

SYMPOSIUM

THE CHANGING FACE OF BIOLOGICAL COLLECTIONS – DATA, SCIENCE AND APPLICATIONS

Friday 20th October 2023
Canberra



THE CONTEXT

The fundamental role biological collections play in supporting science, decision-making and industry applications has received renewed recognition given the biodiversity extinction crisis, and advances in technology that can now rapidly generate new data and insights from historical specimens. Biological collections are those physical collections of specimens residing in herbaria (including seed, pollen etc), faunal collections (e.g. insects, fish, mammals, birds, reptiles) and paleontological collections. Biological collections have, for centuries, provided the basis of classical (morphological) taxonomy, been used to catalogue biodiversity, and been a valuable resource for studying changes in ecology and evolution such as biodiversity loss and invasive species. Novel techniques in genomics, advanced imaging, and sampling mean that more information than ever before can be obtained from biological specimens. Indeed, the historical value of these collections coupled with technological and scientific advancements, is delivering benefits beyond their intended purpose that will demand more integrated eResearch capability.

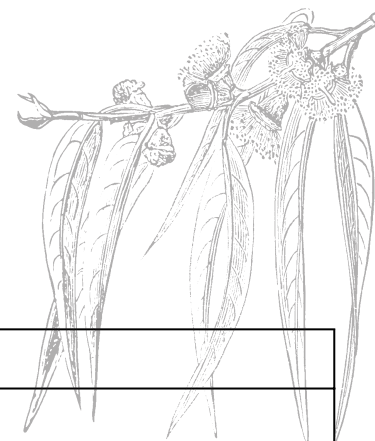
From 18th to 19th October 2023 Australia will be hosting the Governing Board Meeting of the Global Biodiversity Information Facility, bringing international delegates from across the biological collections, biodiversity science and e-Research domains to Canberra to further develop a global strategy to better share fundamental biodiversity data. Leveraging this decadal opportunity, this symposium will bring together international and Australian stakeholders to explore the changing face of biological collections and their role in supporting cutting-edge science, and novel biodiversity applications including environmental management and policy. It will provide international and domestic stakeholders with an opportunity to engage, learn and support the design of a future state.



Grey-headed Flying-Fox (*Pteropus poliocephalus*)
Photo Credit nlarghi CC BY NC



PROGRAM



Dates	Friday 20th October 2023
Time	10:00 - 16:00
Location	Discovery Theatrette, CSIRO Black Mountain, Canberra https://goo.gl/maps/fryoSkowAg165RG3A
Contact	Heather.Walsh@csiro.au

No.	Item	Chair	Time
	Arrival & registration	All	9:30 - 10:00
1	Welcome & Acknowledgement of Country	David Cantrill	10:00 - 10:15
2	Keynote address - Pam Soltis (Florida Museum of Natural History) - The changing face of biological collections	David Cantrill	10:15 - 10:45 10:45 - 11:00
3	Speed talks #01 - Transforming physical collections to rich data - innovations & technology <ul style="list-style-type: none">• Clare Holleley (CSIRO) - The essential role of museums in epigenetic time-travel and historical gene expression• Vince Smith (Natural History Museum, UK) - AI innovations to accelerate digitisation and data use• Andreas Zwick (CSIRO) - Scaling up collection genomics• Bob Godfree (CSIRO) - Modelling species distributions using herbarium specimen records: is the data as good as we think• Dan Falster (University of New South Wales) - AusTraits: Why biological collections are key to operationalising trait-based methods• Panel Session	Andrew Young	11:00 - 12:15
4	Lunch		12:15 - 13:00



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No.	Item	Chair	Time
5	<p>Speed talks #02 – Knowledge from data – A new frontier supporting science and policy</p> <ul style="list-style-type: none"> • Kevin Thiele (Department of Climate Change, Energy, the Environment and Water) – Driving a step change in biodiversity data, information and knowledge • Jordan Bailey (Department of Primary Industry, NSW) – How collections support biosecurity, trade and market access • Chris Bourke (CSIRO)- Supporting Indigenous rights and the protection of Indigenous knowledges in biological collections • Tim Hirsch (Global Biodiversity Information Facility) - Data use in research and policy • Panel Session 	Ilona Stobuzki	13:00 - 14:00
6	<p>Speed talks #03 – Directions in infrastructure – challenges and opportunities</p> <ul style="list-style-type: none"> • Kirsti Abbott (Museum and Gallery of the Northern Territory) – Active care and amplified impact of modern faunal collection • Ely Wallis (Atlas of Living Australia) – Connecting the dots: the transformative opportunities of the digital extended specimen • Andre Zerger (Atlas of Living Australia) - Is the future passing us? Reflections from a national biodiversity data infrastructure • Joe Miller (Global Biodiversity Information Facility) – A view of GBIF mediated data viewed through the new data model • Panel discussion 	Tim Hirsch	14:15 - 15:15
7	<p>Reflections and synthesis</p> <ul style="list-style-type: none"> • Tim Littlewood • Pam Soltis • Audience Q&A 	Andrew Young	15:15 - 15:45
8	Close	David Cantrill	15:45 - 16:00
9	Drinks and nibbles	All	16:00 onwards

Photo credits cover page:

1. Eastern Cleaner Clingfish (*Cochleoceps orientalis*)

Photo Credit Harry Rosenthal CC BY NC

2. Orange Pore Fungus (*Favolaschia claudopus*)

Photo Credit Reiner Richter CC BY NC SA

3. Apostlebird (*Struthidea cinerea*)

Photo Credit Anne Love CC BY NC

4. Kimberley Ghost Crab (*Ocypode fabricii*)

Photo Credit Mary-Hunter CC BY NC

