

## **Summary of Successful Proposals for Linkage Infrastructure, Equipment and Facilities for Funding Commencing in 2012 – Collaborator Led Projects**

**LE120100011**

**Gaudin, Prof Christophe; Cassidy, Prof Mark J; Randolph, Prof Mark F; White, Prof David J; Sloan, Prof Scott W; Carter, Prof John P; Indraratna, Prof Buddhima N; Williams, Prof David J; Kodikara, A/Prof Jayantha K; Jaksa, A/Prof Mark B; Krabbenhoft, A/Prof Kristian; Fourie, Prof Andries B; Merifield, Dr Richard S; Rujikiatkamjorn, Dr Cholachat; Geng, Dr Xueyu; Pedroso, Dr Dorival d; Scheuermann, Dr Alexander; Bouazza, Prof Abdelmalek**

### **Approved Project Title**

**The national geotechnical centrifuge facility**

2012 - \$700,000.00

**Total \$700,000.00**

Primary FoR 0905 CIVIL ENGINEERING

### **Partner/Collaborating Eligible Organisation(s)**

Monash University, The University of Adelaide, The University of Newcastle, The University of Queensland, University of Wollongong

**Administering Organisation** The University of Western Australia

### **Project Summary**

A new geotechnical centrifuge will enable the modelling of complex offshore and onshore structures. The new facility will support many geotechnical fields, associated with the economical and geographical development of Australia, and ensure that Australia will maintain its leadership within the international physical modelling community.

**LE120100054**

**Gillanders, Prof Bronwyn M; Robinson, Prof Sharon A; Walker, A/Prof Stewart; Kennedy, Prof Martin J; Watling, A/Prof Jennifer R; Soole, A/Prof Kathleen L; Tibby, Dr John; Guan, Dr Huade W; Cooper, Prof Alan; Ball, Prof Andrew S**

### **Approved Project Title**

**Stable isotope analysis of environmental and physiological samples**

2012 \$420,000.00

**Total \$420,000.00**

Primary FoR 0402 GEOCHEMISTRY

### **Partner/Collaborating Eligible Organisation(s)**

Bio Innovation SA, The Flinders University of South Australia, University of Wollongong

**Administering Organisation** The University of Adelaide

### **Project Summary**

Mass spectrometers capable of isotope analysis are essential tools for the earth and environmental sciences, physiology and palaeoecology. This project will provide mass spectrometers for both laboratory and field conditions which will ensure Australia remains at the forefront of international research, attract collaborations and lead to outcomes of global significance.

**LE120100106**

**Carter, Prof David J; Eggert, Prof Paul R; Ommundsen, Prof Wenche; Mead, Prof Philip; Mallan, Prof Kerry M; Taylor, A/Prof Cheryl M; Douglas, Dr Kate; Arnold, Mr John F; Leane, Dr Jeanine A; Minter, Dr Peter; Dale, Prof Leigh; Wilkins, Dr Kim; Ikin, A/Prof Van G; McMahon, Dr Elizabeth N; Burrows, Dr Toby N; Tompkins, Prof Joanne E; Moore, A/Prof Nicole R; Borchert, Mr Martin; Henderson, Dr Deborah J; O'Regan, Prof Thomas A; Troy, Dr Jakelin; Kilner, Ms Kerry M**

**Approved Project Title**

**Humanities in the digital age: infrastructure for Australian literary studies, publishing studies, and Aboriginal and Torres Strait Islander studies**

2012 \$270,000.00

**Total \$270,000.00**

Primary FoR 2005 LITERARY STUDIES

**Partner/Collaborating Eligible Organisation(s)**

Australian Institute of Aboriginal and Torres Strait Islander Studies, James Cook University, Monash University, Queensland University of Technology, The Flinders University of South Australia, The University of New South Wales, The University of Sydney, The University of Western Australia, University of Wollongong

**Administering Organisation** The University of Queensland

**Project Summary**

AustLit is a comprehensive digital resource providing quality, searchable information for researchers, teachers, students and the general public in the broadly defined areas of Australian literature and print culture. New funding will support enhanced content creation and research capacity and the transition of AustLit to an open access platform

**LE120100034**

**Stanford, Dr Nicole; Hodgson, Prof Peter D; Wen, Prof Cuie; Beynon, Prof John H; Chen, Prof Ying I; Pereloma, Prof Elena; Brooks, Prof Geoffrey A; Beladi, Dr Hossein; Voelcker, Prof Nicolas H; Hutchinson, A/Prof Christopher R; Timokhina, Dr Ilana; Dippenaar, Prof Rian J; Pigram, A/Prof Paul J; Davies, Prof Christopher H; Nie, Prof Jian-Feng; Calka, A/Prof Andrzej**

**Approved Project Title**

**Investigating materials on the atomic scale using 3-dimensional atom probe tomography**

2012 \$675,000.00

**Total \$675,000.00**

Primary FoR 0912 MATERIALS ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

La Trobe University, Monash University, Swinburne University of Technology, The Flinders University of South Australia, University of Wollongong

**Administering Organisation** Deakin University

**Project Summary**

A facility capable of examining the position of individual atoms inside a material will be established to serve the Australian research community. This information will be used to design engineering alloys with improved strength, biocompatibility and reduced environmental footprints. It will also be used to characterise alloys produced by new green technologies.

