

# Summary of Linkage Infrastructure, Equipment and Facilities Proposals

## Victoria

### Monash University

**LE0989123** Prof Y Cheng; Prof BC Muddle; Prof GP Simon; Prof YS Estrin; Prof C Li; Dr H Wang; Prof GB Schaffer; A/Prof I Low; Dr MR Barnett; A/Prof L Kong; Dr C Wen; Dr BF Rolfe; Mr NA Stone; Dr S Lathabai; Dr MA Gibson; Dr RN Lumley; Dr AJ Seeber; Prof L Edwards; Dr PA Walls

**Approved Project Title** Spark Plasma Sintering (SPS) Facility for Advanced Materials Processing

**2009 :** \$ 575,000

**Primary RFCD** 2914 MATERIALS ENGINEERING

#### Partner Organisations & Collaborating Organisations

Monash University

Deakin University

The University of Queensland

Curtin University of Technology

CSIRO - Manufacturing and Infrastructure Technology

Australian Nuclear Science & Technology Organisation (ANSTO)

**Administering Organisation** Monash University

#### Project Summary

The establishment of the first Spark Plasma Sintering (SPS) facility would significantly enhance Australia's capacity in manufacturing of advanced materials, especially the more sophisticated and specialized materials, which is a National Research Priority. This facility will benefit a large number of researchers and projects in Australia's premier research organisations and will also meet the needs of organisations outside the consortium. It will allow Australian researchers to remain at the leading edge of research and enhance collaborations in advanced materials nationwide. The successful outcomes of these activities will underpin the advancement in many areas of research and technology developments in the country.

**LE0989471** Dr JS Forsythe; Dr AJ O'Connor; Prof GB Garnier; Prof GW Stevens; Dr GA Thouas; Prof JS Van Deventer; Dr W Shen; Dr SL Gras; Dr N Birbilis; Dr Q Chen; Dr JL Provis; Prof GP Simon; A/Prof GV Franks; Dr RA Caruso; Dr GM Forde; Prof WA Morrison; Prof MK Horne; Dr PG Farlie

**Approved Project Title** Facility for innovation in structural biomaterials engineering

**2009 :** \$ 300,000

**Primary RFCD** 2915 BIOMEDICAL ENGINEERING

#### Partner Organisations & Collaborating Organisations

Monash University

The University of Melbourne

**Administering Organisation** Monash University

#### Project Summary

Biomaterials are used in a diverse range of environments that impact on the way that all Australians live. The Facility for Innovation in Structural Biomaterials Engineering will greatly assist researchers to undertake cross-disciplinary projects aimed at improving human health eg. smart materials that assist stem cell therapies for treating deafness and spinal cord injuries, as well the way we live eg. more durable building materials for a sustainable national infrastructure. The facility will help Australia remain at the forefront of these high priority areas and see both individuals and industry benefit from advanced biomaterial products.

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**LE0989504** A/Prof MJ Stone; A/Prof PR Gooley; Dr MJ Scanlon; Prof SJ Langford; Dr JA Wilce; Prof F Separovic; Dr KL Tuck; Dr SP Bottomley; Prof JC Whisstock; Prof EC Reynolds; Prof PJ Scammells

**Approved Project Title** **Melbourne Biomolecular NMR Network**

**2009 :** \$1,400,000

**Primary RFCD** 2701 BIOCHEMISTRY AND CELL BIOLOGY

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

Monash University

The University of Melbourne

**Administering Organisation** Monash University

### **Project Summary**

The Melbourne Biomolecular Nuclear Magnetic Resonance (NMR) Network will support a broad range of basic research activities with long-term benefits for diagnosis, treatment and prevention of numerous diseases. Metabolomics studies will identify human disease markers and characterise the physiological consequences of pharmaceutical intervention. Reverse chemical genetics approaches will identify new drug candidates and reveal novel mechanisms for regulating the activities of target proteins. Structural and dynamics studies will reveal molecular details of drug/candidate action and provide guidance for rational improvements. Overall, the planned research activities will have significant benefits for human health.