

## SFB1032 Seminar Announcement

Friday, June 12<sup>th</sup>: Kleiner Physikhörsaal at 10am ct



### **Inorganic voltage nanosensors**

Prof. Shimon Weiss (University of California, Los Angeles)

We have been developing targetable voltage sensing inorganic nanoparticles (vsNPs) that are designed to self-insert into the cell membrane and optically record, non-invasively, action potential on the single-particle level, at multi-sites and in a large field-of-view. Using the first generation of vsNPs, we measured large quantum confined Stark effect (QCSE) shifts as function of voltage (in-vitro, using electrodes). We are currently working on functionalization and membrane insertion schemes for these probes. Once fully developed, we hope that these vsNPs could be generally useful for the study of action potential signals in the central and peripheral nervous systems and in muscle tissues.