



Franz J. Giessibl  
Professor of Physics  
University of Regensburg, DE

**Title of the lecture:**

Atomic Force Microscopy (AFM) and Combined Scanning Tunneling Microscopy (STM) and AFM

**Format:**

4 x 90 min

**Contents:**

1. Physics of scanning tunneling microscopy
2. Physics of atomic force microscopy
3. Challenges faced by AFM
4. Frequency-Modulation AFM
5. Introduction of the qPlus sensor
6. Selection of groundbreaking experiments

**References:**

1. Franz J. Giessibl, *Advances in atomic force microscopy*, Rev. Mod. Phys. **75**, 949 (2003)
2. Franz J. Giessibl, *The qPlus sensor, a powerful core for the atomic force microscope*, Review of Scientific Instruments **90**, 011101 (2019)