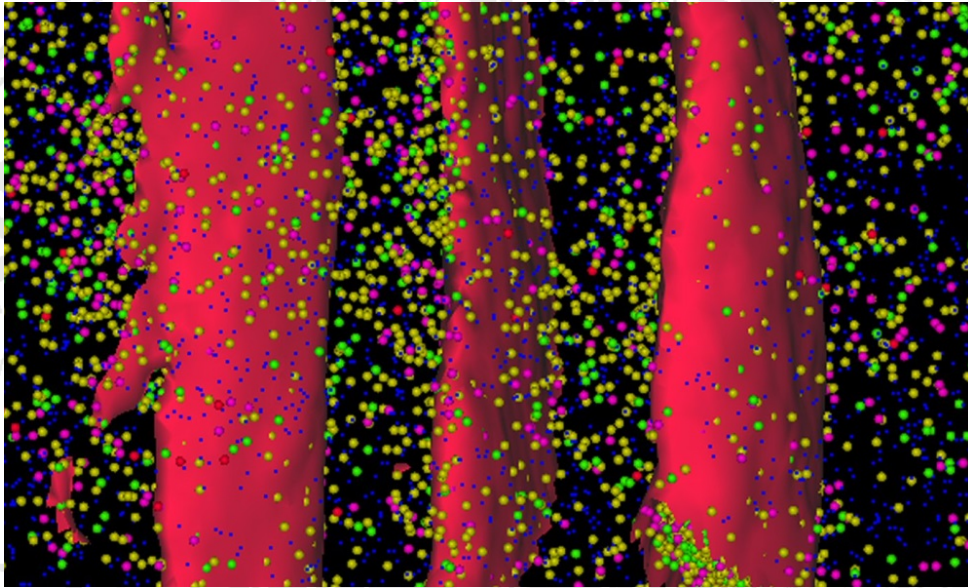


PHYSIKALISCHES KOLLOQUIUM

AM 6. FEBRUAR 2017 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



INTERACTION OF LATTICE DEFECTS AND CHEMISTRY: FROM ATOMIC-SCALE CHARACTERIZATION TO THE DESIGN OF COMPLEX MATERIALS

PROF. DR. DIERK RAABE

*MAX-PLANCK-INSTITUT FÜR EISENFORSCHUNG GMBH,
DÜSSELDORF*

Materials have enabled and shaped human civilization for thousands of years. Current challenges lie in the fields of energy conversion, weight reduction, sustainability, intelligent manufacturing and safety. Materials Science gradually evolves from an empirical into a quantitative science. This requires more rigorous observation and simulation of materials at the atomic scale with the aim to establish predictive structure-property relations. This lecture presents latest progress in observing materials at atomic scale through the correlative use of Atom Probe Tomography, Electron Microscopy and Field Ion Microscopy. Examples from functional and structural materials are presented.