

# Thomas Davies Research Grant for Marine, Soil and Plant Biology

## 2021 recipients

- **Bonnie Holmes, University of the Sunshine Coast:** Investigate the movements, habitat use and population structure of great hammerheads (*Sphyrna mokarran*) off the Australian east coast
- **Amelia Wenger, The University of Queensland:** Improving marine ecosystem health through better wastewater pollution management
- **Jana Sperschneider, Australian National University:** The rust genome in 3D: uncovering gene control mechanisms that allow fungi to devastate crops and native species
- **Antony van der Ent, The University of Queensland:** Novel trace element hyperaccumulator plant discovery in Australia
- **Caitlin Byrt, Australian National University:** Deciphering desalination mechanisms from salt-excreting mangroves
- **Adam Frew, The University of Southern Queensland:** How do different mycorrhizal fungal communities affect plant defences against belowground herbivory?

## 2020 recipients

- **Dr Jennifer Lavers, University of Tasmania:** Seabirds as a vector for nutrients and pollutants on islands
- **Dr Fiona Walsh, Consultant ethno-ecologist:** What's in and beyond the 'fairy circles'? Investigation of patterns of pavements amongst desert spinifex grasslands
- **Dr Danielle Verdon-Kidd, The University of Newcastle:** Unlocking pre-instrumental climate secrets from the wood anatomy and isotopic composition of *Avicennia marina*
- **Dr Edwin Lampugnani, The University of Melbourne:** *Marchantia*; a simple model to study cellulose biosynthesis
- **Dr Mark Waters, University of Western Australia:** Interactions between light and smoke signals in plant development
- **Dr Elisabeth Strain, The University of Melbourne:** Assessing the role of restored and natural kelp forests in protecting against coastal erosion and ocean acidification
- **Dr Simon Williams, The Australian National University:** Establishing a synthetic biology platform for engineering plant innate immunity receptors

## 2019 recipients

- **Dr Joel Daniel Haywood, University of Western Australia:** Structure-based investigations into plant growth pathway proteins.
- **Dr Sambasivam Periyannan, Australian National University:** Protecting Australia's Eucalypt landscape from myrtle rust invasion by rapid identification of natural resistance.
- **Dr Adriana Vergés, University of New South Wales Sydney:** What are the food web implications of temperate reefs becoming increasingly dominated by tropical species?
- **Associate Professor Tracy Ainsworth, University of New South Wales Sydney:** The impact of a changing climate to New South Wales coral populations.
- **Dr Staffan Persson, University of Melbourne:** Monitoring fungal root wilt disease on canola in real-time.
- Associate Professor Heloise Gibb, La Trobe University: Can we restore soil microbial communities by reintroducing digging mammals?
- **Dr Cindy Gunawan, University of Technology Sydney:** Does the commercialised use of antimicrobial silver nanoparticles facilitate co-selection and spread of antibiotic resistance genes in marine microbiota? A metagenome study.

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## 2018 recipients

- **Isaac Santos, Southern Cross University:** *Coral reef calcification in the Great Barrier Reef following widespread bleaching*
- **Manoj Kumar, University of Technology Sydney:** *Identification of the molecular response of seagrasses to heavy metal pollution and ocean acidification*
- **Zoe Richards, Curtin University:** *Enhancing coral threatened species management with integrated phylogenomics*
- **Ashlea Doolette, The University of Adelaide:** *How do Australian native plants survive on low phosphorus soils? New insights using  $^{31}\text{P}$  NMR spectroscopy*
- **Allison van de Meene, The University of Melbourne:** *Dissecting mechanisms of cell wall deposition and variability for improved understanding of our crop plants and products*
- **Mark Farrell, CSIRO:** *An innovative method for probing active soil microbial function*

## 2017 recipients

- **Jan Strugnell, James Cook University:** *Dating the collapse of the West Antarctic ice sheet using next generation sequencing of marine invertebrates*
- **John Morrongiello, University of Melbourne:** *Marine extremes: understanding how marine heatwaves impact on fishes and fisheries productivity*
- **Jason Grant Bragg, National Herbarium of NSW:** *Climate cycles and blue gum populations: insights from the genome*
- **Peter Vesk, University of Melbourne:** *Testing the functional traits responsible for tree distributions in long separated branches of the eucalypt phylogeny*
- **Vanessa Wong, Monash University:** *Testing the functional traits responsible for tree distributions in long separated branches of the eucalypt phylogeny*
- **Jeff Powell, Western Sydney University:** *Decomposer interactions and carbon flux: termite influences on microbial wood decay within the TERN Australian SuperSite Network*
- **Christopher Fulton, The Australian National University:** *How will marine climate change affect seaweed growth on coral reefs?*

## 2016 recipients

- **Martin Francis Breed, The University of Adelaide:** *Adaptive potential in *Dodonaea viscosa* as a model for plant climate change adaptation*
- **Shu Kee Lam, The University of Melbourne:** *Overcoming the reduction in cereal grain protein under elevated CO<sub>2</sub> by the use of a nitrification inhibitor*
- **Peter Macreadie, Deakin University:** *Can overgrazing of seagrass destroy ancient carbon stocks?*
- **Robert Sharwood, The Australian National University:** *Unlocking the diversity of Rubisco catalysis from deep-sea ocean  $\alpha$ -cyanobacteria for eventual transplantation into higher plant chloroplasts to improve photosynthetic CO<sub>2</sub> assimilation*

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### 2015 recipients

- **Melanie Bishop, Macquarie University:** *Developing indicators of seagrass carbon storage*
- **Jonathan Plett, University of Western Sydney:** *Enhancing root health through a better understanding of plant genetics that enable mutualistic relationships with soil microbes*
- **Rebecca Lester, Deakin University:** *Carbon sequestration by wetlands: A fresh(water) approach to tackling climate change*
- **Shane Powell, University of Tasmania:** *Effect of pH changes on biofilm communities*