

HANI HENEIN

43-YEAR LIFE MEMBER



HANI HENEIN is a professor at the University of Alberta and director of its Advanced Materials and Processing Laboratory. Henein earned a B.Eng. and an M.Eng. in metallurgical engineering (1972 and 1976, respectively) from McGill University. In 1981, he received his Ph.D. from the University of British Columbia and joined the faculty at Carnegie Mellon University in Pittsburgh, Pa., USA. He joined the University of Alberta in 1989. The main focus of Henein's research is to develop new techniques for improved operation of current processes and to develop new near-net-shape processing routes. Henein holds one patent; has published more than 140 papers; edited nine books; and consults in the United States, Canada and Europe. His research and professional efforts have received wide recognition, including best paper awards such as the Henry Marion Howe Medal from ASM International, the John Chipman Award from the Association for Iron & Steel Technology (AIST), and the Best Paper Award from the Metallurgical and Materials Society (MetSoc) of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM). He was given a Presidential Citation from the Iron & Steel Society (now AIST) and was the recipient of the Silver Medal of MetSoc (CIM). He has received the prestigious Killam Research Fellowship and is a fellow of the Canadian Academy of Engineering, of ASM International and of CIM.

What is your current research focus?

I head up a group of faculty in our department who do research on pipeline steels in collaboration with EVRAZ Regina. This covers the casting of the steel to the final cooling, rolling and welding of the steel, as well as the coating of the steel. On the undergraduate level, I try to encourage students to take the trip to Regina once a year. I also teach a process design course, which involves processing of steel. This capstone design course covers everything from process selection to equipment sizing and financial evaluation.

How have changes in the industry affected the focus of your research?

We provide the industry with knowledge based on their current needs. And in the pipeline area, that has progressed over the last 20 years or so. That's gone to providing newer and different types of steels for better integrity and sustainability of pipelines. We contributed to EVRAZ making the first few kilometers of X100 in North America. Now we're looking at applying the idea of going toward thicker-wall pipelines while they operate at higher pressures. That seems to be the way North American oil and gas companies want to

go. We're collaborating with EVRAZ and Trans Canada Pipelines (TCPL) to generate the knowledge required so that they will be successful in making that product, because nobody in North America makes thick-walled pipe for oil and gas applications.

How do you get students interested in steel?

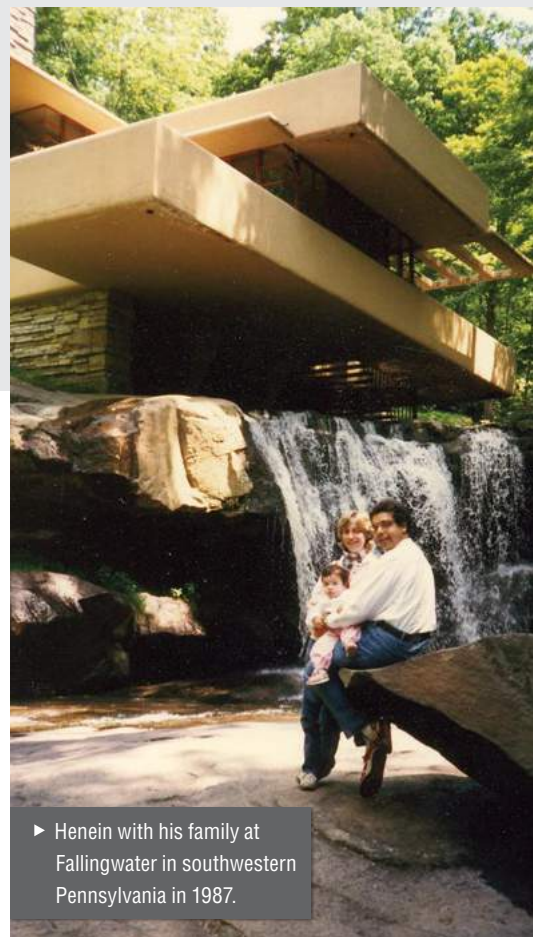
We do a number of things to promote the steel industry to students. Because of our projects with EVRAZ Regina — they're our industrial partner and have been for the last 20 years or so — we typically take students to their plant. We take graduate



► 5th International Congress of Iron and Steel in Washington, D.C., USA (left to right): Henein; Hugh Walker, 1986 Iron & Steel Society president; and Ken Blazek.



► Henein and fellow recipients of the IOM3 Charles Hatchett Award in 2013 in London (left to right): Henein, J. Barry Wiskel, Douglas G. Ivey, Junfan Lu and Aladipo Omotoso. Pictured at right is Jon Binner, 2013–2014 IOM3 president.



► Henein with his family at Fallingwater in southwestern Pennsylvania in 1987.

students there to present their work to the company and its employees and have an exchange of information and ideas with them. TCPL, a partner in the project, participates in these meetings as well. We also provide an opportunity for undergraduates to make the trip. They're really dedicated. We've been doing this for nearly 20 years. A number of these students come back for a second or third trip; some of them stay on to do graduate studies and end up working in the steel industry, either for EVRAZ or another company in the steel industry connected with the oil and gas sector. And we encourage them to be Material Advantage members and remain a member after college. We try to expose students early to the iron and steel world so they can get a job in that sector. I focus on two things: doing good work for

our sponsor, and making sure we leave a good legacy of students in the industry.

When did you first hear about AISE/ISS and how?

I was involved in ISS and I was involved in it in the latter days of it being part of TMS, so that's going back quite a ways. In those days I was a student.

What was your first level of involvement in the organization?

I helped organize symposia, and I chaired the Process Technology Division and served on the board of ISS. That was while I was at Carnegie Mellon University. Since moving to Alberta, I principally go to the iron and steel-related segment of MS&T. Those sessions are quite rewarding

because most of the work we do here on steel is primarily on pipeline steel.

How has AIST membership benefited you in your career?

It has provided me with a network of people in the iron and steel industry. When students have enough completed studies, I always send them to an AIST meeting to present their work. That is the principal area where they can get feedback and have a good international audience of people in the iron and steel industry. They can network with people, which helps them with not only their research but also in finding a potential job down the road. It's a very critical source of networking. Always has been, and still is. ♦