

Australian Capital Territory

The Australian National University

LP0883456 Prof RW Boswell; Dr C Charles

Approved Project Title **Space development of the HDLT Australian Plasma Thruster**

2008 : \$ 61,000

2009 : \$ 116,000

2010 : \$ 55,000

Primary RFCD 2403 ATOMIC AND MOLECULAR PHYSICS; NUCLEAR AND PARTICLE PHYSICS; PLASMA PHYSICS

Collaborating/Partner Organisation(s)

Astrium SAS

Administering Organisation The Australian National University

Project Summary

The collaboration between the ANU research group and ASTRIUM/EADS, the largest European aerospace company, is a unique opportunity for Australia to capitalize on the new discovery of the Helicon Double Layer Thruster made at the ANU. This will allow the Australian space community to stay abreast of international developments in space propulsion and to be with the for-runners of this new technology.

ANU will have direct access to ASTRIUM/EADS via the relationships developed in this project putting Australia in the enviable position of being an insider in future space developments concerning plasma thrusters and space technology in general.

LP0883890 A/Prof VS Craig; A/Prof TJ Senden; Dr AS Fogden; Dr SJ Thomson

Approved Project Title **Innovative platforms for further enhancing security and durability of the Australian Polymer Banknote and other security documents**

2008 : \$ 65,000

2009 : \$ 127,500

2010 : \$ 127,500

2011 : \$ 65,000

Primary RFCD 2501 PHYSICAL CHEMISTRY (INCL. STRUCTURAL)

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Note Printing Australia Limited

Administering Organisation The Australian National University

Project Summary

The polymer banknote is a symbol of world-leading Australian innovation and prosperity. The utility, durability and security of our banknotes underpins consumer confidence, economic stability and national security. Events of recent years, and opportunities and threats from rapid global information flow heighten the need to enhance and renew the many security features incorporated in our currency. The novel, cost-effective security-feature technologies to be developed in this project will also contribute to increasing the substantial polymer banknote export market, enable further expansion into other, even more demanding, security documents such as passports, and provide a needed boost to our domestic manufacturing industries.

Summary of Linkage Projects Proposals for Funding to Commence in 2008

LP0883312 Dr Y Liu; Prof RL Withers; Dr JC Barry; Dr T Yamashita; Dr RR Taylor

Approved Project Title **Tailoring the microwave dielectric properties of promising electroceramics for use in wireless telecommunication components and devices**

2008 : \$ 22,500

2009 : \$ 35,313

2010 : \$ 25,627

2011 : \$ 12,813

Primary RFCD 2914 MATERIALS ENGINEERING

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Microwave and Materials Designs

Administering Organisation The Australian National University

Project Summary

This project aims to develop and tailor the microwave dielectric properties of promising electroceramic materials specifically targeting next generation wireless telecommunications applications. The partnership between the ANU and the Australian company Microwave and Materials Designs has the potential to enable new microwave electroceramic materials to be discovered and then incorporated into new microwave components and/or devices developed in response to the requirements of the international wireless telecommunications market. The requested PhD student will gain experience in both the industrial and academic worlds and the skills needed to be part of Australia's high-tech workforce.

LP0883970 Dr J Mavrogenes; Prof RJ Arculus

Approved Project Title **The Windimurra-Narndee Layered Complexes, Western Australia**

2008 : \$ 31,500

2009 : \$ 59,000

2010 : \$ 57,500

2011 : \$ 30,000

Primary RFCD 2601 GEOLOGY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

Maximus Resources

Geological Survey of Western Australia

Administering Organisation The Australian National University

Project Summary

Mineral resources are a major export earner for Australia. If Australia is to continue benefiting from the current minerals boom then new reserves must be continuously found as existing reserves are mined out. The Windimurra-Narndee complexes represent a relatively new exploration target for platinum, nickel, and iron ore. Identification of a new mineral field in remote West Australia would be very good for the regional (and national) economy. Furthermore, advancing Australian's understanding of large intrusive systems will further raise international regard for the Australian academic community. The results of this work will help Australian mining companies better explore similar terranes.

