

BIOPLATFORMS AUSTRALIA

Catalysing collaborations for translation of research to applied outcomes

Dr Sophie Mazard
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INFRASTRUCTURE






RESEARCH INFRASTRUCTURE

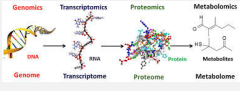







BIOMOLECULAR RESEARCH INFRASTRUCTURE

Needed for Life science researchers to study biological components at molecular level

- Specialised equipment
- High level of expertise
- Complex (bio)informatics support



Bioplatforms Australia investment for Life Science research through the **Australian Government's National Collaborative Research Infrastructure Scheme**



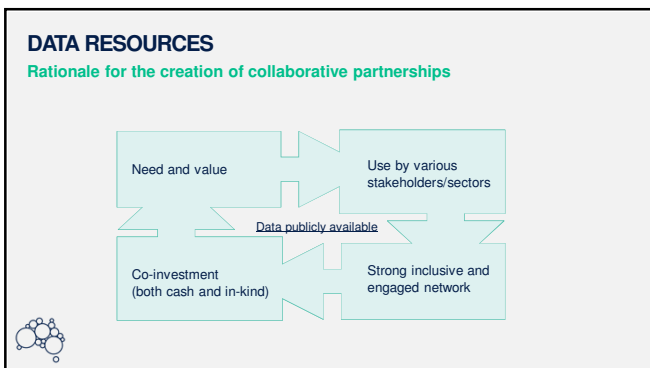
FRAMEWORK INITIATIVE

A capability for the Australian research community

- ❑ Catalyse national and international **collaborations**
- ❑ Deliver **large scale data** for national scientific challenges
- ❑ Facilitate development of **workflows and analytic pipelines** of broad utility

Nationally - Internationally recognised initiatives

Other projects e.g. chardonnay, cane toad



FRAMEWORK INITIATIVE CASE STUDIES

A tool for conservation and management

www.ozmammalgenomics.com
@OMGenomes

Central resources to understand and protect Australian mammals and native Australian Plants

- ❑ Establish genomics capabilities in Australian museums, herbaria, botanic gardens, and government agencies
- ❑ Increase awareness of role of genomics in management

www.genomicsforaustralianplants.com
@PlantsAus

SUPPORTING CONSERVATION MANAGEMENT

Case study: the rufous hare-wallaby (Mala)

How genetics can inform threatened species management

Collaboration:

- Australian Wildlife Conservancy
- Department of Biodiversity, Conservation and Attractions, WA
- University of Sydney



Recommendations on specific individuals from captive breeding programs to translocate to maximise genetic diversity for the best founding population in the Newhaven Wildlife Sanctuary in the Northern Territory.



ozmammalsgenomics.com/conservation-genomics/

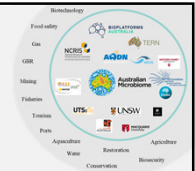
AUSTRALIAN MICROBIOME

> 45 organisations, international partners



An Australian microbial genomics resource for management, monitoring, and R&D

- Soil
- Water
- Coral
- Kelp
- Seagrass
- Sediment



www.australianmicrobiome.com
@AusMicrobiome



SUPPORTING LOCAL MANAGEMENT

Case study: monitoring coastal water quality

Microbes as tools to track the source of pollution

Nathan Williams, UTS
(Justin Seymour, Nashon Siboni)

Talk in session 8B, 10.15am



Disclaimer: not an Australian Microbiome supported activity

COASTAL WATER MONITORING

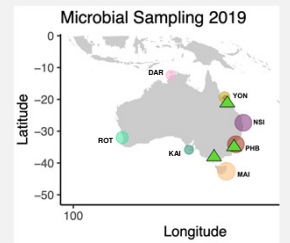
National reference station for baseline data

National Reference Station (IMOS, UTS, CSIRO, MQ, UNSW, UoN)

- 7 sites, monthly (some since 2012)

Australian Coastal Microbial Observatory Network (IMOS, AIMS, EPA Vic, UNSW, UTS)

- Botany Bay, NSW; Great Barrier Reef, QLD; Port Phillip Bay, VIC; 2-weekly or monthly



ESTUARIES, COASTAL LAKES AND LAGOONS

Establishing environmental health indicators

Mapping estuarine health from the sediment microbiome, East coast
[MQ, OEH, UNSW, CSIRO]

- 5 locations along 15 estuaries

Indicators of water quality health in coastal lakes [UoN, MQ, UTS, OEH]

- Central Coast lagoons, Northern Beaches Lagoons, Hawkesbury River, Brisbane Water, Lake Macquarie and Tuggerah Lake

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