



**MINUTES OF MEETING
UNIVERSITY-INDUSTRY RELATIONS ROUNDTABLE
8 MAY 2017
NASHVILLE, TENN., USA**

Attendees:

Kelly Dallas, ArcelorMittal USA (Chair)
Sunday Abraham, SSAB Iowa Inc.
Ron Ashburn, AIST
Laura Bartlett, Missouri S&T
Janice Bolen, Hatch Associates
Luis Cabrera, Voestalpine Texas
Wendell Carter, ArcelorMittal Indiana Harbor
Clifford Chatman, ArcelorMittal Burns Harbor
Kinnor Chattopadhyay, University of Toronto
Shannon Clark, ArcelorMittal Dofasco Inc.
Emmanuel De Moor, Colorado School of Mines
Bill Dennis, Nucor Technical Academy
Mark Didiano, AIST
Neslihan Dogan, McMaster University
Bill Emling, SMS USA LLC
Terry Fedor, Cliffs Natural Resources
Kip Findley, Colorado School of Mines
Steve Hansen, SSAB Americas
Maurice Harapiak, Cliffs Natural Resources
Eric Hauge, ArcelorMittal Cleveland
Steve Henderson, Commercial Metals Company
Jim Hendrickson, ArcelorMittal USA
Fred Harnack, retired, United States Steel
Love Kalra, ArcelorMittal
Kolin Keller, Commercial Metals Company
Mike Kercsmar, AK Steel Research
George Koenig, Hatch Associates Inc.
Sam Kusic, AIST

Scott Laurenti, Nucor Steel Utah
Ted Lyon, Hatch Associates Inc.
Tim McCrea, ArcelorMittal USA
Chris McKelvey, AIST
B.N. Mukopadhyay, AIST
Jerry Nelesen, AKJ Industries
Ron O'Malley, Missouri S&T
Tom O'Toole, United States Steel Corporation
Tom Piccone, University of Pittsburgh
Glenn Pushis, Steel Dynamics Inc.
Jeff Rogers, Nucor Corp.
Ronaldo Sampaio, RS Consultants Ltda.
Otavio Sanabio, Octagon Solar Energia
Paul Sanders, Michigan Tech
Paula Schmitt, SSAB Iowa Inc.
P.K. Sen, Colorado School of Mines
Kara Simonoff, Steel Dynamics Inc.
Ron Smolen, H.A. Smolen Company Inc.
Mike Sortwell, AISI
John Speer, Colorado School of Mines
Grant Thomas, AK Steel Research
Stacy Varmecky, AIST
Yuan Wang, Gerdau Long Steel Americas
Bryan Webler, Carnegie Mellon University
Lori Wharrey, AIST
Chenn Zhou, Purdue University Northwest

1.0 CALL TO ORDER AND INTRODUCTIONS

Ms. Dallas welcomed all in attendance and called the meeting to order.

2.0 ANTI-TRUST GUIDELINE REVIEW

Ms. Dallas stated the meeting would be held in compliance with the anti-trust guidelines provided with the agenda.

3.0 COMMITTEE PURPOSE AND OBJECTIVE

Ms. Dallas reviewed the AIST Foundation University-Industry Relations Roundtable exists to foster communication between our university network and the steel industry. The committee objectives are to

increase the number of professors teaching a steel-related curriculum, and to increase the number of students interested in a career in the steel industry.

4.0 AIST MEMBER CHAPTER OUTREACH UPDATES

Ms. Dallas called upon attendees from AIST Member Chapters to report on their current outreach to K-12 and/or university students. Ms. Clark from the Northern Member Chapter, Mr. Chatman from the Midwest Member Chapter, Dr. Webler from the Pittsburgh Member Chapter, and Mr. Sanabio from the Brazil Member Chapter provided updates.

5.0 REAL STEEL VIDEO CONTEST UPDATE

Dr. Findley reported the UIRR has completed its fifth “Real Steel” Marketing Video Challenge,” open to high school and university students, to help change the current image of the steel industry as perceived by young people and educators. These perceptions greatly impact the progress of the AIST Foundation programs.

