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Press Release

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Humboldt Foundation awards Professor Degang Xie

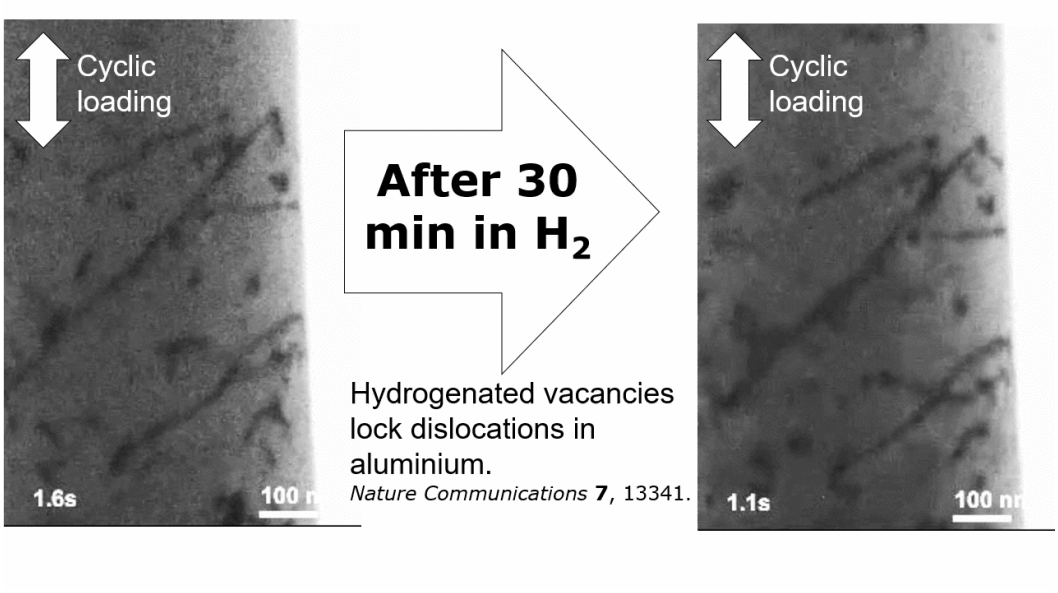
The Chinese materials expert joined the MPIE in March

The Alexander von Humboldt Foundation awarded Prof. Degang Xie, associate professor at the School of Materials Science and Engineering at the Xi'an Jiatong University (China), a Humboldt Fellowship for his outstanding research. The fellowship supports a research stay at any German research institution of Xie's choice. As a steel expert, Xie decided to join the Max-Planck-Institut für Eisenforschung (MPIE) in the department "Structure and Nano-/Micromechanics of Materials" this March.

"I am very happy to continue my research on pearlitic steels with the MPIE colleagues.", states Xie. He aims to further understand the deformation mechanisms of nanoscale cementite being the reason for the strength and ductility of pearlitic steels. At the same time, steels strengthened by superfine cementite are particularly sensitive to hydrogen embrittlement. This is why Xie will mainly work with Dr. María Jazmin Duarte Correa, head of the group "Hydrogen Mechanics and Interface Chemistry". "Having Degang in our team gives us the opportunity to combine our common expertise on hydrogen embrittlement and nanomechanical testing. I am sure that Degang's stay at the MPIE will foster our collaboration and lead to excellent results very soon.", says Duarte. Both plan to develop new design strategies for advanced steels with improved strength/ductility synergy and a higher resistance to hydrogen embrittlement combining scanning and transmission electron microscopy with atom probe tomography.

The Humboldt Foundation awards these research fellowships for experienced researchers who have excellent qualifications and their own research profile. As the awardee is free to choose any host institution in Germany, the prize counts as a great honour for both, the awardee and the host institution.

The Alexander von Humboldt Foundation awarded Professor Degang Xie with a research fellowship for his outstanding research in materials science. Copyright: Degang Xie



Hydrogenated vacancies lock dislocations in aluminium. Copyright: Nature Communications 7, 13341

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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