a result, have fewer workers, but what matters to the steel industry is if the automotive industry can become leaner and more efficient to survive. “It will be interesting to see what Chrysler’s bankruptcy will be and what will happen to GM,” said Goodish. “If I was the chairman of Ford, I would watch closely what was happening to Chrysler and GM, and I’d pull out all the stops to make sure it didn’t happen to me.”

On the subject of cap and trade, Keith Busse, chairman and CEO of Steel Dynamics, made his opinion clear that such a system would destroy manufacturing in the United States. “We should all strive to be the best stewards of the environment that we can be. The industry in the U.S. is already below the Kyoto standards. If you left the industry to its own devices, it may not make as much progress as it should, but to start to mandate programs where the science or technology is not available and then to penalize this industry in a way that’s harmful is bad for the country,” said Busse.

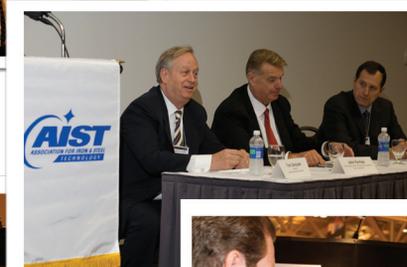
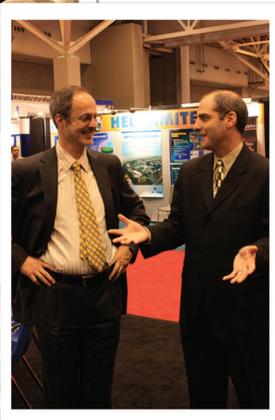
James Hrusovsky, CEO of Severstal Columbus, said that everyone talks about how well the system works, but no one is focusing on the science to say we’ve reduced CO₂. There needs to be deeper scientific, more rational and less emotional exploration.

A cap and trade system could send potential jobs to countries where environmental laws are less stringent than in the U.S., and the idea of using the system to generate tax dollars is misguided, according to Louis Schorsch, president and CEO of ArcelorMittal Flat Products USA.

During the question-and-answer period, Callaway asked panelists what they could tell young metallurgical engineers, acknowledging all of the economic realities of today. Steel producers U. S. Steel and ArcelorMittal have been forced to retract new offers because of drastic cutbacks and layoffs. Joseph Curtin, vice chairman and COO of Tube City IMS, indicated that his company is hiring now only to fill special needs. While many producers have a hiring freeze, Louis Schorsch said that he still felt that metallurgy was a good career choice and that the steel industry was a good place to be in the long term.

Download the Town Hall Forum Webcast!

For the first time ever and for a limited time only, AIST is providing the opportunity to view the Town Hall Forum via Webcast. The Webcast features nearly 3 hours of the engaging dialogue by the executives from ArcelorMittal, Nucor Steel, Severstal, Steel Dynamics, Inc., Tube City IMS, UBS Securities and U. S. Steel. Purchase and download the 2009 Town Hall Forum Webcast today by contacting AIST Member Services at (724) 814-3000, ext. 1 or visit www.AIST.org.





Callaway summarized that a forecast of the major ups and downs in the steel market is unpredictable because of too many variables. When asked for a final comment, the Town Hall Forum closed on a positive note with Ladd Hall simply telling everyone to “buy more steel!”

Editor’s Note: On June 23, seven weeks after the AISTech 2009 Town Hall Forum in St. Louis, moderator John D. Callaway passed away from a heart attack. Town Hall Forum Chair George Koenig reflected, “John was best known for his work as a Chicago broadcaster, but over the past seven years, he got to know the steel industry, our leading executives, our issues, our successes, our problems and concerns. He truly loved his continuous involvement in the steel industry and it has been an honor and sincere pleasure to have had the opportunity to work with John Callaway.” (See John D. Callaway’s obituary on page 19.)

Students at AISTech 2009

The AIST Foundation, with support from six industry companies, held special student-specific programs at AISTech 2009 in St. Louis, Mo., May 4–7. The corporate sponsors were ArcelorMittal, CMC Americas, Steel Dynamics Inc., Midrex, The Timken Co. and United States Steel Corporation.

Engineering students from all related disciplines were encouraged to attend AISTech 2009, being offered complimentary registration, travel grants and paid session monitor positions. A total of 62 students from 14 universities registered for the conference. In addition, AIST held an Attendance Challenge. The university with the highest number of students in attendance received \$500. The winner of this challenge was the Missouri University of Science & Technology.

Student activities began with an “un-plant tour” on Sunday, May 3, where the six sponsoring companies presented information about their companies to the students.

