

PhD Opportunities in NanoMedicine at the Ian Wark Research Institute

The Ian Wark Research Institute, the Australian Research Council (ARC) Special Research Centre for Particle and Material Interfaces, is seeking highly motivated students with an education in nanotechnology, chemistry, materials sciences, biotechnology and molecular biology to undertake a PhD in NanoMedicine. A particular focus of this research is the application of nanotechnology principles to the medical field, especially in Cancer research and drug delivery. Successful applicants will have their scholarships 'topped up' to \$28,000/year.

Availability: Open for applications from October 1st, 2009.

Eligibility: Australian citizen and permanent resident.

Collaborators: Prince of Wales Hospital (UNSW, Sydney).

Main Contact

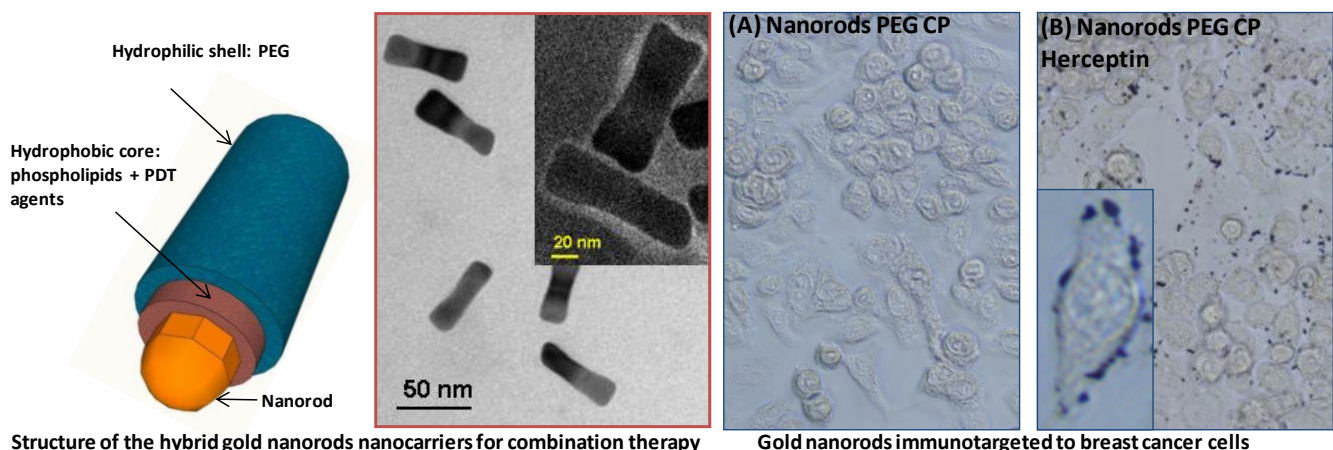
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Project Description: Advanced gold nanoparticle hybrids for photothermal therapy

Background: Plasmonic colloidal nanostructures, such as gold nanoparticles and nanorods are arguably among the most promising nanomaterials in the medical field due to their ability to support localized surface plasmons when excited by electromagnetic radiation (light). Therapeutic applications involving gold nanoparticles have flourished in recent years. The efficient generation of heat resulting from the strong resonant absorption of light by gold nanorods and nanoshells has been used to achieve intratumoral photothermal therapy and clinical trials are currently underway in the USA.

Overall Aim: The aim of this project is to develop hybrid plasmonic colloidal nanostructures towards the design of novel light-activated therapeutic strategies. Two major field of application are proposed: photothermal ablation of prostate cancer and treatment of Age-related Macular Degeneration (AMD).



For more information:

Prashant K. Jain, Ivan H. El-Sayed, and Mostafa A. El-Sayed: Detection, Gold nanoparticles target cancer. NanoToday 2(1) (2007). Birch DG, Liang FQ: Age-related macular degeneration: a target for nanotechnology derived medicines. Int J Nanomedicine. 2007;2(1):65-77