Speaker of Session 11

NANOMECHANICS

Michael Moseler received his diploma and Ph.D. degrees in Physics from the Albert-Ludwigs-University in Freiburg, Germany in 1994 and 1998, respectively. After his PostDoc at the Georgia Institute of Technology in Atlanta he became leader of a computational materials science group at the Fraunhofer Institute for Mechnanics of Materials in Freiburg in 2002.

In addition to this position he is Professor for Modelling and Simulation of Functional Nanosystems at the Physics department of the Albert-Ludwigs-University in Freiburg. His work covers the classical molecular dynamics simulations of friction, lubrication, running-in and wear processes in carbon coatings and metals, phase transformations in tribosystems and nanoparticles as well as multiscale models for thin film deposition, nanostructure and third-body formation as well as capillary flow. Further research activities include meso-particle calculation of wear processes and density functional calculations for tribochemical interasctions of lubricants with tribological surfaces as well as the mechanical, optical, magnetic and catalytic properties free and supported nanoparticles and nanotubes. As a member of the Fraunhofer society, Moseler bridges the gap between fundamental and applied theoretical material science with a main focus on assisting industrial partners in understanding the basic mechanisms in their materials, components and processes.