FUSION TOPIC 3: FUSION TECHNOLOGIES AND MATERIALS

Prof. Dr. Jarir Aktaa *ORCID: 0000-0002-0891-5331*

Current positions
Head of the department "Mechanics of Materials 2", Institute for Applied Materials – Materials and Biomechanics (IAM-WBM), KIT (since 1996)
Professor, Department of Mechanical Engineering, KIT (since 2016)

Previous positions
Research assistant, University of Karlsruhe (1990-1995)

Scientific degrees
PhD in Engineering, University of Karlsruhe (1994)
Habilitation, Mechanical Engineering, KIT (2009)

Recent research topics	Structural integrity of fusion materials: Characterization; modelling; irradiation effects; design data base & rules; nonlinear structure analysis; functionally graded materials for joints and coatings
Awards, honors, memberships	Full Professorship offer from the German University in Cairo; Egypt (2006) 6-months Research Fellow at the Johns Hopkins University; USA (2002) Scholarship to study in Germany for outstanding high school graduation (1983)

Publications/Patents (5 most important)

- **J. Aktaa, M. Walter**, G. Angella & E. Perelli Cippo: Creep-fatigue design rules for cyclic softening steels, *Int. J. Fatigue* 118, 98 (2019) doi:10.1016/j.ijfatigue.2018.08.008
- **E. Gaganidze, D. Rupp, J. Aktaa,** Fracture behavior of polycrystalline tungsten, *J. Nucl. Mater.* 446, 240 (2014) doi:10.1016/j.jnucmat.2013.11.001
- **J. Aktaa, W.W. Basuki, T. Weber, P. Norajitra, W. Krauss,** et al., Manufacturing and joining technologies for helium cooled divertors, *Fusion Eng. Des.* 89, 913 (2014) doi:10.1016/j.fusengdes.2014.01.028
- **E. Gaganidze, J. Aktaa,** Assessment of neutron irradiation effects on RAFM steels, *Fusion Eng. Des.* 88, 118 (2013) doi:10.1016/j.fusengdes.2012.11.020
- **J. Aktaa, R. Schmitt,** High temperature deformation and damage behavior of RAFM steels under low cycle fatigue loading: Experiments and modeling", *Fusion Eng. Des.* 81, 2221 (2006) doi:10.1016/j.fusengdes.2006.03.002