AIST.org June 2012

Iron&Steel Technology®

A Publication of the Association for Iron & Steel

Kent D. Peaslee

2012 AIST President

An Interview With Kent D. Peaslee, 2012–2013 AIST President

Missouri S&T University of Science & Technology

Kent D. Peaslee is the F. Kenneth Iverson Chair of Steelmaking Technology, Curators' Teaching Professor of Metallurgical Engineering and the associate Materials Science and Engineering Department chair at Missouri University of Science & Technology, Rolla, Mo., USA. He is the first AIST president from academia. Peaslee recently took some time to speak with *Iron & Steel Technology*.

I&ST: *What first attracted you to the steel industry?*

Peaslee: While I was studying metallurgy at the Colorado School of Mines, we would take a number of field trips. Three of those field trips made a huge difference for me. The first trip was to Martin Marietta, where we observed different types of aerospace components being manufactured. My first thought was, "Wow, this is amazing." We also went to a steel foundry in Denver, and I saw liquid steel being cast for the first time, which was exciting to me. The third plant trip we took was to CF&I Steel in Pueblo, Colo. (Colorado Fuel & Iron, now Rocky Mountain Steel, part of Evraz Corp.). That trip made the steel industry come to life for me, and I knew I would love to work there.

I&ST: *What steps took you from working in steels mills to the academic arena?*

Peaslee: When I graduated in 1978, it was a good year for metallurgical engineering students, so I had a number of interviews. The main job offers I received were at steel companies. I took my first job as a meltshop metallurgist at CF&I, the company I had visited as a student. At that time, CF&I was an integrated steel mill, the largest one west of the Mississippi River. We had more than 7,000 employees and made about 3.5 million tons of steel a year. The mill had coke ovens, ore preparation, blast furnaces, basic oxygen furnaces, electric arc furnaces, continuous casting and a number of different rolling mills. It was a fascinating place to go to work.

After 15 months with CF&I, I was hired to help with the start-up of a new Co-Steel mill in New Jersey called Raritan River Steel. It was great experience starting up a plant. After my experience on the metallurgy side, I wanted experience in operations. So I went to work for Border Steel in El Paso, Texas (now part of ArcelorMittal). I went there as assistant superintendent of the meltshop and was in charge of the furnaces and the continuous caster. This gave me the valuable operating experience that I had wanted. After four years with Border Steel, I went to work for Bayou Steel in LaPlace, La. (also part of ArcelorMittal), where I held several positions, including chief metallurgist, superintendent of quality control and finally general manager of technical services.

At 35 years old, I felt I had reached a point in my life where I had to make a decision: Should I keep going up the executive ladder, or should I make a change and return to school to get a Ph.D. and become a professor in metallurgical engineering? The part of my job I most enjoyed was hiring and training new engineers, mentoring them. I consulted my own mentors — Keith Brimacombe at the University of British Columbia and Alex McLean from the University of Toronto — both of whom were academics very close to the steel industry. Both spent valuable time with me and encouraged me to chase my dream and return to school to earn my Ph.D. in metallurgical engineering.

So in 1991, I left industry and began to pursue a Ph.D. at what was then the University of Missouri–Rolla. After graduation in 1994, I was fortunate to be able to stay there and teach, and I have been there ever since.

I&ST: *How did you become involved with AIST?*

Peaslee: While I was working in the meltshop at Border Steel, I had a lot of casting issues at the plant — it was an old plant. We were looking at redesigning the cooling systems, among other things. In order to pick up the technical knowledge that I needed, I began to attend some short courses, including Keith Brimacombe's class, as well as several Iron & Steel Society (ISS) conferences.

The ISS conferences gave me the necessary contacts, the network to ask questions of other companies and other plants, so I was no longer the Lone Ranger solving these problems. The meetings also provided me with some good technical training that could add to what I received as a metallurgical engineer in my undergraduate education.

The first conference I attended was the Electric Furnace Conference in Kansas City in 1982. Once I was there, I realized how wonderful the opportunity was. I also got involved with the Globe-Trotters and attended several conferences, because of the open roundtable discussions which helped me with many of my operating problems in the melting and casting areas.

Once you go to these meetings, you meet people and you realize how valuable the networking is. If you haven't been to one, you just don't know!

I&ST: *You will be the first AIST president from the academic field. What do your students generally think of when considering a career in the steel industry?*

Peaslee: My experience with the steel industry has been very positive, so I am able to give my students firsthand knowledge of what a career in the steel industry is like. In my classes, I talk about problems I've seen in the mills, and I am able to relay both theoretical and practical applications. Our students have a very positive feeling about the steel industry. In fact, over two-thirds of our students in metallurgical engineering at Missouri S&T take jobs in the iron and steel industry or industries that are closely related. They look at these fields as offering the best jobs.

