



## Einladung zum Physikalischen Kolloquium

**Montag, 22.10.2018**  
**16:15 Uhr in N24/H13**



**Prof. Dr. Florian Banhart**

Institute de Physique et Chimie des  
Matériaux de Strasbourg  
University of Strasbourg  
France

### **Ultrashort electron pulses for imaging, diffraction, and spectroscopy**

Ultrafast dynamics is of high importance in nanoscience due to the small size of the systems and their rapid response to external stimuli. Studying rapid transformations in nanomaterials is challenging since characterization tools with high spatial as well as high temporal resolution are needed. Ultrafast electron microscopy, working with laser-induced pico- to nanosecond electron pulses, is a new technique that bears this challenge. In a pump-probe approach, time-resolved information from nanosystems is obtained. An intense laser pulse that induces the transformation of interest is followed, after an adjustable delay, by an electron pulse that is used for imaging, electron diffraction, or electron energy-loss spectroscopy. Such an instrumentation has recently been developed and installed at the University of Strasbourg. The presentation will give an introduction into ultrafast electron microscopy and show the potentials and limits of this technique as well as some applications in physics, chemistry, and materials science.

Ab 16.00 Uhr Kaffee, Tee und Kekse vor dem Hörsaal H13

**Organisation:** Prof. Dr. F. Jelezko, Tel. 23750

**Host:** Prof. Dr. U. Kaiser, Tel. 22950, off.: 22951