

Rational *De novo* Design of Proteins for Inorganic Surfaces

Supervisors: Prof. Mark Biggs in collaboration with local and overseas researchers.

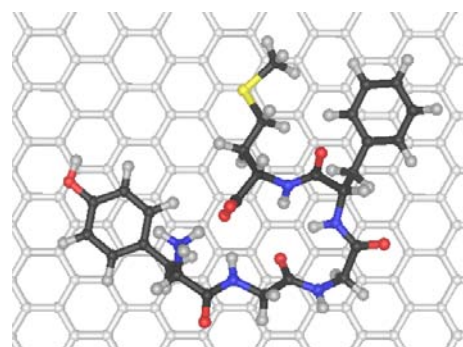
Nature of work: Molecular modelling of bio-inorganic systems.

Area: Leading edge of bionanotechnology.

Potential implications: Solving the ‘Holy Grail of Nanotechnology’ – bottom-up self-assembly of complex nanostructured systems.

Funding: *Via* the various University scholarship schemes (see separate information for these).

Brief description: ‘Designer proteins’ offer huge potential for achieving the Holy Grail of bottom-up self-assembly of inorganic nanoscale entities to form complex nano-materials and systems such as carbon nanotube based electronic devices. There are several projects concerned with developing and applying molecular simulation (right) to the *in silico* evolutionary design of such proteins. This will involve interaction with international recognised experimentalists (Sarikaya, University of Washington, Seattle, USA; A/Prof. Kempson, Academia Sinica, Taiwan; Prof. Clive Prestidge, Ian Wark, UniSA) and modellers (Dr Stefano Corni, INFN, Modena, Italy) in the field.



There are many more projects in the areas of bionanotechnology. Feel free to contact me (mark.biggs@adelaide.edu.au; +61-8-8303-6317) or drop in to my office (N119) if you want to have further discussion or other possible PhD projects.