**LE120100035**

**Liao, A/Prof Xiaozhou; Laws, Dr Kevin J; Sha, Dr Gang; Ringer, Prof Simon P; Ferry, Prof Michael; Wang, Prof Xiaolin; Wang, Dr Yanbo; Chan, A/Prof Sammy L; Proust, Dr Gwenaelle; Young, Prof David J; Zhang, Dr Yuebin; Lu, Dr Cheng**

**Approved Project Title**

**Joint processing facility for the production of far-from-equilibrium alloy structures**

2012 \$200,000.00

**Total \$200,000.00**

Primary FoR 0912 MATERIALS ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

The University of New South Wales, University of Wollongong

**Administering Organisation** The University of Sydney

**Project Summary**

One of today's research frontiers is to design materials with tailored physical, chemical and mechanical properties which would be suitable for new uses. Equipment for melt spinning and high-pressure torsion will be used to process materials to achieve novel microstructures. These will pave the way to new types of advanced materials for future applications in lightweight transport, energy technologies and biomaterials.

**LE120100177**

**McGregor, Prof Iain S; Simpson, Prof Stephen J; Shannon Weickert, Prof Cynthia; Kassiou, Prof Michael; Copeland, Prof Jan; Solowij, Dr Nadia; Codd, Dr Rachel; Arnold, Dr Jonathon C; Karl, Dr Tim; Long, Dr Leonora E**

**Approved Project Title**

**A flexible high throughput analytical system for psychopharmacology and drug discovery**

2012 \$150,000.00

**Total \$150,000.00**

Primary FoR 1701 PSYCHOLOGY

**Partner/Collaborating Eligible Organisation(s)**

The University of New South Wales, University of Wollongong

**Administering Organisation** The University of Sydney

**Project Summary**

A sensitive new liquid chromatography mass spectrometer will enable a team of leading researchers to detect drugs of abuse and therapeutic drugs in the brain and body as well as levels of hormones, peptides and neurotransmitters. This will enhance a large number of projects examining new treatments for addictive disorders and mental illness.

**LE120100006**

**Keall, Prof Paul J; Jackson, A/Prof Michael; Rozenfeld, Prof Anatoly B; Barton, Prof Michael B; Greer, A/Prof Peter B; Vial, Dr Philip J; Baldock, Prof Clive; Metcalfe, Prof Peter E; Thwaites, Prof David I; Kuncic, A/Prof Zdenka; Holloway, Dr Lois C; Bosi, Dr Stephen G; Eslick, Dr Enid M; Downes, Mr Simon J**

**Approved Project Title**

**An adaptable and dedicated linear accelerator for medical radiation research**

2012 \$600,000.00

**Total \$600,000.00**

Primary FoR 0903 BIOMEDICAL ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

Liverpool Hospital, Prince of Wales Hospital  
The University of New South Wales, The University of Newcastle, University of Wollongong

**Administering Organisation** The University of Sydney

**Project Summary**

Leading radiation scientists developing innovative methods and devices for treating cancer patients will collaborate in future research using this highly adaptable linear accelerator for medical radiation research. Innovations in tumour targeting, better patient safety, new medical devices and improved cancer outcomes are expected.

**LE120100215**

**Moheimani, Prof S. O. Reza; Kisi, Prof Erich H; Petersen, Prof Ian R; Alici, Prof Gursel; Huntington, Prof Elanor H; Behrens, Dr Sam; Harb, A/Prof Charles C; Pota, A/Prof Hemanshu R; Li, A/Prof Weihua; Welsh, Dr James S; Summers, Dr Terrence J**

**Approved Project Title**

**Facility for characterisation of engineered microelectromechanical systems**

2012 \$300,000.00

**Total \$300,000.00**

Primary FoR 0906 ELECTRICAL AND ELECTRONIC ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

Commonwealth Scientific and Industrial Research Organisation  
The University of New South Wales, University of Wollongong

**Administering Organisation** The University of Newcastle

**Project Summary**

This facility will provide Australian microelectromechanical (MEMS) researchers with a vital, world-class, capacity for characterisation of micro-machined devices and transducers, enabling them to compete internationally in this emerging field.