The students then attended an orientation, which included information about AIST from **Ron Ashburn**, AIST executive director, followed by industry experience, accomplishments and goals from three different perspectives. The first was from **Benjamin Irwin**, who just recently began working at ArcelorMittal. Next, **Clay Spangler** from Steel Dynamics Inc. gave his perspective as someone who has been in the industry for five to 10 years. Last was **Andrew Harshaw** who presented his background and goals from the executive level. Those attending enjoyed dinner and networking with the corporate sponsor representatives.

The students were given instructions on the Steel Scavenger Hunt, which began at the orientation. The students were given 2.5 days to complete the scavenger hunt in order to enter the prize drawing for a Nintendo Wii, donated by CMC Americas. Many exhibiting companies participated in the scavenger hunt, providing the students with information about their companies and their products. **Marisa De Nicolo** from the Illinois Institute of Technology won the Nintendo Wii. Congratulations, Marisa!

The AIST Student Project Presentation Contest was held on Monday, May 4. During this contest, 13 students presented seven projects before a panel of judges. The judges were **Kelly Dallas** from ArcelorMittal, **Kevin Bury** from The Timken Company, **Greg Meszaros** from United States Steel Corporation, and **Clay Spangler** from Steel Dynamics Inc.

Participants were judged on technical content, topic coverage and presentation skills. The contestants included

Pictured on this page:
1. First-place contest winners from Missouri University of Science & Technology: J. Evans, W. Everhart and P. Lueckenhoff.



Joe Evans, Wesley Everhart, Patrick Lueckenhoff, Tim Kibler, Joshua Noll, Eric Neuman and Elizabeth Savage from Missouri University of Science & Technology; **Marisa De Nicolo and Eric Hamonn** from the Illinois Institute of Technology; **Laura Diers, Randall Chen and Andrew Kent** from Lehigh University; and **Carolina Guimaraes** from the Universidade Federal de Ouro Preto, Brazil.

The winners of the Student Project Presentation Contest and their presentations are as follows. First place (\$1,500): **Joe Evans, Wesley Everhart and Patrick Lueckenhoff** from Missouri University of Science & Technology for their presentation entitled, “Modeling Internal Temperature of Structural I-Beam,” about thermal modeling of a structural I-beam done in Visual Basic to explain what happens to the internal temperature during cooling. Second place (\$1,000): **Elizabeth Savage** from Missouri University of Science & Technology for her presentation entitled, “Optimization of Cooling of Hot Rolled Rails,” about research and determination of a cooling rate following hot rolling that will result in the hardest, fully pearlitic microstructure possible at the Steel Dynamics Inc. (SDI) plant in Columbia City, Ind. which produces hot rolled steel rails for railroads. Third place (\$500): **Carolina deas Graas Graciano Guimarões** from the Universidade Federal de Ouro Preto for her presentation entitled, “Evaluation of the Use of Mixtures of Charcoal and Rice Rind for Its Injection in the Tuyeres of Blast Furnaces,” about trends in the steelmaking industry indicating a need to substitute the use of charcoal in the production of pig iron for new energy sources in current blast furnace processes.

Following the contest, tickets were drawn for door prizes donated by Vollmer America, Midrex Technologies, United States Steel Corporation, ArcelorMittal, Magneco/Metrel, SMS Siemag, and Voith Turbo. AIST would like to

express a special thanks to the contest chair, **Kevin Bort**, Steel Dynamics Inc., along with all contest judges and companies who donated the door prizes. Later that evening, students were treated to a baseball game at Busch Stadium, where the St. Louis Cardinals played the Philadelphia Phillies.

AIST Expresses Thanks — Plan Now for AISTech 2010

The AIST executive committee and board of directors extend a special thank-you to the AISTech 2009 Conference Planning Committee chair, **Jay Ondrovic**; Exhibitor Committee chair, **Laura Freehling** of Berry Metal Co.; Town Hall Forum session chair **George Koenig** of Berry Metal Co.; AIST Foundation president **Dale Heinz** of ArcelorMittal Burns Harbor; AIST Golf Committee chair **Randy Skagen**; as well as all AIST members, authors and exhibiting companies who were involved in planning AISTech 2009.

AISTech 2010 — The Iron & Steel Technology Conference and Exposition is scheduled for May 3–6 at the David L. Lawrence Convention Center in Pittsburgh, Pa. More than 130 companies have already purchased exhibit booths. Reserve your company’s booth now for next year. For more information or to reserve your space, contact Geraldine Kane (724) 814-3022, gkane@aist.org or Jeffrey Campbell (724) 814-3030, jcampbell@aist.org. ♦

Pictured on this page:

1. Second-place winner E. Savage (left) with contest chair K. Bort (right).
2. Third-place winner from the Universidade Federal de Oro Preto, C. Guimaraes (right), with contest chair K. Bort (left).