

# Summary of Linkage Infrastructure, Equipment and Facilities Proposals

## Victoria

### La Trobe University

**LE0775708** Dr AG Peele; Prof L Tilley; Dr MT Ryan; Prof KA Nugent; Dr TA Smith; Prof LV Dao; Prof RA Lewis

**Approved Project Title** X-ray Diffraction Microscope

**2007 :** \$ 289,680

**Primary RFCD** 2701 BIOCHEMISTRY AND CELL BIOLOGY

#### Partner Organisations & Collaborating Organisations

The University of Melbourne  
Swinburne University of Technology  
Monash University

**Administering Organisation** La Trobe University

#### Project Summary

The results of the research will substantially expand Australia's knowledge base in the area of diffraction, imaging and structural biology. It will build up our expertise in x-ray optics and synchrotron technology, and will open up a new approach to x-ray imaging and structure determination.

This will revolutionize our understanding of cellular and sub-cellular organisation with implications for the treatment of disease while the ability to determine structures of membrane proteins will open the door to fresh opportunities in rational drug design and biotechnology that will promote innovation in this industry, and the likely foundation of new start-up companies.

**LE0775646** Prof JD Riley; Prof RC Leckey; A/Prof PJ Pigram; Dr N Janke-Gilman; A/Prof BF Usher; Prof CM Stampfl; Prof JF Williams; A/Prof RL Stamps; Dr AE Smith; Prof J O'Connor; A/Prof PC Dastoor

**Approved Project Title** Surface and Magnetic structure of crystalline materials

**2007 :** \$ 636,000

**Primary RFCD** 2402 THEORETICAL AND CONDENSED MATTER PHYSICS

#### Partner Organisations & Collaborating Organisations

Monash University  
The University of Sydney  
The University of Newcastle  
The University of Western Australia

**Administering Organisation** La Trobe University

#### Project Summary

This proposal brings together significant research groups in La Trobe University, Monash University, the University of Western Australia, Newcastle University and Sydney University to establish a unique materials characterisation facility which will enable surface and magnetic structures of technologically significant materials to be determined. It will support developments in the areas of new magnetic phenomenon which is used in magnetic sensing and in the exploration of processes of size reduction for electronic devices. It will enable this new, world leading technology, to be applied to surface structures relevant in the areas of nanotechnology and catalysis.

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**LE0775758** Prof DL Vaux; Prof NJ Hoogenraad; Prof L Tilley; Prof MA Anderson; Dr MT Ryan; Dr DA Dougan; Dr KN Truscott; A/Prof AB Hughes; Prof RT Brownlee

**Approved Project Title** **A Mass Spectrometry and Proteomics Facility**

**2007 :** \$ 587,000

**Primary RFCD** 3299 OTHER MEDICAL AND HEALTH SCIENCES

### **Partner Organisations & Collaborating Organisations**

**Administering Organisation** La Trobe University

### **Project Summary**

This facility will support a large group of nationally and internationally recognised scientists working on a range of projects in the National Interest: the role of apoptosis in normal and diseased cells, mitochondrial biogenesis and genetic diseases resulting from defects in mitochondrial function, malarial vaccine and drug development, plant biotechnology, design and synthesis of drugs, DNA-anticancer drug interactions and biomarker discovery. By supporting this wide range of well funded research, the mass spectrometry facility will support the emerging Biotechnology sector and National Research Priorities.