**LE120100229**

**Dastoor, Prof Paul C; O'Connor, Prof John; Belcher, Dr Warwick J; Officer, Prof David L; Innis, A/Prof Peter C; Andersson, Dr Gunther G; Allison, Dr William**

**Approved Project Title**

**A prototype Scanning Helium Atom Microscope (SHeM) for soft materials**

2012 \$250,000.00

**Total \$250,000.00**

Primary FoR 0204 CONDENSED MATTER PHYSICS

**Partner/Collaborating Eligible Organisation(s)**

University of Cambridge

The Flinders University of South Australia, University of Wollongong

**Administering Organisation** The University of Newcastle

**Project Summary**

The scanning helium atom microscope (SHeM) has been a tantalising prospect since the birth of quantum physics. The SHeM would have unparalleled resolution and would be completely non-damaging; potentially revolutionising the imaging of soft delicate materials. This project will develop the first SHeM instrument in Australia to study soft matter.

**LE120100027**

**Rae, Prof Caroline; Messerle, Prof Barbara A; Davis, Prof Tom P; Neilan, Prof Brett A; Klugmann, A/Prof Matthias; Kennedy, Dr Danielle F; Pyne, Prof Stephen G; in het Panhuis, A/Prof Marc P; Drummond, Prof Calum J; Chiefari, Dr John; Oakley, A/Prof Aaron J**

**Approved Project Title**

**Sensitive and multinuclear: a dedicated facility for high-throughput characterisation of small molecules.**

2012 \$320,000.00

**Total \$320,000.00**

Primary FoR 0601 BIOCHEMISTRY AND CELL BIOLOGY

**Partner/Collaborating Eligible Organisation(s)**

Commonwealth Scientific and Industrial Research Organisation

University of Wollongong

**Administering Organisation** The University of New South Wales

**Project Summary**

This project will provide new cutting edge nuclear magnetic resonance equipment will enhance an existing shared analysis facility based at University of New South Wales. The new equipment will underpin research in polymers, neuropharmacology, the biological basis of inherited disease, nanomedicine, bioactive compounds and toxins.

**LE120100197**

**Li, A/Prof Sean S; Amal, Prof Rose; Kepert, Prof Cameron J; Zhang, Prof Chao; Sheppard, Dr Leigh R; Zheng, Dr Rongkun; Kennedy, Dr Brendan J; Sahajwalla, Prof Veena; Guo, A/Prof Zai P; Ling, Dr Chris D; D'Alessandro, Dr Deanna M; Klose, Dr Frank; Jiang, Dr Xuchuan**

**Approved Project Title**

**A magnetic property measurement facility for the development of advanced materials and biomedical technologies in the Sydney basin**

2012 \$375,000.00

**Total \$375,000.00**

Primary FoR 0912 MATERIALS ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

Australian Nuclear Science and Technology Organisation  
The University of Sydney, University of Western Sydney, University of Wollongong

**Administering Organisation** The University of New South Wales

**Project Summary**

The measurement of magnetic properties is important in the study both of magnetic and electronic materials and biological systems. This new equipment will support a diverse array of high impact research, spanning the fundamental to the applied, and will bring together complementary expertise from multiple disciplines and institutions.

**LE120100188**

**Dzurak, Prof Andrew S; Li, A/Prof Sean S; Hamilton, Prof Alexander R; Davies, Prof Graham J; Bremner, Dr Stephen; Reilly, Dr David J; Liu, A/Prof Zongwen; Lewis, Prof Roger A; Guo, A/Prof Zai P; Zhao, Dr Yue; Nowotny, Dr Maria K; Sheppard, Dr Leigh R**

**Approved Project Title**

**Epitaxial growth facility for advanced materials**

2012 \$1,000,000.00

**Total \$1,000,000.00**

Primary FoR 0912 MATERIALS ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

The University of Sydney, University of Western Sydney, University of Wollongong

**Administering Organisation** The University of New South Wales

**Project Summary**

An advanced materials fabrication facility accessible to all Australian researchers will be established. This will allow crystal growth at the atomic level for novel materials with applications including fundamental physics, nanocomposites, energy storage and conversion systems, and solar cells.

**LE120100098**

**Aguey-Zinsou, Dr Kondo-Francois; Maschmeyer, Prof Dr Thomas; Chen, Prof Vicki; Liu, Prof Hua K; Amal, Prof Rose; Perrier, A/Prof Sebastien**

**Approved Project Title**

**A comprehensive gas/vapour sorption facility for the fast advancement of decarbonised energy technologies**

2012 \$230,000.00

**Total \$230,000.00**

Primary FoR 0912 MATERIALS ENGINEERING

**Partner/Collaborating Eligible Organisation(s)**

The University of Sydney, University of Wollongong

**Administering Organisation** The University of New South Wales

**Project Summary**

Solutions to clean energy production, storage and use are critical to Australia's prosperity, yet there is a significant lack of targeted research facilities for the development of the highly needed materials and technologies for powering a sustainable Australia. This facility will bring research efforts closer to practical solutions.