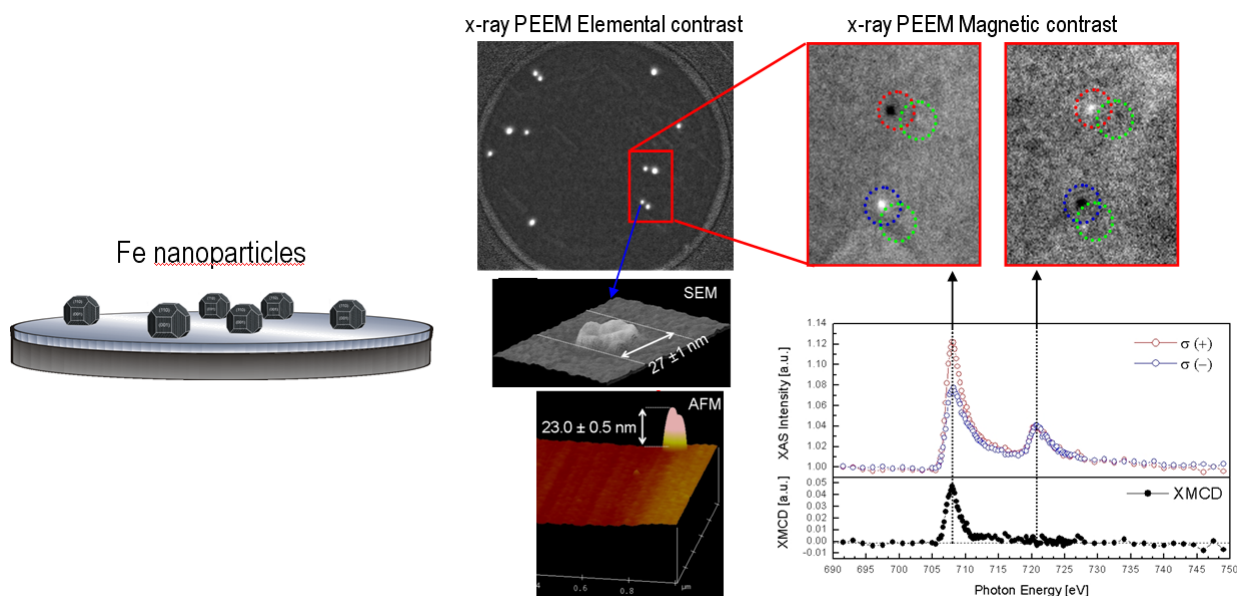


## Magnetic nanoparticles

Magnetic nanoparticles show a variety of unusual magnetic phenomena when compared to the bulk materials, mostly due to the effect of the surface and interface on the magnetic interactions and to critical magnetic length scales such as domain wall width and exchange length. You will investigate the size dependence of key intrinsic properties of magnetic single nanocrystals such as the magnetic anisotropy and the transition temperature, as well as the novel coupling phenomena emerging from the particle/substrate interaction. The experimental work will involve Scanning Electron Microscopy (SEM) and Atomic Force Microscopy (AFM) observations and analysis of single nanoparticles in the size range of 5 to 25 nm as well as taking part in the sample preparation and x-ray Photoemission Electron Microscopy (PEEM) experiments at the Swiss Light Source.



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