

Summary of Discovery Projects Proposals for Funding to Commence in 2009

Victoria

Victoria University

DP0986192 A/Prof MC Duke; A/Prof LY Zou; Dr AJ Hill; Prof JY Lin

Approved Project Title **Designing the surface and structural properties of MFI zeolite membranes for low energy ion-selective desalination**

2009 : \$ 110,000

2010 : \$ 85,000

2011 : \$ 90,000

Primary RFCD 2906 CHEMICAL ENGINEERING

Administering Organisation Victoria University

Project Summary

Desalination is being established in response to climate change and growing demands on existing supplies. Fresh water from infinitely abundant ocean sources using little energy input will benefit communities by providing affordably a vital resource with minimal greenhouse gas emissions. Fresh water from current desalination costs \$2 per kl, being a major expense for a vital resource normally \$0.2 per kl. As energy input accounts for half of the desalination cost, the smart ion-selective membrane to be developed in this project has the capability to reduce desalinated water price by 50%. Such an advancement derived from fundamental material properties is a novel contribution to both science and membrane desalination

DP0988411 Dr X Yi; Prof E Okamoto

Approved Project Title **Private Data Warehouse Query**

2009 : \$ 80,000

2010 : \$ 80,000

2011 : \$ 30,000

Primary RFCD 2805 DATA FORMAT

Administering Organisation Victoria University

Project Summary

Information and Communications Technology (ICT) has dramatically altered the world's social and economic landscape. 'From data to knowledge' is one of priority challenges recognized by National ICT Australia. However, privacy concern may prevent it from realisation. This project aims to fulfil 'from data to knowledge' without breaching privacy of user's queries to a data warehouse. The outcomes of this project will create new directions in the research of private data warehouse query, and are applicable to stock exchange data warehouses and pharmaceutical data warehouses, where the user is reluctant to reveal his query to the data warehouse operator.