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MECHANICS OF NANOPOROUS MATERIALS FOR ENERGY APPLICATIONS

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Weissmüller studied Materials Science at the Universities of Saarbrücken, Germany and Dundee Scotland. After thesis work on nanomaterials and interfaces in Saarbrücken and (as a PROCOPE fellow) at the Centre for Crystal Growth in Marseille, France, he received a PhD in Engineering from Saarbrücken in 1990. Weissmüller has worked as a Postdoctoral Fellow with H. Gleiter at the Institute of New Materials in Saarbrücken. As a Feodor Lynen fellow of the Alexander von Humboldt Society her worked with J.W. Cahn and R.D. Shull at the National Institute of Standards and Technology in Gaithersburg, MD, USA. He received his Venia Legendi in Experimental Physics from Saarbrücken University in 1998, and in the same year joined the Institute of Nanotechnology, now a department of the Karlsruhe Institute of Technology, as a Heisenberg fellow and group leader. In 2010, Weissmüller was appointed head of the Institute of Materials Physics at Hamburg University of Technology, in combination with the office of head of the Hybride Materials Systems group at Helmholtz-Zentrum Geesthacht.

Weissmüller is the coordinator of the DFG Research Unit 'Plasticity in Nanocrystalline Metals and Alloys'. He has organized several international conferences and conference symposia in the fields of nanomaterials and interfacial mechanics and is cooperating with international leading experts in those fields. Weissmüller is the author of about 130 publications in peer-review journals, including Science, Nature Materials, NanoLetters and Physical Review Letters, has given about 60 invited lectures, and holds several patents.

Weissmüller's research is focused on nanomaterials, with emphasis on thermodynamics, continuum mechanics and electrochemistry of interfaces, phase transformations, magnetism, magnetic neutron scattering, and plastic deformation mechanisms.