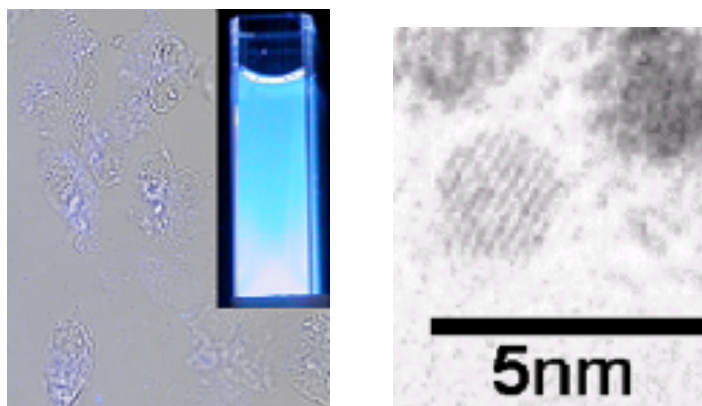


Liquid phase synthesis of Si, Ge and Sn quantum dots for medical applications.

Post-doctoral Fellowship

Victoria University of Wellington, MacDiarmid Institute of Advanced and Nanotechnology, New Zealand

Post doctoral fellowship is available for the further development of the liquid phase synthesis of Si, Ge and Sn quantum dots [1-2]. The research will involve colloidal synthetic chemistry. The nanoparticles will be characterized using the transmission electron microscope facility and optical spectrometers housed within the MacDiarmid Institute of Advanced and Nanotechnology, School of Chemical and Physical Sciences. The research is in collaboration with Prof Kenji Yamamoto in Tokyo who will investigate the toxicology of the nanocrystals.



Left figure and blue luminescence from a vial of silicon quantum dots and cell imaging using the quantum dots. Right figure shows a high resolution transmission electron microscope image of a silicon quantum dot.

1. R. D. Tilley and K. Yamamoto, 'Micro-emulsion synthesis of hydrophobic and hydrophilic silicon nanocrystals' *Advanced Materials*, vol 18, 2053–2056 (2006).
2. J. H. Warner, A. Hoshino, K. Yamamoto and R. D. Tilley *Angewandte Chemie*, vol 44, 4550–4554 (2005).
3. R. D. Tilley, J. H. Warner, K. Yamamoto, I. Matsui and H. Fujimori, *Chem. Commun.*, 1833–1835 (2005).

The Fellowship is available from Jan 2008 for up to 18 months with competitive salary. Applications should include a curriculum vitae and the names of three referees.

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