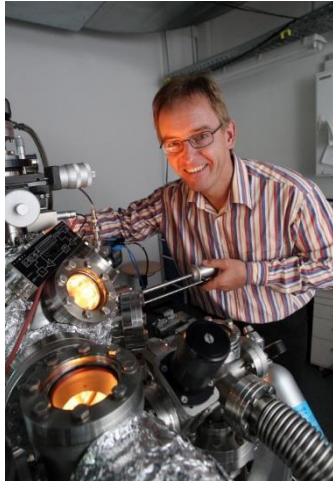




TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik Physikalisches Kolloquium



Mittwoch, 10.06.2015, um 16:00 Uhr

Ort: Reichenhainer Str. 90;

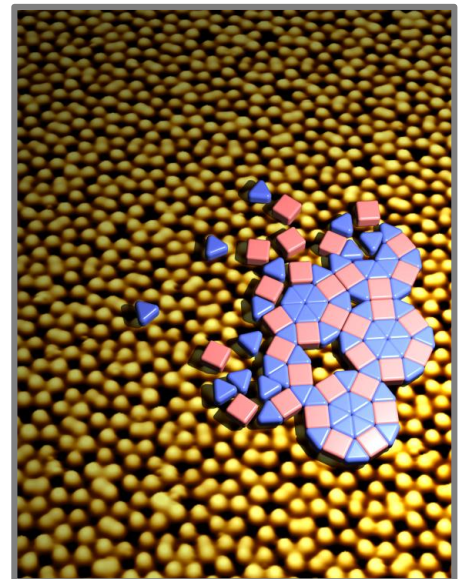
Zentrales Hörsaal- und Seminargebäude, Raum 2/N013

Prof. Dr. Wolf Widdra

Martin-Luther-Universität Halle-Wittenberg

Ternary oxides: From periodic surfaces to two-dimensional oxide quasicrystals

Oxide heterostructures are novel materials with a variety of applications. Often bulk properties define their characteristics, but new interesting concepts and properties arise from their interfaces. This is discussed here for surfaces and thin films of barium titanate (BTO), the most studied ferroelectric material, for which we find surface-specific structural, vibrational, and ferroelectric properties [1]. Especially the discovery of a two-dimensional oxide quasicrystal that is long-range ordered, but aperiodic adds an interesting new concept [2]: It reveals a sharp 12-fold diffraction pattern; a symmetry that is forbidden for periodic structures. Scanning tunneling microscopy resolves the aperiodic structure of surface atoms, which are arranged in squares, triangles, and rhombi. Peculiarities and structure evolution of related films will be also discussed.



[1] A. Höfer et al., Phys. Rev. Lett. 108, 087602(2012).

[2] S. Förster et al., Nature 502, 215 (2013).

Alle Zuhörer sind ab 15:45 zum Kaffee vor dem Hörsaal eingeladen.

