

MEDIA RELEASE

NEWS FROM THE UNIVERSITY OF TASMANIA

DATE: WEDNESDAY 9 SEPTEMBER 2009

ATTENTION: Chiefs of Staff, News Directors



Four UTAS researchers win ARC Future Fellowships

Four prestigious four-year research fellowships have been awarded to researchers to undertake their work at the University of Tasmania.

Selected for being of national significance, the UTAS projects aim to reduce workplace depression; identify new pharmaceutical drugs and diagnose diseases; analyse carbon dioxide's relationship with the Southern Ocean; and determine if the evolution of eucalypts is affecting Australia's biodiversity.

The inaugural Australian Research Council Future Fellowships – worth up to \$740,000 each – were announced today by the Federal Minister for Innovation, Industry, Science and Research, Senator Kim Carr.

The fellowships were established to prevent Australia losing its world-class researchers overseas and to attract leading international researchers to move to Australia.

Two fellowships were awarded to current UTAS researchers who are internationally recognised in their fields and the other two fellowships went to USA-based researchers who are moving to Tasmania to undertake research at UTAS.

UTAS Vice-Chancellor Professor Daryl Le Grew said the awarding of four ARC Future Fellowships to University of Tasmania researchers confirmed the university as one of the nation's leading research institutions.

The UTAS recipients of ARC Future Fellowships are:

- Dr Kristy Sanderson, Menzies Research Institute.
Epidemiologic and economic approaches to reduce the burden of depression and related chronic diseases in the workforce.
- Dr Emily Hilder, Australian Centre for Research on Separation Science (ACROSS).
High performance chromatography based on nanostructured monolithic polymers.
- Dr Joe Bailey, Tennessee, USA.
Community and ecosystem consequences of adaptive evolution in Eucalyptus.
- Associate Professor Pete Strutton, Oregon, USA.
Southern Ocean productivity and carbon dioxide (CO₂) exchange under current and future climate regimes.

Prof. Le Grew said: “The University of Tasmania, which is one of Australia’s research-led universities, is an excellent location for ARC Future Fellows to undertake their research.

“The epidemiological research being conducted by the Menzies Research Institute and the cutting-edge separation science being done at the Australian Centre for Research on Separation Science are both winning international accolades.

“Two of the Fellowships were awarded to enable two USA-based researchers to establish themselves at the University of Tasmania. One of these fellowships will be held in the newly-founded Institute for Marine and Antarctic Studies (IMAS) and will focus on carbon-dioxide in the Southern Ocean. The second fellowship will be held in the School of Plant Science and will focus on the genetics of eucalypts.”

ARC Future Fellowships is a five-year program running from 2009 to 2013 and offers four-year fellowships of up to \$135 000 a year. Administering organisations, such as the University of Tasmania, receive up to \$50 000 a year to support related infrastructure, equipment, travel and relocation costs.

More information about the ARC Future Fellowships scheme is available at http://www.arc.gov.au/ncgp/futurefel/future_default.htm.

Please contact communications@arc.gov.au if you require any further information about the ARC Future Fellowships.

To arrange interviews with either Dr Kristy Sanderson or Dr Emily Hilder please contact UTAS Communications and Media office on 6226 8519.

Information Released by:

**Communications and Media Office
University of Tasmania
Phone: 6226 28519 Mobile: 0418 510 121
Email: Media.Office@utas.edu.au**

Dr Kristy Sanderson, Menzies Research Institute.

Epidemiologic and economic approaches to reduce the burden of depression and related chronic diseases in the workforce.

Dr Sanderson's fellowship aims to help reduce the negative impact of depression on Australia's workforce.

New national estimates on the prevalence and associated productivity loss due to depression in the Australian workforce will be developed as part of the fellowship. Dr Sanderson will also develop new methods for quantifying the economic burden from work absenteeism and presenteeism (where employees are at work but, because of medical conditions, are not fully functioning).

Dr Sanderson will estimate the contribution of adverse psychosocial work environments to depression and quantify the productivity gains from improving mental health in an innovative intervention trial with small businesses.

"Depression takes an enormous toll on individuals, families, and employers and is a complex problem that requires solutions from different disciplines and involves industry working together," Dr Sanderson said.

Dr Sanderson's fellowship will include a series of collaborative studies that approach the problem of depression in the workforce from many different angles. It involves joint projects with colleagues at the Menzies Research Institute, the Schools of Management and Psychology at University of Tasmania, and at universities in Melbourne and Brisbane.

"The overall aim of this Fellowship is to use an applied epidemiologic framework to better understand the causes and consequences of depression in the workforce," she said.

Applied epidemiology integrates social, behavioural and economic sciences with population health sciences (epidemiology) to find real-world solutions to pressing public health problems.

Dr Emily Hilder, Australian Centre for Research on Separation Science

High performance chromatography based on nanostructured monolithic polymers.

Dr Hilder's research is in the general area of separation science - the separation of complex mixtures into their components, followed by the measurement of the amount of each component present. The heart of any separation science system is the column and Dr Hilder is designing "smarter" separation columns, which will make it possible to analyse and separate new pharmaceutical drugs and diagnose some early-stage diseases for the first time.

For example, Dr Hilder has been working on developing a system that can be used to identify one specific protein, which is used as a biomarker for disease, in a cell that has over 10,000 different proteins in it.

The new chemical separation system being developed as part of Dr Hilder's fellowship will be able to separate metabolites (small molecules created as the end product of metabolism) to enable diagnosis of some diseases, including early-stage cancers.

The new separation science technologies can also potentially be applied in a wide range of areas of national importance including pharmaceutical analysis and drug discovery; environmental, clinical, and forensic analysis; energy generation and foods.

The project will also lead to very significant new intellectual property having extremely high commercial potential worldwide and thereby generates the promise of considerable direct financial returns to Australia.

Dr Joe Bailey, Tennessee, USA

Community and ecosystem consequences of adaptive evolution in Eucalyptus.

Dr Bailey, who is currently working at the University of Tennessee, will explore whether the genes in eucalypts can affect Australia's biodiversity.

The fellowship will utilise an approach called, genes-to-ecosystems, which links ecology and evolution by studying the connections between genes and ecosystems.

Dr Bailey's fellowship aims to understand how the adaptive evolution of eucalypts, which might involve simple changes to one gene, may be having a wider impact on the whole ecosystem.

He will look at evidence that suggests that the genes in one plant species, like eucalypts, influence biodiversity and has wider impacts on soil fertility, carbon storage and pollination.

The outcomes from this fellowship may have implications for future eucalypt plantations and native vegetation regeneration and influence decisions on the choice of seed sources.

Dr Bailey will conduct his research within the UTAS School of Plant Science.

Associate Professor Pete Strutton, Oregon, USA

Southern Ocean productivity and carbon dioxide (CO₂) exchange under current and future climate regimes.

Associate Professor Strutton, who is based at Oregon State University, is a biological oceanographer, who studies the relationships between biology, chemistry and physics in oceans.

He has most recently been examining the air-sea flux of carbon dioxide and will join UTAS researchers in advancing our understanding of the Southern Ocean's role in carbon storage.

Assoc. Prof. Strutton has also examined the role that phytoplankton blooms play in ocean temperatures and quantified the heating caused by biological changes during the 1997-98 El Nino.

Assoc. Prof. Strutton is no stranger to UTAS, having collaborated with UTAS researchers on Southern Ocean and Antarctic research projects over a number of years. He will conduct his research as part of the new newly-founded Institute for Marine and Antarctic Studies (IMAS).