

# ISA: India

## The International Steel Academy Review

The inaugural AIST International Steel Academy was held on 5–8 December 2011 at the Tata Steel Ltd. Shavak Nanavati Technical Institute in Jamshedpur, India. The AIST International Steel Academy (ISA) was developed to provide in-depth instruction focused on the fundamental elements of steel making, shaping and treating. Two concurrent courses were offered: the Making, Shaping and Treating of Steel® (MSTS) 201 course, which focused on steelmaking, and the MSTS 202 course, which focused on the shaping and treating of steel. Each of these courses was conducted over the four-day period.

The event began with a press conference at the Tata Steel Press Center on 4 December 2011. Thirty representatives from the Indian press attended the event. Ron Ashburn, executive director of AIST, and Dr. T. Venugopalan, chief technology officer of Tata Steel Ltd., addressed the press concerning the AIST ISA being held in Jamshedpur that week. Mr. Ashburn provided an overview of AIST, its mission and its core values to the steel industry. He further elaborated on the ISA, its purpose and the general structure of the curriculum. “The ISA is the first comprehensive steel education curriculum which is portable and can be conducted in any country by world-class instructors,” added Mr. Ashburn. “This program represents a key effort in the global branding of AIST, which plans to conduct the ISA course in various steelmaking regions around the world.”

The fact that the course’s initial offering took place in India reflects the strong increase in steel production occurring within India. This growth has brought to light the challenges of benchmarking current production, knowledge of equipment and technologies, research and development for innovation in processing and products, education of the public on the superior benefits of steel vs. concrete or wood, and the improvements in infrastructure as well as the beneficiation of land, energy and natural resources. To overcome these challenges, Tata Steel and the AIST India Member Chapter saw that a fundamental steel education program such as the ISA being taught by qualified instructors could benefit the local industry. “Cutting-edge, modern industrial steel production uses more information technology than many other industries,” said Dr. Venugopalan. “The steel sector needs educated people, and people need to see steel as a great career.”

On 5 December 2011, the program began with the opening ceremony in the main auditorium of the Shavak Nanavati Technical Institute (SNTI). Dr. Venugopalan opened the ceremony by noting the overwhelming response received for the academy. Mr. A.C.R. Das, industrial advisor to the Ministry of Steel, India, was the chief guest of honor. Mr. Das reiterated the event as “historical” and expressed his pleasure over the



*Congratulations to AIST and Tata Steel on organizing and delivering such a fantastic event. The content and delivery of the curriculum were presented very well, and students were given*

*every opportunity to clarify and learn appropriately to their level of understanding. As I am a steel customer, the seminar gave me the necessary technical understanding and networking opportunities to further enhance my career in the steel industry. I look forward to the next event.*

**Ryan Ollerton**  
commodity purchasing buyer — raw materials, Ford Services (Thailand) Co. Ltd.

much-awaited venture between the Indian steel industry and AIST to conduct such a program. He further commented on the prevailing scenario of the steel industry in India, its growth dynamics and how this course would be beneficial. A special word of appreciation was given to Tata Steel and Dr. Venugopalan for their outstanding support.

Other honored guests were Mr. Anand Sen, vice president of TQM and shared services, Tata Steel Ltd., and Mr. G.K. Basak, executive secretary of Joint Plant Committee.

Mr. Sen called the program “world premiere” and believed that the participants were fortunate to be part of



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the event. Looking forward, Mr. Sen mentioned that this endeavor should continue so that availability of technical expertise in the steel industry is ensured. Mr. Basak also expressed the moment as a “historical” one. He explained the genesis of the course, which took almost two years to materialize since its conception.

Mr. Ashburn explained the ideology behind AIST and further elaborated on the course structure of MSTs 201 and 202. The curriculum provides a broad and deep understanding of the ironmaking and steelmaking processes. Individuals who have experience in the industry and who hold a basic understanding of the overall process — such as process engineers, operations and maintenance personnel, plant management, sales and service engineers — would find the ISA curriculum beneficial. In addition, Mr. Ashburn explained the relevance of the course to the steel industry’s technological growth, equipment knowledge and its efficient utilization of available raw materials. In his concluding remarks, he thanked Dr. Jürgen Cappel and Prof. Bruno De Cooman, who would shoulder the responsibility as instructors of this innovative curriculum for the next four days. Following the opening ceremony, the attendees were directed to their specific classrooms, where they would receive instruction for the next four days on the fundamentals of steelmaking (MSTS 201) or steel shaping and treating (MSTS 202).

MSTS 201: Steelmaking was developed and delivered by Dr. Jürgen Cappel. Dr. Cappel holds a doctoral degree in ferrous metallurgical engineering from RWTH Aachen in Aachen, Germany, and has more than 20 years of experience working in iron- and steelmaking facilities. The MSTS 201 course, developed from experiences in academia, operations and research, also presented the dynamic state of steelmaking technology and the significance of steel production for economic growth. While many courses focus on steel as a material, the MSTS 201 curriculum broadened the scope to include the ancillary, supporting technologies critical to steelmaking, such as environmental aspects, equipment technology, production scheduling and control systems.



