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IIT-I explores opportunities in field of physical metallurgy

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The Indian Institute of Technology, Indore, conducted an international symposium on Physical Metallurgy of High-Entropy Alloys (HEAs) to explore the latest advancements, address challenges and explore opportunities in the field of physical metallurgy.

The Material Advantage Student chapter IIT Indore organised the programme in the department of Metallurgical Engineering and Materials Science. It comprised two sessions, featuring six speakers. Additionally, the event featured a cultural programme and a rangoli competition of Fe-Fe3C phase diagrams to add a touch of diversity and creativity to the academic discussions.

"HEAs are innovative materials characterised by a unique blend of multiple principal elements in near-equimolar ratios, imparting extraordinary mechanical, thermal and functional properties. These alloys may find diverse applications in aerospace, automotive, and energy sectors due to their exceptional strength, corrosion resistance and high-temperature stability," according to a press release issued here on Sunday.

"HEAs' versatility could be extended to biomedical implants, where their biocompatibility and wear resistance offer promising prospects. Additionally, their use in next-generation coatings and structural materials showcases their potential for enhancing material performance in various demanding environments," it added.

"The symposium brought together professionals, researchers and professors who gained valuable insights into emerging trends, innovative practices and groundbreaking research, enhancing their understanding of the field's current landscape," IIT-I PRO Sunil Kumar said.

"Sessions and interactive activities facilitated the establishment of numerous connections, fostering potential collaborations and partnerships among attendees. The event provided a platform for robust discussions, knowledge sharing, networking and cultural celebration, leaving attendees with enriched perspectives and strengthened connections," he added.

The speakers were professor W Maziarz, professor A Wójcik & professor R Chulist from Institute of Metallurgy and Materials Science, Poland, Dr Anurag Bajpai from Max-Planck-Institut für Eisenforschung GmbH, Germany, Dr KV Vamsi from IIT-I and Dr Sheetal Kumar Dewangan from Ajou University, South Korea. Dr Mrigendra Dubey, Dr Sumanta Samal, Dr Khushubo Devi, Dr Ranjith Kumar, Dr Ajay Kumar Kushwaha and Dr Vinod Kumar from IIT-I participated in the sessions.