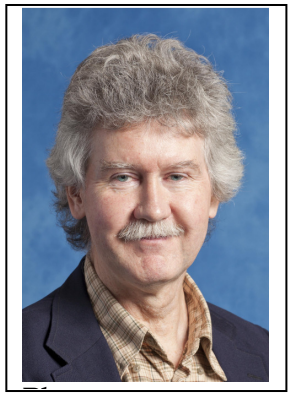
Note: For the acceptance of your poster/oral contribution, your e-mail address must be indicated.

Structural Principles of Nanoparticles investigated by Coherent X-ray Diffraction:



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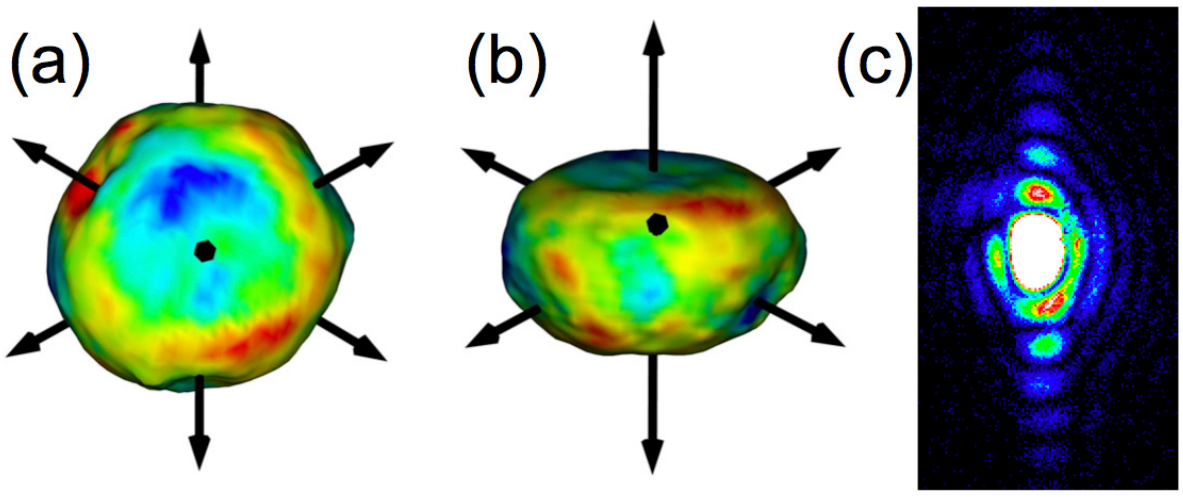
Abstract:

This talk will discuss the physical reasons why nanoparticles differ in structure from the bulk and how this opens opportunities for nanotechnology. Some simple properties of nanoparticles can be explained through their structures [1]. The Coherent X-ray Diffraction (CXD) methodology is introduced. Bragg diffraction from crystalline particles allows powerful insights into the structure via information about strains mapped out in three dimensions. Experiments will be described in which these patterns of strain can be influenced by changing the external environment of the nanocrystals under investigation [2].



[1] I. K. Robinson, "Nanoparticle Structure by Coherent X-ray Diffraction", accepted in Journal of the Physical Society of Japan (2012)

[2] M. Watari, R. McKendry, M. Voegtli, G. Aeppli, Y.A.Soh, X. Shi, G. Xiong, X. Huang, R. Harder and I. Robinson, "Differential stress induced by thiol adsorption on facetted nanocrystals", Nature Materials 10 862-866 (2011)