*The four-day course helped us to understand our global rewarded customers much better by providing excellent knowledge!*

*The course creates the bridge between the academic background of our personnel with the in-depth understanding of the overall processes within the steel producing industry.*

*The industry waited a long time for this educational initiative where first-class, experienced professors shared their knowledge and connected the best demonstrated practices of the participants within the course.*

*I will recommend this course to everybody who is deeply involved within the primary process of steel making and shaping, no matter if you are just starting as a young professional or you are an experienced participant within this very interesting industry.*

*I want to thank the AIST organization, Professor Dr. Ir. B.C. De Cooman, TATA and everybody who made this excellent initiative possible!*

**Dr. Julien M.B. Ghurahoo**  
commercial manager, Asko BV

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*The four-day course of MSTS 201: Steelmaking is really good training for me to refresh the whole process, starting from history and raw materials requirement for ironmaking to the casting stage in an integrated way. Dr. Cappel's skill on steelmaking metallurgy is highly appreciable. I think he has great presentation skills and I enjoyed participating in most of the ongoing discussions during the course. The major advantage of attending his course is that he has brought the world steelmaking practice into his course. For me, it is like an exposure to the practices of steel industries across the globe. In short, I would say, the course is very informative, with good teaching materials and taught by an experienced trainer.*

**Pabitra Palai**  
manager, steelmaking tech., FPTG,  
Tata Steel Ltd.

MSTS 201: Steelmaking began with the history of iron- and steelmaking from the earliest smelters of wrought iron to the modern, technological wonders in steelmaking that exist today. It was stressed that today's steel technology has advanced due to a focus on sustainability and environmental awareness. The acquisition and beneficiation of the necessary raw materials for iron- and steelmaking were described, followed by detailed descriptions on iron production and steel production through the latest technology used in continuous casting. Included in the presentation of each production area was information on history, metallurgy, process control and the latest advancements. The MSTS 201 course had 127 delegates in attendance.

MSTS 202: Steel Shaping and Treating was developed and delivered by Dr. Bruno De Cooman. With experience in industrial materials research and research management, as well as academic experience in ferrous metallurgy research as director of the Laboratory for Iron and Steelmaking at Ghent University in Belgium, Dr. De Cooman developed the Graduate Institute of Ferrous Technology (GIFT) at POSTECH and is involved with the development of advanced automotive, electrical, engineering and constructional steels. The MSTS 202: Steel Shaping and Treating course was, first and foremost, an introduction to the processing of steel products for industry professionals. The course brought together decades of internationally recognized efforts acquired in the industry and at academic institutions, and reflects the vitality and the global nature of steel product and processing innovation. The course merged advanced steel metallurgy concepts and principles of state-of-the-art steel processing technologies, focusing on topics that play an essential role in current steel processing and product development. The MSTS 202 course had 72 participants.

Throughout the time of instruction, the entire delegation had many opportunities to ask questions of the instructors, to network and meet new colleagues from the many regions of India as well as from Thailand, the Netherlands and Saudi Arabia. Sixty-seven percent of the attendees were



*The AIST ISA MSTS 201 and 202 courses were a four-day informative session covering different aspects of iron- and steelmaking technology. The breadth of knowledge displayed by the instructors of both these courses was remarkably inspiring. The course had a good balance of fundamental principles and practical knowledge sought after by industry professionals. The International Steel Academy can be heralded as a very good initiative of AIST to bridge the gap that exists between the industry and the educational institutions in the field of iron and steel technology.*

**Dr. T. Venugopalan**  
chief technology officer, Tata Steel Ltd.



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directly employed by steel producing companies established in India. Each evening a dinner was hosted by Tata Steel for the attendees to further engage in discussion. Following the Tuesday dinner, Tata Steel brought in a special Chhau dance performance by the Nataraj Kala Kendra Choga. Chhau dance is indigenous to the Jharkhand region and is performed to invoke the blessings from Lord Shiva for a bountiful harvest. The performers, adorned with colorful clothing and opulent masks, dance to the minstrels' music. The performance itself is steeped in the mythology of the region, with the masks relating the personae of the myth's characters.

The entire event was celebrated with a closing ceremony on the lawn of the SNTI complex. Dr. Siddhartha Misra, thin slab technology head for Tata Steel, addressed the delegates and thanked them for their participation. Mr. N.K. Guha and Mr. B.N. Mukhophadyay of the AIST India Member Chapter (IMC) thanked Tata Steel Ltd., Dr. Misra and Dr. Venugopalan for the Tata Steel event sponsorship, as well as associate sponsors SMS Siemag and CSIR-NML, and corporate sponsors Joint Plant Committee and NMDC. Mr. Madhuranjan and Mr. Sen said a few words regarding the benefit that the attendees would realize through their participation in the ISA. An exchange of gifts occurred among AIST, the AIST IMC and Tata Steel representatives.

The highlight of the evening was the ceremonial recognition of each ISA attendee with a participation certificate. The name of each delegate in attendance was called out, and each delegate received a certificate and was congratulated by the ISA instructors and the evening's guests of honor. Mr. Ashburn concluded the ceremony by again showing AIST's appreciation to the attendees, to Tata Steel and to all the other sponsors for their support in making the inaugural AIST International Steel Academy a success. In conclusion, it was noted that the ISA would again be offered in India in the coming years, as Indian steel production continues to rise at an exponential rate. ♦



*It was a very interesting training program, which broadened my knowledge, view and expertise on rolling. Furthermore, it is a real opportunity to enhance my organizational skills in a team, to meet and contact people who can contribute to my area of work and vice versa. Also, I would express sincere gratitude for the work of the AIST team and Professor De Cooman during their stay at SNTI, which required a lot of energy from their side as well as from Tata Steel's organizing team. Each member of the organizing team has stressed the flexibility and availability to teamwork, appreciation which meets our own. We firmly have the intention to continue this great adventure with teamwork. Thanks again for your support and for your professionalism. The impression from our colleagues is that it was a successful training and the participants were very happy. I look forward to future courses with further depth and more practical situations in the subject material. Only AIST can provide the faculty to hold more knowledgeable sessions in India, which will be a great support to the Indian metals industries.*

**M.B.N. Raju**  
Tata Steel

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