APRIL | 2023

BIO-BABBLE

Newsletter of the Australasian Biospecimen Network Association

ONE DOWN, 3 TO GO!

Welcome to our April edition of Biobabble!

The month of April has been particularly chaotic for all of us juggling short weeks and public holidays - not to mention bunny duties for those with children! We hope you've all enjoyed some time off.

April was also a hive of ABNA activity with many of our members returning datasets for our Specimen Locator launch, preparing to travel to Seattle in a few days for the ISBER meeting and attending the first seminar of our 2023 Seminar Series. On behalf of the seminar sub-committee I would like to personally thank Associate Professor Jennie Hui from the Busselton Population and Medical Research Institute, Bradley Desmond from the Australian Seed Bank Partnership and Julie Elmers from the Council of Heads of Australian Faunal Collections for their diverse and exciting presentations.

Seminar 2 presenters

Dr Anusha Hettiaratchi - University of NSW Biospecimen Services

Dr Chris Gorman - Telethon Kids Institute

Dr Izabela Piotrowska - Boehringer Ingelheim Pharma GmbH & Co

Moving forward our next seminar will take place on 6 June and registrations remain open for anyone yet to join. Seminar two will focus on Diversity in Biobank offerings and we are delighted to be joined by a diverse panel of speakers who will explore clinical trials biobanks, academic biobanks and industry biobanks.

Key Dates:

Seminar 2: 6 June - virtual
Seminar 3: 5 September - Virtual
Seminar 4: October Annual Meeting

MUSEUM BANKING - JOURNEY TO THE PAST

By Cassandra Griffin

Despite our ever-expanding understanding of biobanking and diversity within the field - many of us still wouldn't think 'biobank' when visiting our favourite museum. While museums are known for their art galleries, ceramic collections, historical jewellery, clothing or displays, they can also hold large scale biological collections - many of which are frequently distributed for research purposes. The Australian Museum houses over 22 million specimens available for research including animals, fossils, minerals, plant matter, insects and human remains. Samples are extensively annotated with unique specimen registration numbers linking to collection related data, cultural affiliation or results of additional analysis.

The Natural Museum Research Institute specialises in taxonomic and systematic research on their 190 year old collection. The collection places an emphasis on reducing the need for further collection, particularly with respect to endangered or vulnerable species and on minimising the impact that sample collection practices have on rapidly degrading environments. Of the wider collection, 1.2 millions species records are catalogued in the Atlas of Living Australia (ALA). ALA is a partnership between CSIRO and the Australian Natural History Collections community and contains not only annotating sample data, but also open source tools useful for interpretation and mapping tools to track trends.

Australia is fortunate to have a highly networked community of museum biobanks with groups such as Council of Heads of Australian Faunal Collections (CHAFC), Council of Heads of Australian Herbaria (CHAH) and Australian National Insect Collection (ANIC) among many others.

Museum specimen types: a different biobanking dialect?

Type - A term used alone or as part of a compound term used for a kind of specimen or taxon.

Type series - The original name-bearing specimens used to define a species-group taxon.

Type species - The (nominal) species that is the name-bearing type of a genus or subgenus.

Syntype - Each specimen of a type series (of equal rank) when no holotype or lectotype has been named.

Lectotype - A syntype later designated as the one name-bearing type specimen.

Neotype - The specimen designated as the name-bearing type of a nominal species or subspecies for which no holotype, or lectotype, or syntype, or prior neotype is b**elieved to exist.**

Paralectotype - The type specimens remaining after a lectotype is designated.

Paratype - Specimens of the type series other than the holotype.

Chirotype - This term is sometimes used to refer to type specimens before the manuscript is published. When the paper describing the species is published, the specimens are no longer chirotypes but become true type specimens (see above).

Photo Credit: Australian Museum

Melbourne Museum – Ian Potter Australian Wildlife Biobank

The Ian Potter Australian Wildlife BioBank tissue and DNA collection is a cryogenic repository of samples across diverse faunal groups including birds, mammals, fish reptiles, amphibians, echinoderms, cephalopod molluscs and land snails. The equivalent of a national seed bank, the new liquid nitrogen facility at the Melbourne Museum will afford Museum Victoria researchers the ability to store viable reproductive tissues to facilitate research into reproductive biology – particularly in threatened species.

The new facility will allow Museum Victoria to transfer its collection of 44,000 wildlife tissue samples from its freezers currently located in their existing ISO 17025 accredited biorepository into liquid nitrogen cooled cryotanks which at -185 degree will prevent sample degradation over time.

Museum Biobanking Abroad: Forensic legacy of the Khmer Rouge

The atrocities committed by the Khmer Rouge and wide spread attempts at genocide remains in the living memory of many Cambodians. Despite many tribunal cases ongoing, the country has taken steps to memorialise many of the dead in visible, biological monuments that provide both poignant memorials but also reservoirs for forensic investigation in both current and future legal proceedings.

