Examples of *Discovery Early Career Researcher Award* (DECRA) projects commencing in 2014

**New South Wales**

New South Wales research organisations will receive more than $22.1 million through the Australian Research Council **DECRA** scheme for 59 new research projects commencing in 2014.

Some examples of the NSW projects are provided below.

To view the summaries of all successful projects, visit the [ARC announcements page](#).

### The University of Sydney
**DECRA Recipient:** Dr Natalie Vanicek (DE140101293)  
**Summary:** The number of people with an amputation will double within 40 years. This presents a burden on health services as the majority of amputees are older and fall more frequently than able-bodied individuals. In Australia, there are minimal clinical guidelines related to amputee care and none related to falls prevention specifically. The aim of the current project is to advance amputee care by transforming national standards and improving falls prevention in lower limb amputees. The outcomes of the project will promote physical activity for falls prevention and better quality of life, raise the standard of service provision and make healthcare providers more accountable for the care of amputees across Australia.  
**ARC funding:** $392 219 over three years

### University of Wollongong
**DECRA Recipient:** Dr William W Bennett (DE140100056)  
**Summary:** Emerging and priority oxyanionic contaminants such as antimony, chromium, vanadium and tungsten present a significant environmental hazard. They are often associated with mining, and numerous contaminated sites have been identified within Australia. In order to manage these contaminants appropriately, there needs to be suitable methods to analyse them. Passive sampling technology will be developed that will allow the measurement of these contaminants and their speciation in water, and sediment and soil pore waters. This project will use these new samplers to investigate the geochemical mechanisms of mobilisation of these contaminants in laboratory mesocosm experiments, as well as at selected contaminated field sites within Australia.  
**ARC funding:** $392 290 over three years

### The University of New South Wales
**DECRA Recipient:** Dr Pu Xiao (DE140100318)  
**Summary:** The design and development of next-generation nanocarriers as drug delivery platforms is an ongoing challenge in chemical and material sciences. Nanodiamonds are attractive candidates due to their biocompatibility, ease of functionalisation, and non-bleaching fluorescence. This project proposes an innovative approach to graft various polymer chains onto the surface of nanodiamonds to produce polymer-inorganic hybrid materials. This project will expand our knowledge of the influence of polymer chains on the stability of nanodiamonds and cellular uptake. The model drug gemcitabine and targeting bioactive ligands will also be conjugated onto the optimum produced hybrid materials for the drug delivery study.  
**ARC funding:** $391 575 over three years