

SEMINAR

Solution Synthesis and electron microscopy characterization of Metal Nanoparticles and Nanostructures for catalysts and as MRI contrast agents

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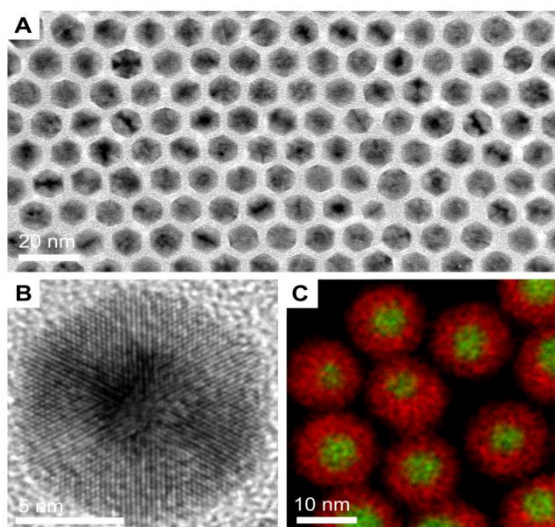
11am – 12noon

Science Lecture Theatre S10

16 Rainforest Walk

Abstract

Liquid phase synthesis is a powerful method for the formation of uniform sized nanoparticles and nanoparticles with a faceted morphology. General strategies for the formation of nanoparticles and through chemical synthesis will be outlined. The results presented will include the formation of catalytic metals such as gold core palladium shell nanoparticles, below and branched nanostructures of gold, palladium and ruthenium. The growth mechanism of how the particles form will also be presented along with HRTEM observations. Biomedical and catalytic applications will be discussed.



Professor Richard Tilley is the newly appointed (April 2015) director of the electron microscopy unit at UNSW and a Professor in the School of Chemistry. Previously he was an academic for 11 years at the School of Chemical and Physical Sciences, Victoria University of Wellington (VUW), NZ and manager of the MacDiarmid Institute electron microscopes. His research is focused on the solution synthesis of nanoparticles and quantum dots for applications ranging from catalysis to biomedical imaging. He graduated with a Masters of Chemistry from Oxford University, UK studied for his PhD in the Department of Chemistry, University of Cambridge, UK, after which he was a Postdoctoral Fellow for two years at the Toshiba basic R&D center, Japan.

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