

## Australian Academy of Science Fenner Conference on the Environment 2021: Presenters and panellists

### Keynote speaker

**Prof. Hugh W. Pritchard** leads the Royal Botanic Gardens Kew's Comparative Seed Biology Group. His research focusses on seed survival and germination, including the molecular and biophysical basis of seed desiccation tolerance and patterns in the distribution of seed lifespan. Hugh manages international research projects funded by the European Union and the Darwin Initiative among many others and leads Kew's agreements with the Chinese Academy of Sciences and the Indian Council for Agricultural Research. He is a special advisor to the Crop Trust, Chairman of ISTA's Seed Storage Committee, an Executive Committee Member of ISSS and the Executive Editor of *Cryoletters*.

### Presenters and panellists

**Daniel Ballesteros** has been a research fellow since 2015 in the Comparative Seed Biology Group at the Royal Botanic Gardens, Kew, UK. Daniel has over 15 years of experience in diverse international centres focused in the science and preservation of plant genetic resources in USA, South Africa, Spain and Italy. He is known for his fundamental work on the physicochemical and structural basis of seed and spore desiccation, freezing tolerance and longevity. Daniel's research also has an applied component focused to the development and optimization of seed, spore and pollen storage protocols, including cryopreservation.

**Linda Broadhurst** has almost 20 years' experience applying molecular and ecological tools to enhance the long term persistence of vegetation. Her research has helped Natural Resource Managers and Non-Government Organisations to redefine their collecting practices to maximise genetic diversity in the seed being used for restoration projects.

**Eric Bunn** is a Research Scientist at Kings Park Science, Biodiversity Conservation Science, DBCA Western Australia. Eric manages the Conservation Biotechnology program at Kings Park, curating the tissue culture and cryopreservation collections. Eric's research has focused on endangered Australian native plants for ex situ conservation and translocation, establishing new in vitro propagation and cryopreservation methods for these species.

**Nathan Emery** is a Restoration Biology Officer at the Royal Botanic Gardens and Domain Trust, based at the Australian PlantBank, part of the Australian Institute of Botanical Science. Nathan's research is a combination of plant ecology, seed biology and restoration. He has worked with difficult to propagate species, such as *Actinotus* and threatened *Persoonia* species, and has developed several threatened plant translocation programs. He also works on the seed biology of threatened ecological communities in northwest NSW.

**Fiona Fraser** is currently the acting Threatened Species Commissioner. In this role, Fiona champions threatened species issues and oversees the implementation of the new Threatened Species Strategy. She has worked for the Australian Government for over a decade playing lead roles in Indigenous caring for country and natural resource management initiatives, international environment policy

and most recently co-led the bushfire wildlife recovery response. Before joining the public service, she worked with Aboriginal organisations in northern Australia on community-lead caring for country programs and joint management of protected areas.

**Bryn Funnekotter** is a Research Scientist at Curtin University and Kings Park Science, Biodiversity Conservation Science, DBCA, Western Australia. Bryn's research focuses on cryopreserving rare and threatened Australian native plants, with a focus on understanding the stresses imposed by the cryopreservation process.

**Lydia Guja** is the Manager of the National Seed Bank in the Australian National Botanic Gardens and a Seed Conservation Biologist at the Centre for Australian National Biodiversity Research (a joint venture between CSIRO and Parks Australia). Lydia's research focuses on achieving conservation outcomes for native Australian plants, through an understanding of the biology, ecology and stress tolerance of seeds and plants.

**Amelia Martyn Yenson** is a Project Manager at the Australian Network for Plant Conservation and coordinated updates for this third edition of 'Plant Germplasm Conservation in Australia'. She has research interests in seed lifespan and germination, with a focus on improving seed quality for conservation storage and utilisation of Australian native plant species. Amelia's research is based at the Australian PlantBank, part of the Australian Institute of Botanical Science, Royal Botanic Gardens and Domain Trust.

**David Merritt** is a Principal Research Scientist for Kings Park Science, Department of Biodiversity, Conservation and Attractions, based at Kings Park and Botanic Garden in Perth. David's research focusses on seed biology, physiology, and ecology to support seed and plant conservation and ecological restoration.

**Jayanthi Nadarajan** is the Team Leader for the Germplasm Conservation Team at Plant and Food Research, New Zealand. Jayanthi has over 16 years of experience in plant conservation science with a particular focus in seed conservation science and recalcitrant embryo cryopreservation. She advocates integrated conservation strategies which include conservation of pollen and seed, complemented by in vitro and cryopreservation techniques to mitigate the effects of biotic and abiotic threats in field / wild populations. Since the arrival of Myrtle Rust (*Austropuccinia psidii*) in New Zealand, much of her work has been focused on ex situ conservation of New Zealand's native, endemic and critically endangered Myrtaceae species.

**Cathy Offord** is the Manager of Germplasm Conservation for the Royal Botanic Gardens and Domain Trust, Sydney and is based at the Australian PlantBank, part of the Australian Institute of Botanical Science, in south-west Sydney. Specialising in the conservation and horticultural development of Australian plants, Cathy's work encompasses seed biology, tissue culture, cultivation and translocation of threatened species.

**Valerie C. Pence** is the Director of Plant Research at the Center for Conservation and Research of Endangered Wildlife (CREW) at the Cincinnati Zoo & Botanical Garden. Her work focuses on applying in vitro methods and cryobiotechnologies to the conservation of exceptional species. Her research has included developing protocols for the cryo-conservation of shoot tips, embryos, gametophytes, spores, seeds, and pollen of species from across the U.S., many critically endangered.

**Karen Sommerville** is a Research Scientist with the Royal Botanic Gardens and Domain Trust. Her research experience ranges from the reproductive biology and genetics of saltmarsh plants to symbiotic culture of orchids and the biology of rainforest seeds. She currently leads the Rainforest Seed Conservation Project at The Australian PlantBank, part of the Australian Institute of Botanical Science, working to determine which Australian rainforest species are suitable for seed banking and which require alternative methods of ex situ conservation.

**Gibson Lainza Sosanika** is a lecturer with the Forestry Department at Papua New Guinea University of Technology. He worked for over 10 years with forest owners to establish a 50 hectare forest dynamics survey plot using Center for Tropical Forest Science (CTFS) protocols, documenting over 500 species and 350 000 stems in lowland rainforest in Papua New Guinea. His research focus is the collection and conservation of most native plant species along an altitudinal gradient from the coastline to the inland mountains, and establishment of new ex situ conservation collections using MSB Kew's seed processing and conservation procedures.

**Karin van der Walt** is the Conservation and Science Advisor at Ōtari Native Botanic Garden, Wellington, New Zealand. She works on the ex situ conservation of New Zealand plant species and her work encompasses conventional seed banking, tissue culture and cryopreservation as well as long term pollen storage for key threatened species.

**Damian Wrigley** is the National Coordinator of the Australian Seed Bank Partnership; Australia's National Focal Point for the Global Strategy for Plant Conservation under the CBD; and the Oceania Representative to the CITES Plants Committee. Damian is hosted by the Australian National Botanic Gardens.