Summary of Discovery Projects Applications for Funding to Commence in 2006

New South Wales

Southern Cross University

DP0666334 Dr RT Bush; A/Prof LA Sullivan

Approved Project Title **Schwertmannite in acid sulfate soil landscapes: iron cycling induced acidification**

2006 : $70,000
2007 : $70,000
2008 : $70,000
2009 : $70,000
2010 : $70,000

Primary RFCD 3008 ENVIRONMENTAL SCIENCES

ARF Dr RT Bush

Administering Institution Southern Cross University

Project Summary

Acid sulfate soils impact over 24 million ha of land throughout the world, 4 million ha of valuable coastal land in Australia alone. Their oxidation and acidification are the cause of catastrophic declines in water quality, aquatic habitat, agricultural productivity and urban infrastructure. The practical benefits of this project arise from an improved understanding of the processes controlling acidification and water quality in these areas. Intellectual benefits include the development and application of novel geochemical concepts involving iron minerals relevant to acidity impacted coastal rivers, wetlands and estuaries; this project will enhance Australia's capacity for sustainable environmental management.

DP0663159 Dr BD Eyre; Dr P Cook; Prof Dr JJ Middelburg

Approved Project Title **Unraveling Pathways of Nitrogen Cycling in the Sediments of Shallow Coastal Systems using Biomarkers, Stable Isotope Tracer Experiments and Modeling**

2006 : $120,000
2007 : $100,000
2008 : $100,000

Primary RFCD 2599 OTHER CHEMICAL SCIENCES

APD Dr P Cook

Administering Institution Southern Cross University

Project Summary

Many 100's of millions of dollars are likely to be spent over the next ten years on the management of nitrogen enrichment, and protection of biodiversity, in Australia's coastal waters. This project will significantly advance our understanding of how organisms from bacteria to macrofauna affect the functioning of our coastal systems. Understanding the role that organisms at all levels play in the functioning of coastal ecosystems is the first step towards protecting this biodiversity. As such the findings from this research will have direct implications to the management, rehabilitation and protection of waterways (including biodiversity) in Australia.

DP0663145 Prof P Thom; Dr JA Marenbon; Dr S Ebbesen; Dr AD Street

Approved Project Title **Aristotle's Categories in the Byzantine, Arabic and Latin Traditions**

2006 : $90,000
2007 : $70,000
2008 : $70,000

Primary RFCD 4401 PHILOSOPHY

Administering Institution Southern Cross University

Project Summary

High quality pure research is of national benefit because it adds to the depth of national culture and because it enhances our national profile overseas. When it involves collaboration with leading scholars at leading international universities, the enhancement is even greater. To understand the great religions that form part of our national identity, and their influence on philosophical thought, is of national benefit because it helps understand our place in today's world.