Navigating cultural, social and legal imperatives around biospecimen management has been challenging for the Cambodian community. When Pol Pot's torture prison, Tuol Sleng, was made into a genocide museum in 1980, human remains from the mass graves were utilised to construct a skull map which hung in the museum until 2002, involving approximately 300 skulls as well as long bones. The collection was removed shortly after following calls cremation of the remains so that their souls could find peace according to Buddhist belief. This was in direct opposition to the government directive that the remains should be preserved as evidence of the crimes committed and for educational purposes. In 2003, a subset of skull specimens were utilised in an exhibit in the Tuol Sleng museum to demonstrate the value of forensic evidence for the ongoing 'Crimes Against Humanity' trials. The skulls were chosen to illustrate the types of trauma inflicted and the violence perpetrated.

Ongoing storage of biospecimens utilised for forensic purposes involves plexiglass cases on wooden pedestals with plexiglass utilised to protect biospecimens while the slats in the pedestals facilitate the movement of spirits ensuring cultural sensitivity.

S21 and Killing Fields Cambodian Memorial
Photo Credit: Go Cambodia Tours

5 MIN WITH A BIOBANKER

We approach a different professional in the biobanking arena with the same five questions each month.

This month we speak with Professor Frank Grutzner. Prof Grutzner is the Group Leader of the Comparative Genome Biology Group, University of Adelaide.

THE QUICK QUESTIONS

Red or white wine? Red

Mac or PC? Mac

Batman or Superman? Superman

Lord of the Rings or Harry Potter? Harry Potter

How long have you been working in biobanking?

>20 years collecting thousands of samples for the Monotreme Resource Centre. During my PhD at a Max Planck Institute I witnessed the set up of a resource centre for genomics research and experienced first hand its potential in enabling research and collaboration.

Which advance in science/research do you think has had the most impact on you as a biobanker?

The sequencing revolution. The platypus genome project was only possible because we had material that could be used. Starting in 2004 it took 4 years and several million dollars in funding. Now that it has become so much cheaper and possible to generate large scale molecular data from a myriad of species, collections of samples have become even more critical for research.

In retrospect, given the experience you have now, what one piece of advice would you give to yourself at the start of your biobanking career?

Take as much notes as possible and careful cataloguing. For as much as I dislike this part, samples with uncertain origin and identity are useless (as are the data generated from it).

What is the craziest thing you have done to save a sample/s?

Driving about 1,000km nonstop back to the lab from a sample collection trip as I was running low on dry ice.

Your career on record: name 3 songs/albums that best tell the story of your biobanking career:

ABC classic is my lifesaver when on the road...

ISBER 2023 AWARD WINNERS

ISBER has announce the 2023 Award Winners! Join us in congratulating the award winners below. ABNA is especially thrilled to have one of our members, Helen Morrin included in this list. Congratulations to all the awardees.

ISBER 2023 Outstanding Achievement in Biobanking

Peter Watson

ISBER 2023 Distinguished Leadership and Service Award

Monique Albert

ISBER 2023 Special Service Awards

Annemieke De Wilde

Helen Morrin

Rita Lawlor

Emma Snapes

Tamsin Tarling

MACH BIOBANK REGISTRY

MACH
Melbourne Academic Centre for Health

The Melbourne Academic Centre for Health (MACH) is an NHMRC-accredited joint venture between Victoria's top healthcare providers, medical research institutes and leading universities. Their purpose is to facilitate collaboration between academia and healthcare to accelerate the translation of innovative research into clinical care and better patient outcomes. As part of this initiative, the MACH Biobank Registry has been developed and is now available on-line.

The MACH Biobank Registry features information on collection types, materials stored and contact information for access to biobanking facilities across MACH partner organisations. Importantly, consent forms are available to download or on request providing detailed information about each facility. While this is not a complete and comprehensive list of biobanks or cohorts stored across MACH partners, they are actively seeking to add facilities and resources that could be helpful to others.

You can access the MACH Biobank Registry **HERE**.

ISBER ANNUAL MEETING

Register now to attend the ISBER 2023 Annual Meeting!

Biobanking science and practice is a multidisciplinary system integrated with many dynamic fields, including but not limited to, biobanking research, technology, management, policy, regulation, economics, industry, politics, security, quality, and ethical-religious-legal-cultural-social issues. Interaction and communication among the boundaries of these fields are critical and indispensable for the biobanking success and this is central to the theme of the ISBER 2023 Annual Meeting - Come as You Are: Building Biobanking Bridges. Biobanking is shaping the scientific journey in a new world. Be part of the discussion.

Join us for the virtual meeting from June 7-8!
The virtual meeting will feature:

- Live sessions (scheduled at varying times to ensure delegates from around the globe can participate
- Round table discussions
- Workshops
- On-demand sessions (watch at your convenience, per your availability)
- Symposium sessions, oral abstract presentations and poster presentations
- Corporate workshops
- Networking opportunities
- Option to instant message with meeting delegates
- Live chat feeds

More information, visit: https://www.isber.org/page/ISBER2023AnnualMeeting

2023 REGIONAL MEETING!

If you have any suggestions for a short article for Bio-Babble, please contact: abna.biobabble@gmail.com
Content deadline for May edition: 19.05.23

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