The 2016-2017 theme was “Advanced Technologies” to educate viewers on the important role of advanced technologies in steelmaking to improve production, processing and application of iron and steel. One first place winner (\$3,000) and five honorable mention winners (\$1,000 ea.) were selected. The winning video will be played at President’s Award Breakfast.

6.0 FOUNDATION GRANT REPORTS

Kent D. Peaslee Junior Faculty Award:

Dr. Paul G. Sanders, Michigan Technological University

This was Dr. Sanders’ third and final year, having taken a one-year sabbatical last year. He reviewed his industry-sponsored, undergraduate project work with ArcelorMittal, Steel Market Development Institute (SMDI) and General Motors. Dr. Sanders held the 4th annual CareerFEST Steel Day at Michigan Tech and plans to continue this event moving forward. This year’s plant tour was to Gerdau in St. Paul, Minnesota where 22 students spent 3 days on this all-expense-paid tour. Dr. Sanders also plans to continue with annual steel projects and steel plant trips. He thanked the AIST Foundation for funding these programs and hopes to find continued support from the Foundation. He sees the challenges to the industry are competition and the economy.

Dr. Laura N. Bartlett, Missouri University of Science & Technology

Significant progress has been made in the last academic year with regard to increasing steel related programs at Missouri S&T as well as increasing student interest and awareness in steel manufacturing. The funds from the Kent D Peaslee Junior Faculty Award have been utilized to increase the steel outreach, recruiting, and research activities at Missouri S&T for both undergraduate and graduate students. Many of these opportunities were co-sponsored from our steel manufacturing partners through the Peaslee Steel Manufacturing Research Center, PSMRC. The PSMRC has been very effective at helping to market our outreach events to the industry as well as sponsoring our students. The results of sponsored research projects funded directly from the AIST Foundation Kent D Peaslee Junior Faculty Award have resulted in three recent 2017 publications in the International Journal of Metalcasting, Journal of Iron and Steel Technology and the Transactions of the American Foundry Society. Collaboration with local steel industries continues to increase and we are proud to announce the addition of more internship opportunities for students as well as significant donations of materials and equipment by Nucor, Arcelormittal, and other PSMRC sponsors.

Student participation in AIST and Material Advantage activities has increased. This year we had active undergraduate participants in both technical presentation contests at MS&T Salt Lake City 2017 and at AISTech Nashville 2107. We also had several graduate students enter the poster contests at these conferences as well as present technical papers at both conferences. Approximately 30 students

attended both conferences from Missouri S&T and two students attended AISTech from Texas State. Faculty and students also attended AIST St. Louis Chapter meetings this year in an effort to foster more collaboration and participation from our local steel industry with Missouri S&T. Student applications for AIST scholarships are up at both Missouri S&T and Texas State. Three of the recent 2017 AIST Foundation scholarship winners are from Missouri S&T and two are from Texas State. Participation of freshman and sophomore students is increasing as well. Many of our students have found internships and full time positions in the steel industry as a direct result of activities such as Steel Industry Day. New relationships have been forged with nearby steel manufactures such as Alton Steel Inc. in Alton IL. For the first time in several years, Alton Steel has developed an internship program with Missouri S&T and is currently employing a Missouri S&T intern for the 2017 summer. This is the result of the support provided by the AIST Foundation, our steel manufacturing partners, and the commitment of our faculty and administration at Missouri S&T. The students and faculty of Missouri S&T are very thankful to the AIST Foundation for sponsoring these very important steel outreach activities. On a personal note, I am very glad to be a part of the faculty of Missouri S&T and bring this award back home in honor of my good friend and mentor, Dr. Kent Peaslee.

