Thursday 30 July 2020

Uni research fellows to tackle climate change, reef ecosystem health and more efficient chemistry

The University of Tasmania has been awarded more than $3.4 million from the Australian Research Council's Future Fellowship scheme to pursue research of national significance that will help monitor the health of our marine environments, plan for climate change and improve access to valuable chemical compounds.

Minister for Education Dan Tehan announced the successful recipients of the scheme yesterday (Wednesday, 29 July), which supports mid-career researchers to undertake research in areas of national priority that provide economic, commercial, environmental, social and cultural benefits for Australia.

Four researchers from the College of Sciences and Engineering will lead projects that develop a new triage system to monitor the health of reef ecosystems; create tools that harness light and electricity to drive chemical synthesis; improve our understanding of climate extremes and its impact on infrastructure planning; and assess the sustainability of a powerful tool that can reduce atmospheric carbon dioxide.

College of Sciences and Engineering Executive Dean Professor Brian Yates welcomed the funding, which aligns to the College's core research strengths in climate science and environmental sustainability.

"Our researchers are committed to making a real difference for and from Tasmania, and we welcome the funding that enables this important work to take place," Professor Yates said.

"They are thought leaders in their respective fields and it's extremely gratifying to see their efforts rewarded through the prestigious ARC Future Fellowship scheme. I look forward to seeing the contributions that this research will make to our communities, both locally and internationally."

The four ARC Future Fellowship recipients are:

Dr Kathryn Allen, School of Geography and Spatial Sciences – Using past climate extremes to guide infrastructure planning for the future ($793,589)
This project aims to analyse a 2,000-year palaeoclimate record of single event and complex climate extremes to provide a long-term context for observed changes in climate extremes over recent decades. Expected benefits of the project include improved understanding of climate extremes and improved risk estimates for the impacts of climate extremes on Australian government and industry infrastructure.

Dr Lennart Bach, Institute for Marine and Antarctic Studies – Enhanced Weathering – a sustainable tool for CO2 Removal? ($787,057)
This project aims to be the first to assess risks and co-benefits of Enhanced Weathering for marine pelagic ecosystems. Enhanced Weathering is a powerful tool that can reduce atmospheric CO2 with significant economic co-benefits. However, it perturbs seawater chemistry and associated impacts on marine ecosystems are unknown. This project expects to combine state-of-the-art field and laboratory research to reveal whether Enhanced Weathering is a sustainable tool for CO2 Removal.

Associate Professor Alexander Bissember, School of Chemistry – Harnessing light and electricity to drive chemical synthesis ($914,404)
This project will explore and establish original strategies that use inputs of energy (light and electricity) to break or form chemical bonds, which can provide new or improved access to valuable compounds. The research will augment or enhance existing methods for the selective and direct manipulation of molecules by creating tools that allow chemists to prepare molecules under particularly mild conditions. It will contribute to making important compounds more efficiently, safely and cheaper to produce in the future.

Dr Scott Ling, Institute for Marine and Antarctic Studies – Reef health tipping-points: triage for threatened/collapsed reef ecosystems ($915,919)
The accelerating collapse of reef ecosystems represents one of the greatest threats for marine biodiversity and seafood production worldwide. To confront this emergency, this project will determine reef health tipping points and provide a new 'reef ecosystem triage' approach to prioritise the order of preventative treatments to safeguard threatened reefs, while directing remediation efforts to collapsed reefs where recovery is most probable.

Media contact: Nicole Mayne – 0438 408 314

Image attached: IMAS marine ecologist Dr Scott Ling measuring sea urchins off the East Coast of Tasmania. The long-spine sea urchin is an invasive species which is causing the collapse of Tasmanian reefs (Photo credit: Julian Manning).

Information released by:
Communications Office
University of Tasmania
+61 3 6226 2124
Communications.Office@utas.edu.au
Twitter.com/utas_