



Press Release

30 November 2020

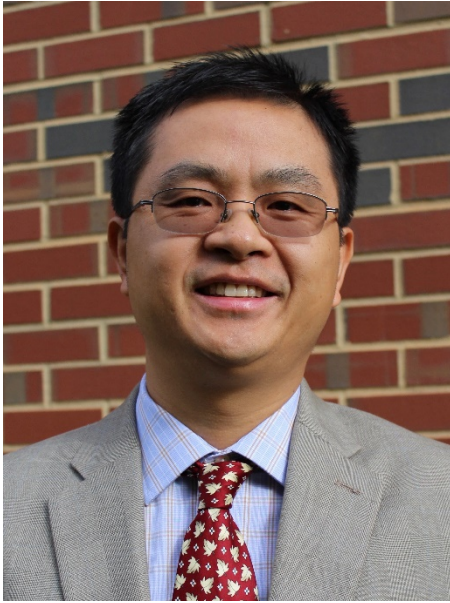
Professor Yong Zhu receives Bessel Award

Zhu chooses Max-Planck-Institut für Eisenforschung as favourite host institution in Germany

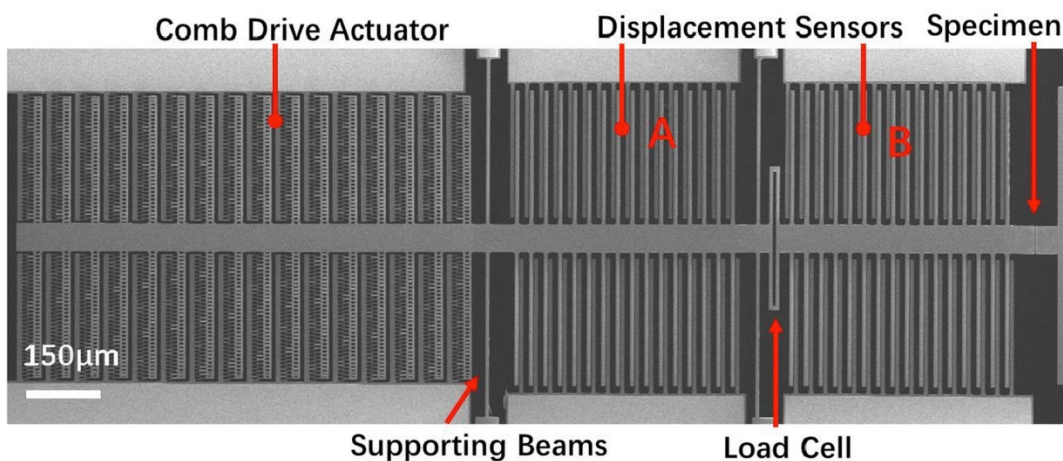
The Alexander von Humboldt Foundation awarded Yong Zhu, professor at the North Carolina State University (USA) and an expert for micro- and nanomechanics, with the Friedrich Wilhelm Bessel Research Prize in recognition of his outstanding academic contributions. The award is endowed with 45,000 euros and supports a research stay at any German research institution of Zhu's choice. Zhu decided to join the department of "Structure and Nano-/Micromechanics of Materials" at the Max-Planck-Institut für Eisenforschung (MPIE).

"I feel really honoured receiving this renowned award and I'm excited to intensify my collaboration with Christian and Gerhard during my stay at MPIE.", states Zhu, who will mainly work with Dr. Christian Liebscher, head of the group "Advanced Transmission Electron Microscopy" and Prof. Gerhard Dehm, director of the department. "We are thrilled to welcome Yong at our institute. This collaboration will enable us to push the boundaries of *in situ* characterization of materials down to their atomic scale.", explains Liebscher. The researcher team is planning to combine Zhu's *in situ* nanomechanical testing lab-on-a-chip with MPIE's atomic resolution electron microscopes. "Now we have a unique tool set at hand to analyse the effects of hydrogen embrittlement in advanced alloys and even explore plastic deformation at elevated temperatures with atomic precision.", says Dehm. The novel alloy systems developed by the MPIE scientists will now be explored with Zhu's testing platforms to obtain unprecedented insights into atomic scale deformation mechanisms.

The Friedrich Wilhelm Bessel Research Prize is awarded annually by the Alexander von Humboldt Foundation to 20 internationally renowned scientists from outside Germany. The prize is regarded as one of the most prestigious German research awards to foreign scientists. 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.



Prof. Yong Zhu received the Friedrich Wilhelm Bessel Research Award in recognition of his outstanding academic contributions. Copyright: Yong Zhu



The researchers will combine Zhu's lab-on-a-chip device for nanomechanical testing with the MPIE's atomic resolution electron microscopes to gain insights into atomic scale deformation mechanisms. Copyright: Yong Zhu

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.

Contact:

Yasmin Ahmed Salem, M.A.
Press and Public Relations Officer
E-Mail: y.ahmedsalem@mpie.de
Tel.: +49 (0) 211 6792 722
www.mpie.de