Dr. Bryan Webler, Carnegie Mellon University

Dr. Webler is in year two of this award. He has supported two undergraduate research assistants. One is now working in the industry, and one currently seeking employment in the industry. He held a seminar on steelmaking and research at a university not familiar with the steel industry and plans to do more. Dr. Webler is forming research partnerships with local high schools and is now a faculty mentor for a Capstone Group. He continues advising graduate students in steel research having one now working at Vesuvius and one at Nucor Steel. Dr. Webler has incorporated steel-related examples in his classes. One of his graduate students presented on new fabrication methods for iron-based composite materials at MS&T16 and 5 students presenting at AISTech on inclusions and oxidation of AHSS during annealing.

Dr. Kinnor Chattopadhyay, University of Toronto

Dr. Chattopadhyay has just completed his first year as an awardee. He thanked the AIST Foundation for giving him this prestigious award. His activities accomplished during the year included establishing a successful graduate course in iron and steelmaking, obtained approval to offer a 4th year elective iron and steel course, and developed a water model laboratory in partnership with ArcelorMittal Dofasco. Dr. Chattopadhyay has built relationships with other steel companies including Algoma, Hatch, Bechtel, Stelco, Evraz, RTFT and AK Steel. He established two joint research projects with ArcelorMittal Dofasco and RTFT. Four of his students attended the AIST EAF Training Seminar through the AIST Foundation's Steel-to-Students Program. Dr. Chattopadhyay organized a well-attended Iron and Steel Day at the University of Toronto which included speakers from Hatch and ArcelorMittal Dofasco who provided a new perspective of the steel industry as a modern and technologically advanced industry. He organized short courses on continuous casting, belt casting and iron and coke making. He supervised three Ph.D. students and four masters students whose thesis are on steel related topics. There were nine students from the University of Toronto at AISTech, three entered in the undergraduate student presentation contest and 6 entered in the graduate poster contest. Dr. Chattopadhyay plans to launch Steel TV at the university where they would host interviews with industry executives. He is looking forward to a good 2017-2018 academic year.

Electrical Engineering Grant:

Dr. Pankaj K. Sen, Colorado School of Mines

Dr. Sen provided an enthusiastic review of his year and expressed his appreciation for this grant.

7.0 WORKFORCE DEVELOPMENT

- **Bill Dennis, Nucor Technical Academy** – Mr. Dennis provided an overview of the Nucor Technical Academy. He covered the need for the training, what the academy provides for the attendees, and the outcome for Nucor.

- **Ron Ashburn, AIST** – Mr. Ashburn provided an overview of AIST and AIST Foundation programs offered to assist the industry with workforce development.

8.0 ROUNDTABLE DISCUSSIONS AND LUNCH

During the roundtable discussions, the attendees were asked to discuss the following two questions. The ideas and suggestions collected are listed below each.

- **How can AIST enhance industry recruiting efforts?**
 - Can the Road Shows expand to high schools while in town?
 - Sponsor exhibit at a science fair INTEL Fair; sponsor a steel prize of \$1,000 etc.
 - Have high school training in mills (JETS Program).
 - Promote the “glamorous” side of business – cutting edge technology robots).
- **How can university and industry leverage AIST technology training courses?**
 - How can we engage companies and schools west of the Mississippi?
 - Can we host AISTech in Denver?
 - Virtual Reality Steel Road Show.
 - Encourage and promote co-op programs at universities.
 - Provide focused training on supervisors of newly hired employees.
 - “Dead Language” computer programming.
 - Electrical engineering expansion to explore all facets needed in industry.
 - More intern programs.
 - Invite all chapter scholarship winners to MS&T.
 - Autonomous steel mill.
 - Open technology courses to local universities for free (already paid for) – builds relationship and interest.
 - Branding and information of the tech classes.
 - Make part of continuous improvement requirement from mills.
 - Hold training at mills. Get students in mills.
 - Expand to more hourly workers and expand to union membership and union leadership.
 - Continue to leverage and expand steel training to corporate HR and training professionals.

9.0 NEXT MEETING

Ms. Dallas reported the next meeting will be held on Monday, 9 Oct 2016, 10:30 a.m. – 1:00 p.m. (eastern) at MS&T17 in Pittsburgh, Pa.

10.0 ADJOURNMENT

There being no further business, Ms. Dallas adjourned the meeting.