

# ZERNIKE INSTITUTE COLLOQUIUM

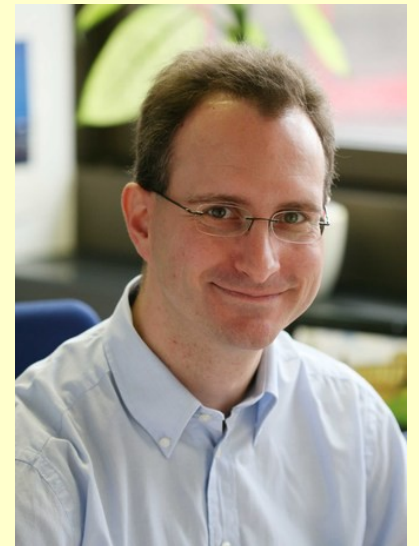
Thursday, October 8<sup>th</sup>, 2009

16:00h, Lecture Hall: 5111.0080

Coffee and cakes from 15:30h

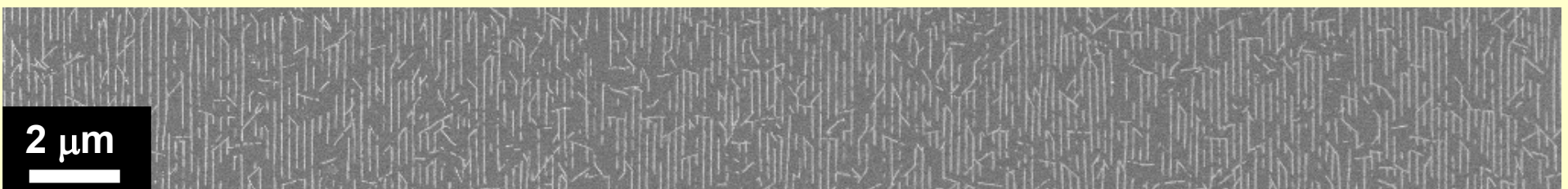
## Bionanoparticles as templates for mineralisation and surface structures

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Proteins play an important role in biomineralization as enzymatic scaffold by providing nucleation sites and directing crystal growth. Formation of extracellular bio-inorganic composites like bone occurs on biomacromolecular matrices. However, only few proteins were used as scaffolds for the precipitation of biominerals up to now, although several proteins were recently identified which are involved in (bio-) mineralization.

Here, we present an easy and straightforward approach for the production of mineral microcapsules from templating self-assembled biomolecules and bionanoparticles at liquid-liquid-interfaces in Pickering emulsions.



In the second part of this talk, we will discuss the use of polymer-decorated bionanoparticles to build nanoporous membranes and a novel lithography-free process to fabricate PDMS stamps with structures less than 200 nm. Prealignment of TMV particles on these stamps allows printing of highly aligned and well-ordered protein arrays which subsequently can be metallized to yield conductive nanowires.

