

## Grant Recipient Report

# Steel Professor Grant

Emmanuel De Moor, Colorado School of Mines

The efforts this year have focused on increasing the visibility of the steel industry to students. There were a number of activities throughout the year such as career panels, plant tours and involvement with AIST activities.

Two career panels were organized in collaboration with the Colorado School of Mines Material Advantage Chapter and the Mines Career Center. Industry representatives from AM/NS Calvert LLC, EVRAZ North America, Nucor Corp. and Steel Dynamics Inc. participated and shared perspectives on the industry, their career path, and provided career advice. Both panels were well attended by 50–60 students and preceded the Mines career fair, where students had the opportunity to meet one on one with company recruiters. The panels were well received by both the industry professionals as well as the students in attendance.

Frequent advertising of the Steel to Students scholarships and other AIST student-related activities was done as well. De Moor encouraged students to apply to scholarships and provided recommendation letters to student applicants.

De Moor served as the chair of the International Symposium on New Developments in Advanced High-Strength Sheet Steels held 19–22 June 2023, in Vail, Colo., USA. The symposium served as an international forum to bring together the international community to highlight state-of-the-art research and development pertaining to advanced high-strength steel (AHSS). The conference focused on the latest developments in dual-phase, twinning-induced plasticity, martensitic, quenched-and-partitioned, medium-manganese steels, other third-generation AHSS concepts and hot-stamped steels along with recent experiences with industrial implementation and end user application performance. The symposium was attended by approximately 125 attendees; half a dozen students participated in the symposium and a number presented their work. The AIST Foundation provided financial support through the Steel to Students program for student attendance. De Moor has also initiated conversations with AIST and colleagues to hold a microalloying-dedicated symposium in June 2025. This symposium will provide another opportunity to students to present their research.

De Moor also attended the 3rd International Symposium on the Recent Developments in Plate Steels held 2–5 June 2024 in Vail, Colo., USA. Three students

advised by De Moor presented their work and two papers were prepared for the conference proceedings. The AIST Foundation provided financial support through the Steel to Students program for student attendance. Through the operation of the Advanced Steel Processing and Products Research Center, De Moor is involved in steel research programs in plate, sheet, bar and castings research and he advises 12 graduate students and postdoctoral researchers.

Mentoring of junior faculty has also been part of this year's activities where junior faculty were encouraged to apply to the Kent D. Peaslee Junior Faculty Award program and De Moor worked with Prof. Lawrence Cho to develop a (successful proposal) to the AIST Foundation Sustainable Technologies for Steel Manufacturing Grant.

De Moor presented at the University-Industry Relations Roundtable (UIRR) on 6 May 2024, during AISTech held in Columbus, Ohio, USA. He also participated in a panel discussion alongside industry representatives. Perspectives were shared regarding ongoing initiatives toward increasing visibility of the steel industry to students, trends in higher education and ongoing steel-related research programs. Furthermore, two Mines undergraduate students participated in the undergraduate speaking contest held during AISTech. De Moor also participated in the fall UIRR in Columbus, Ohio, USA, during Materials Science and Technology 2023. ♦