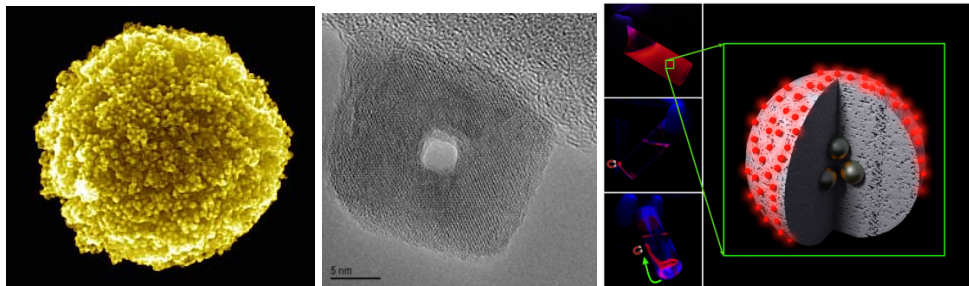


Bachelor-, Masterarbeiten zu vergeben Bachelor-, Master-positions available

We offer positions for research projects to students of physics, nanoengineering, materials science or related subjects:

- * **Magnetic nanoparticles: Dipolar interactions, element-specific magnetism and manipulation**
- * **Magnetic nanoparticles: Three-dimensional imaging of composition and shape by Transmission electron microscopy**
- * **Magnetic Colloids: Understanding the interface to bio systems**
- * **Magnetic colloids: Creating and manipulating bi-functional particles with optical and magnetic functionality**



Magnetic nanoparticles in the size-range from 3 to 20 nm have application in environmental, biomedical and technological applications. To design the properties of such materials for specific applications the shape, crystal structure and surface chemistry must be understood on the atomic scale. Hybrid particles which are not only magnetic but also show optical activity are especially interesting. Nanoparticles are available in the form of rods, spheres, capsules etc. The proposed projects concern the design, synthesis, structural and physical characterization of nanostructured hybrid materials from inorganic dipolar nanoparticles. In addition, some of the projects involve the investigation of the systems behaviour at international locations using synchrotron radiation.

Applications for bachelor/master theses are highly welcome. Pronounced interest and background in solid state physics, physical nanosciences, as well as physical chemistry will be helpful.

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