



Niles Kumar University of Alabama

KENT D. PEASLEE JUNIOR FACULTY AWARD

The original proposal outlined a strategy to forge a relationship with Nucor Steel Tuscaloosa Inc. steps to be undertaken to create interest among students in the steel industry, and an approach to organize a steel-related event on the University of Alabama campus. Overall, the students and faculty member were proposed to be engaged in and provide solution to steel-related problems. It was hoped that, ultimately, in combination with other activities planned, it would lead to a skilled workforce for the steel industry.

To establish connection with the steel industry, the following activities were undertaken: special lectures during steel-related courses at the University of Alabama (UA) by metallurgists working in the steel industry; a plant tour of AM/NS Calvert LLC; and steel-related research with a steel company to provide students opportunity to work on industrially relevant problems.

To build students' interest in the steel industry, steel-related courses were under development at the undergraduate level. Middle and high school teachers were engaged in steel-related activities, and high school juniors and seniors interested in science, technology, engineering and mathematics were also engaged.

To engage and expose students further with opportunities existing in steel-related industries, a campus Steel Day was organized in February 2020. This was an inaugural event in which several steel-producing and steel-related companies participated, including Steel Dynamics Inc., Nucor Steel Tuscaloosa Inc., AM/NS Calvert LLC, SSAB North

America, SMS group Inc., Carpenter Technology Corp. and United States Steel Corporation.

In addition to involving existing undergraduate and graduate students in steel-related research, a number of outreach activities were pursued to recruit more students. It included, among many, advertising about AIST on E-day; and giving a guest lecture in MTE 121: Introduction to Materials course about Material Advantage, AIST, the importance of undergraduate research, and availability of steel-related research opportunities in the principal investigator's (PI's) group. The PI's research group also participated in a faculty research showcase meant for student recruitment.

Dr. Kumar worked with academic mentor Dr. Laura N. Bartlett, Wolf Associate Professor of Metallurgical Engineering, Missouri University of Science and Technology; and industry mentor Daniel Green, chief metallurgist, Nucor Steel Tuscaloosa Inc.