Fairly early in our curriculum, typically in the sophomore year, we have students pouring liquid metal in our own foundry. This gives them the hands-on experience that does more than I could ever teach them in class. We also take students on several field trips either during the year or during breaks. I have often taken anywhere from 10 to 40 students to several steel mills. I think it's a huge value to get the students into plants. Every fall, I work with Nucor to organize a group of students to visit their sheet mill and structural mill in Blytheville, Ark. The group is typically comprised of mainly metallurgical engineering freshman and sophomores, but also includes students from other

engineering majors such as electrical, mechanical, civil, chemical, environmental and computer engineering. This gets them into a steel mill environment because, of course, every plant needs all types of engineers working together.

I&ST: *What will be the key areas of focus during your one-year term as president?*

Peaslee: Several of the things I'll focus on will be in keeping with Joe Stratman's term as president over the past year. Additional modules for the AIST Process Benchmarker, a technical tool for iron and steelmakers, will be available for use on a regular basis. We will build on the growth we have already experienced in global outreach. I had the opportunity to go to Australia last summer to teach The Making, Shaping and Treating of Steel® short course. The International Steel Academy had its premiere in Jamshedpur, India, in December 2011. I expect we will see more international growth of this sort.

I would also like to see the AIST Foundation grow. I was pleased to see so many companies donating to the Foundation during our first Matching Funds Challenge. I hope that will occur during my term, as well, so that AIST will match a second $500,000 in donations. This could open up some new areas in terms of encouraging young people to get involved in the steel industry, which is my principal focus.

Another area I hope to focus on is getting more academics involved in AIST. Because so much consolidation has taken place in the steel industry, the research dollars that support academics aren't there today. This is a challenge I don't have answers for, but I hope it's encouraging to academics that I'm the president of the organization.

Finally, I'm eager to see the fruition of the new *Making, Shaping and Treating of Steel* volumes, as well as the Digital Library. I want to see AIST continue to produce valuable resources like these for the industry, long after my term as president.

I&ST: *Do you have any ideas whereby the AIST Foundation can further its objective to promote our industry to young people?*

Peaslee: The Foundation exists to help develop the leaders of tomorrow. As AIST is becoming more international, I want to help the Foundation find ways to be more international without diluting what we have already accomplished, because the shortage of new engineers available to the steel industry in North America is a far greater problem than in some other countries.

It's important that we tell the story of the sustainability of steel. Steel is the most recycled material; it truly is a "green" material. Students understand what happens at their curbside recycling pickup, but they don't see the total tonnage. Students don't realize where a bridge goes after it is torn down. They don't realize that the metal in a single recycled car is probably more than what they had in curbside recycling for several years. That's one of the attractive things to students.

Another thing that's attractive to students about the steel industry is the opportunity to move very quickly through management. For so many years, the industry didn't hire replacements as people retired. So the average age of our workforce is fairly high. The opportunity exists to learn from people who have years of experience but don't have many years left in the industry.

Students also see the amount of automation, the amount of technology, the amount of change that has occurred in this industry. The steel industry is highly dynamic and modern; plants are constantly making improvements in order to compete.

I&ST: *Technology Committees and Member Chapters are the heart of AIST. What are some things the committees and chapters should work on in their efforts to further the mission of AIST?*

Peaslee: That's a tough question. The reason is they're doing such a great job. The Technology Committees are very active and have great ideas. The committees cover such a wide range of topics that a Technology Committee is associated with every aspect of the steel industry. When I or other academics have brought ideas for short courses to them, our ideas were received enthusiastically.

The Member Chapters are also doing the right things. New chapters are being established internationally, and others in the United States are being rejuvenated — the Philadelphia Chapter, for instance, and we have interest from members in both Memphis and Mobile to form new chapters. Many companies are now allowing their employees to get more involved, as well. With that greater availability of volunteers, there is more opportunity.

I think it's important to get full involvement, especially from the young people just coming into the industry. A lot of the same people have been in chapter leadership for many years, and we need more young leaders in both the Technology Committees and Member Chapters. We need to encourage young leaders to become more active.

I&ST: *What challenges do you perceive will be confronting AIST in the next five years?*

Peaslee: I've recently seen many more young people getting involved with AIST, but we still have an aging membership and only a small number of academics in the association. One of the issues we face in the industry — which the AIST Foundation addresses very well — is whether we will have enough engineers in the steel industry to continue replacing those who will be retiring over the next five to 10 years. Without increasing the number of academics involved in the industry and in AIST, we will have fewer people touting the steel industry to students. We need people who will mentor our young leaders.

A second issue is that our industry is very cyclic. Though AIST membership has been steadily growing over the past couple years, our economy is still not as healthy as we all would like it to be. AIST is a fairly young organization, and I feel it will be important to maintain its strong leadership and the staff at headquarters in order to weather any obstacles over the next five years.

I have seen a lot of new, young staff members at AIST, which is good. We're doing some of the things that the steel industry also has to do. I'm still concerned that we're not replacing the experienced people with young people at a fast enough rate and getting them involved. What do we do to get them in and get them to their first conference? Our challenge will be to continue to grow the organization by getting young people involved. ✦