Summary of Linkage Projects Proposals for Funding to Commence in 2008

LP0884046 Prof SR Miller; Prof J O'Brien; Prof AJ MacIntyre; Mr F Galtung; Mr N Duncan; Prof CJ Sampford

Approved Project Title **Corporate Governance, Regulation and Accountability: The Role of Multinational Corporations in Delevoping Commerical Advantage from Institutional Integrity**

2008 : \$ 38,954

2009 : \$ 79,705

2010 : \$ 77,682

2011 : \$ 36,931

Primary RFCD 4401 PHILOSOPHY

APA(I) Award(s): 1

Collaborating/Partner Organisation(s)

TIRI

Administering Organisation The Australian National University

Project Summary

The emerging market economies of India and China have become central to world economic growth. Despite a plethora of complex rules, regulatory reform agendas and industry-designed codes of conduct, doing business in these markets remains exceptionally problematic. Working in partnership with some of the world's leading multinational corporations, the project will lead to important practical and conceptual advances in the design and implementation of institutional integrity systems. This work has significant advantages for the emerging market economies and those seeking to enter into or expand their operations there. Moreover, it will add significantly to the visibility and leverage of Australian research.

LP0883801 Prof TJ O'Neill; Prof RD Terrell; Prof AH Welsh; Prof MA Martin; Dr J Penm; Dr S Roberts; Mr TS Higgins

Approved Project Title **The improvement of investment approaches by developing and applying bootstrap methods to innovative evolutionary kernel-based subset time-series modelling.**

2008 : \$ 75,000

2009 : \$ 140,000

2010 : \$ 120,000

2011 : \$ 55,000

Primary RFCD 2302 STATISTICS

APA(I) Award(s): 2

Collaborating/Partner Organisation(s)

The Japanese Association of Administrative Science

Jiashan Fengyuan Co., Ltd.

The National Science Council in Taiwan

Rice Warner Actuaries

Administering Organisation The Australian National University

Project Summary

With over \$1 trillion of investors' monies in the hands of fund managers, the importance of efficient investment decisions across all industry sectors is self evident. Even if the modest target of systematically improving decision making by 1 or 2 % is set, the aggregate economic benefit achieved, given the compounding effects will be enormous. Any developed or developing country will profit from such advanced decision-making approaches. Therefore it is critical that more sophisticated statistical methods be established, and practical applications conducted, in order to advance the understanding of complexity management in the financial investment and other relevant sectors.

Summary of Linkage Projects Proposals for Funding to Commence in 2008

LP0883652 Dr KJ Reynolds; Dr B Bizumic; Ms E Subasic; Ms K Melsom; Ms FF MacGregor

Approved Project Title **Understanding the school as an intergroup system: Implications for school reform and improving student and staff outcomes.**

2008 : \$ 55,000
2009 : \$ 110,000
2010 : \$ 110,000
2011 : \$ 55,000

Primary RFCD 3801 PSYCHOLOGY

Collaborating/Partner Organisation(s)

ACT Department of Education and Training

Administering Organisation The Australian National University

Project Summary

This project applies a novel social psychological understanding of group processes and intergroup relations to Australian schools. The result is a new and promising framework that will be trialed and evaluated through this project. The central idea is that one's group memberships and associated norms and practices directly impact on the attitudes and behaviours of individual members. The aim is to change the relevant groups within a school and how they relate in order to build a more positive school climate and higher school identification and as a result, improve school outcomes (e.g., attendance, academic achievement, well-being).

LP0883613 Dr KJ Weber; Dr KR McIntosh; Dr H Jin; Dr MJ McCann; Dr I Melnyk; Dr P Fath

Approved Project Title **Minimising charge carrier recombination at silicon surfaces with improved dielectric coatings**

2008 : \$ 70,000
2009 : \$ 135,000
2010 : \$ 140,000
2011 : \$ 75,000

Primary RFCD 2402 THEORETICAL AND CONDENSED MATTER PHYSICS

APDI Dr H Jin

Collaborating/Partner Organisation(s)

Spark Solar

GP Solar

Administering Organisation The Australian National University

Project Summary

The project will help to develop a vibrant PV industry in Australia, creating substantial employment opportunities. Spark Solar - one of the project partners - is the first dedicated PV manufacturer in Australia. There is a large and rapidly expanding overseas export market for solar panels. In addition, the large scale deployment of photovoltaic systems will help to reduce greenhouse gas emissions and thus mitigate the magnitude and severity of the effects of global warming.