

German Materials Society awards Yan Ma

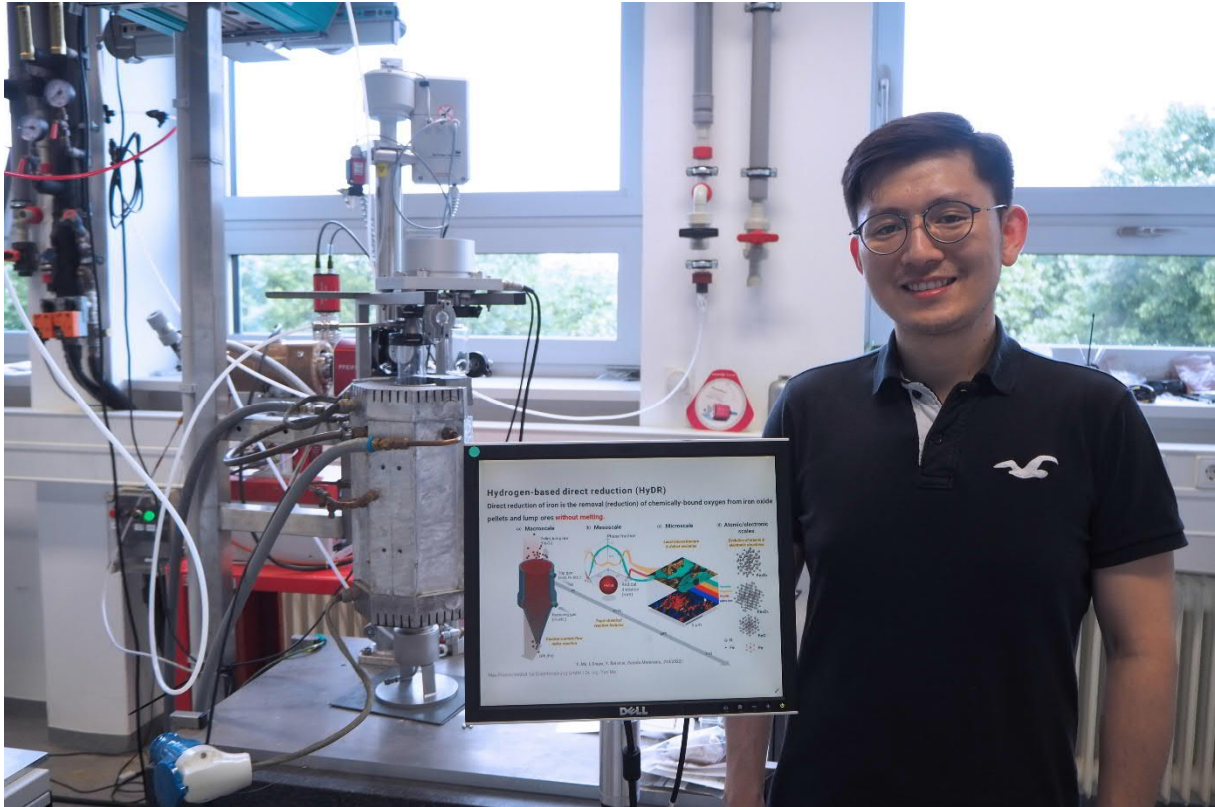
Materials scientist at the Max-Planck-Institut für Eisenforschung receives DGM Prize for Young Talent

The German Materials Society (DGM) awarded Dr. Yan Ma, head of the group “Sustainable Synthesis of Materials” at the Max-Planck-Institut für Eisenforschung (MPIE), with the DGM Prize for Young Talent. Ma works on the carbon-free synthesis of iron and steel focussing on how iron ores can be reduced with hydrogen, hydrogen plasma and ammonia. His research is significant for the production of green steel, which, if successfully applied, would cut worldwide carbon emissions by 8%.

“Receiving this prize is a great honour and motivation for me. I’m happy that my research is recognized by the materials science community”, says Ma. Ma is an expert in conducting complicated *in-operando* experiments based on large quantum-beam synchrotron and neutron facilities providing insights into the real-time reaction phenomena and mechanisms during the hydrogen-based direction reduction of iron oxides.

Ma obtained his bachelor’s degree in 2013 in Metallurgical Engineering at the University of Science and Technology Beijing, China, and his master’s degree with a focus on the Materials Science of Steels in 2015 at the RWTH Aachen University. He completed his PhD in 2019 at the same university, where he developed microstructural design strategies in multiphase steels demonstrating how to manipulate and utilize phase boundary segregation to improve mechanical performance. Ma joined the MPIE in 2020 as a postdoctoral researcher and has recently taken the leadership position of the newly installed research group Sustainable Synthesis of Materials. He received the Walter Benjamin Grant in 2021 by the German Research Foundation and was a finalist of the MST Literature Review Prize 2017 by the Institute of Materials, Minerals and Mining, UK. He also received 2011 and 2012 The People’s Scholarship for his outstanding performance during his bachelor’s studies by the Ministry of Education, China.

The DGM Prize for Young Talent is awarded by the German Materials Society and aims at doctoral students or graduates who received their degree less than two years ago at the time of the proposal, and whose research results show an excellent performance. The prize is awarded a maximum of four times a year.



Dr. Yan Ma, group leader at the Max-Planck-Institut für Eisenforschung, receives the DGM Prize for Young Talent. The prize is awarded by the German Materials Society for his outstanding research about green steel. ©Max-Planck-Institut für Eisenforschung GmbH

The international team of the Max-Planck-Institut für Eisenforschung conducts advanced basic materials research for the fields of mobility, energy, infrastructure, medicine and digitalisation. The focus lies on nanostructured metallic materials as well as semiconductors, which are analysed down to their atomic and electronic scales. This enables the MPIE team to develop new, tailor-made structural and functional materials embracing their synthesis and processing, characterization and properties, as well as their response in engineering components exposed to real operating environments.

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