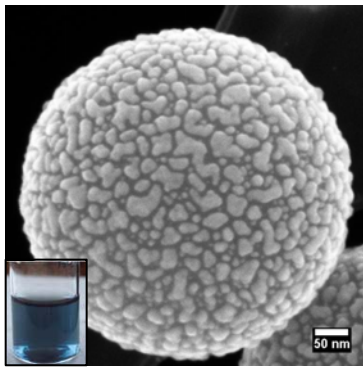




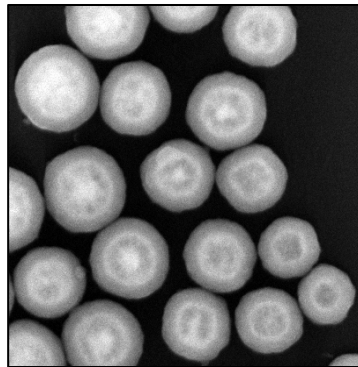
Diploma/Master/Semester Thesis

Nanostructured Optical Particles

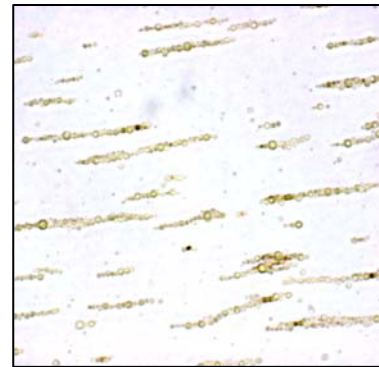
The Institute of Particle Technology at the University of Erlangen-Nuremberg is carrying out research into many aspects of nanotechnology. In particular we have a significant interest in developing a better understanding of the structure-function relationship for particles and using such knowledge to synthesize novel particulate films and dispersions with industrial relevance. We are undertaking a collaborative project to study the theoretical and experimental aspects of complex particles and their optical properties. In particular we are interested in modifying particles with respect to their scattering and absorption behaviour i.e. demonstrating tunable colour or visibility through coating. The composite particles will comprise a wide range of materials systems (oxides, metals, polymers etc).



Plasmonic Structures



Core-shell Particles



Magnetic Particles

For this Diploma/Master/Semester thesis we are looking for a student of **Chemistry, Physics, Materials Science or Chemical Engineering** with an interest in nanotechnology, chemical synthesis and particle characterisation. Experience with chemical techniques and equipment would be useful.

The tasks involved in this position include: Wet-chemical synthesis of single phase and composite nanoparticles using standard and novel techniques; Chemical derivitisation and particle film formation; characterisation of particles with respect to their size, shape, stability as well as their optical properties. The specific focal point of the thesis will be agreed individually according to the Student's experience/preference.

This Diploma/Master/Semester thesis project offers the possibility to develop novel nanomaterials. This work will be carried out within the framework of the Cluster of Excellence "Engineering of Advanced Materials" and an ongoing industrial collaboration.

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