

Summary of Linkage Infrastructure, Equipment and Facilities Proposals by State and Organisation

South Australia

The University of Adelaide

LE100100104 Prof Tanya M Monro, Dr Heike Ebendorff-Heidepriem, Dr Hark H Tan, Prof John M Dell, Dr Steve Madden, Dr Christopher J Sumby, Dr David J Ottaway, Dr Hugh H Harris

Approved Project Title **Capability for the fabrication and characterisation of mid-infrared photonic materials**

2010 \$400,000.00

Primary FoR 0205 OPTICAL PHYSICS

Partner/Collaborating Organisation(s)

The Australian National University, The University of Western Australia

Administering Organisation The University of Adelaide

Project Summary

The proposed facility will support the development of new glass materials suitable for transmitting and generating light in the mid-infrared spectral region. This research will allow Australia to lead the world in developing new technologies that make use of the mid-infrared region of the electromagnetic spectrum. Particular applications that will flow from this research include the development of new optical fibre-based laser sources for defence and surgery, new technologies for detecting and treating cancer, and other in-vivo detection methods.

LE100100069 Prof Mark A Tester, Dr Heike Ebendorff-Heidepriem, Prof Hans J Griesser, Prof David A Lewis, Prof Allan Pring

Approved Project Title **A high resolution environmental scanning electron microscope (HRESEM) for South Australia**

2010 \$640,000.00

Primary FoR 0299 OTHER PHYSICAL SCIENCES

Partner/Collaborating Organisation(s)

The Flinders University of South Australia, University of South Australia

Administering Organisation The University of Adelaide

Project Summary

Australian researchers need access to state-of-the-art instrumentation in microscopy and microanalysis to remain competitive on the international stage. Nationally Australia has established excellent facilities and access regimes but there still remain areas where access to routine instrumentation is poor. Increased capacity is needed in South Australia for high resolution scanning electron microscopy (HRSEM), as well as capability for environmental scanning electron microscopy (ESEM). The need is highlighted by the recent establishment of the Centre of Excellence in Photonics and the Australian Centre for Plant Functional Genomics, both of which need this capacity and capability for characterisation at EM levels. Research organisations across the state will benefit from access to the proposed instrumentation.

LE100100235 Prof Anton J van den Hengel, Prof Svetha Venkatesh, Prof David Suter, Prof Michael J Brooks, A/Prof Jian Zhang, Dr Anthony R Dick, Dr Henry Detmold, Prof Massimo Piccardi, Dr Mihai M Lazarescu, Dr Chunhua Shen

Approved Project Title **Accelerating Australia's large scale video surveillance research programmes**

2010 \$280,000.00

Primary FoR 0801 ARTIFICIAL INTELLIGENCE AND IMAGE PROCESSING

Partner/Collaborating Organisation(s)

National ICT Australia

Curtin University of Technology, University of Technology, Sydney

Administering Organisation The University of Adelaide

Project Summary

The research to be conducted using this infrastructure will bring immense benefits to Australia in terms of increased levels of public safety and in the protection of critical facilities from terrorism and other crimes, by developing better surveillance systems. This will provide both increases in measurable research outputs and opportunities for Australian business to commercialise these systems. The infrastructure will accelerate the pace of surveillance research and development in Australia, enhancing the competitiveness of both Australia's researchers and the businesses that will commercialise these researchers' discoveries.