Major Grants for funding commencing in 2015

Examples of South Australian Discovery Early Career Researcher Award projects

South Australian (SA) research organisations will receive more than $5.6 million through the Australian Research Council DECRA scheme for 16 new research projects commencing in 2015.

Some examples of the SA projects are provided below.

To view the summaries of all successful projects, visit the ARC announcements page.

The University of Adelaide
DECRA Recipient: Dr Tanya Zivkovic (DE150101506)
Summary: Given Australia’s diverse ageing population, there is increasingly urgent need for culturally sensitive end-of-life care. Currently, end-of-life planning is promoted and standardised in the form of advance care directives, which have a lower uptake in culturally and linguistically diverse groups. The project aims to identify and theorise points of uptake and resistance to advance care planning in Australia’s largest Asian populations. This new knowledge will be used to develop strategies for cross-cultural understanding in relation to end-of-life care preferences. The outcomes will have a strong bearing on how community attitudes, the experience of individuals, professional protocols, and ultimately, legislation evolve in Australia.
ARC funding: $327,612

University of South Australia
DECRA Recipient: Dr Andrew Peterson (DE150100926)
Summary: The increasingly globalised world requires education and schooling in Australia to provide young people with the knowledge, skills and attributes needed to participate fully as global citizens. While the goals of Australian schooling and the national Australian Curriculum highlight the importance of preparing students for global citizenship, little is known about how schools and teachers interpret and apply this Curriculum. This project aims to use qualitative research methods to determine teachers’ work and students’ experiences, providing the first detailed account of educating students for global citizenship in Australian schools. The project aims to contribute to improved educational policy and practice, both in Australia and internationally.
ARC funding: $336,027

The Flinders University of South Australia
DECRA Recipient: Dr Nicole Thomas (DE150101108)
Summary: The brain has a remarkable capacity to provide a coherent experience of the world by seamlessly integrating sights and sounds from different locations. It is only after brain damage, or when faced with a high attentional load, that our limitations become apparent. The project aims to investigate these limitations by determining how spatial location influences attention in relation to distractibility, cross-modal input and emotionality. Eye tracking and physiological measures of arousal will be combined with traditional cognitive measures to provide a deeper understanding of spatial attention. This project aims to improve attentional models and develop innovative strategies to increase safety by decreasing inattention and distraction.
ARC funding: $352,000
The Flinders University of South Australia
DECRA Recipient: Dr Margaret Shanafield (DE150100302)
Summary: Australia is the world's driest continent, and reliant on groundwater for survival and livelihood. A clear understanding of how our groundwater is replenished is therefore imperative. Groundwater recharge is difficult to quantify because it occurs as infiltration beneath streambeds in response to rain events. This project aims to combine field data from fibre optic temperature sensing, radio-isotopes, and remote sensing into streamflow and catchment scale models to characterise connections between infiltration and recharge in an Australian catchment. The project aims to produce easily applicable tools to predict aquifer replenishment after storm events and predictions of groundwater availability under future climate conditions.
ARC funding: $357 170

University of South Australia
DECRA Recipient: Dr Chia-Chi Chien (DE150100564)
Summary: This inter-disciplinary project aims to develop advances in in vitro models aimed at elucidating the delivery and transport of diagnostic and therapeutic nanomedicine agents in tumour tissues. The project aims to build on advanced tissue engineering principles and state-of-the-art micro-fabrication technologies to remove the limitation associated with animal studies and provide unprecedented mechanistic insights into the delivery, transport and binding of nanomedicines into tumour tissues.
ARC funding: $375 000

The University of Adelaide
DECRA Recipient: Dr Nan Hao (DE150100091)
Summary: The DNA inside the cell is not just a repository of information, but is an active player in how that information is used. Proteins bind to defined locations on the DNA to control which genes are active, and genes are expressed by RNA polymerases that track along the DNA. Collisions between RNA polymerases and DNA-bound proteins can remove the proteins or block the polymerase. How can these essential processes safely coexist on the DNA? The project aims to integrate systematic experiments using well-defined genetic components and mathematical modelling to understand the ‘design’ features of DNA and proteins that minimise these traffic problems. A better understanding could inform new strategies for manipulation of gene expression.
ARC funding: $341 000

University of South Australia
DECRA Recipient: Dr Adam Loch (DE150100328)
Summary: Transaction costs provide social, economic, environmental and political barriers to the effectiveness of water reallocation policy in Australia. These costs are often difficult to quantify, but potentially are subject to measurement. This project aims to develop a comprehensive transaction cost framework for the Murray-Darling Basin that can be used to capture and measure transaction costs related to water policy. Further, the scope of the cost measurement will involve a variety of data collection approaches. Outcomes include better water policy and management from arrangements that will span the divide between the Basin Plan and its implementation.
ARC funding: $374 000