

Newsletter of the Australasian Biospecimen Network Association

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CONFERENCE UPDATES

ACCREDITATION WORKSHOP

Following consultation, the final session of our Accreditation Seminar Series will focus on Biobanking risk and contingency planning as well as disaster preparedness. Exploring the role of key ISO standards in preparation and planning with the use of practical examples, this session is designed to consolidate understanding of concepts introduced in the previous sessions and allow for greater in-depth discussion within a specific context.

PANEL DISCUSSIONS

The 2022 conference program has two panels embedded within the program to facilitate engagement and discussion.

"Industry collaborators - friend or foe?" will commence with virtual presentations by Professor Georgina Hold and Dr Jugnu Jain, followed by a discussion with 4 panelists who will be attending the conference in-person. Dr Jain is the CEO and co-founder of [Sapiens Biosciences](#), India's first commercial biobank associated with India's largest hospital network. Professor Hold will be presenting in her capacity of Chair of the South Eastern Sydney Local Health District Human Ethics Committee. Prof Hold is featured in this month's 5min with a Biobanker.

Our second Panel Discussion features in the **Donors and Beneficiaries** session and will include Margaret Wood a passionate consumer representative as well as Co-Chair and inaugural member of the Telethon Kids Cancer Centre (TKI) Community Reference Group in Perth, providing a consumer and community perspective on research activities across TKI.

DEBATE

For the first time our conference program will have a formal Debate: "Consent - One model fits all". The debate will feature Dr Craig Willers arguing for the affirmative and Dr Amanda Rush for the negative.

ABSTRACTS

Abstract submissions are still being accepted until **5pm (AEST) this Friday, 29th July**. The categories this year are:

- Aquatic Biobanking
- Donors and Beneficiaries
- Challenging Ideas
- Precious Resources in Biobanking
- Agricultural Biobanking and Biodiversity
- Zoological Biobanking
- Biobanking and Innovation
- Biobanking Research

Prizes will be awarded for: Best Poster, Best Rapid Fire Presentation (5 min) and Best Oral Presentation (15 min).

5 MIN WITH PROFESSOR GEORGINA HOLD

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



PROF GEORGINA HOLD

Professor of Gut Health and Chair of the South East Sydney Local Health District Human Ethics Committee

THE QUICK QUESTIONS

Tea or Coffee? Tea

Cats or Dogs? Dogs

Coriander? Yes

Star Trek or Star Wars? Star Wars

1. How long have you been working in biobanking?

Since 2002

2. What has been the biggest biobanking challenge you have faced in your career so far?

As a researcher who is involved in collecting biospecimens from participants as part of longitudinal cohort studies, getting human research ethics committees to appreciate the difference between biospecimen collection and biobanking. I overcame this by joining the ethics committee, developing specialist knowledge in the field and dedicating time to supporting HRECs to recognise the distinction.

3. What are you excited about that is happening in your biobank/what is your biobank doing that is new and innovative?

My answer to this comes from an ethics perspective and I would highlight that ethics committees are completely pro-research and want to support good research. However, we need clear guidance at the state/national level in order to support the biobanking community especially as biobanking is constantly evolving. My HREC is taking the initiative in NSW to define this guidance with the hope that we can prepare ourselves to more consistently support biobanking requests.

4. What is your one wish as a biobanker?

My one wish is to ensure that the biospecimens we have collected can help make a difference in understanding health conditions and ultimately improve the health of our global nation.

5. Three words that best describe your biobanking career:

Challenging, thought-provoking, time-consuming

ABNA 19TH ANNUAL CONFERENCE

Biobanking – Blue Sky Horizons

19 – 21 October 2022

Rendezvous Hotel Perth Scarborough, Western Australia

[CLICK HERE FOR CONFERENCE WEBSITE](#)

THE SWEDISH BIOBANK ACT

In Sweden, the Act of Biobanks in Medical Care (2002:297) also known as the Swedish Biobank Act governs how human samples can be stored and used. The current Biobank Act has been criticised for being unclear, outdated and creating unnecessary administration, thereby increasing costs for healthcare and research. Last month the Swedish government announced it will be implementing a new updated Biobank Act in 2023 which includes several changes that are expected to help reduce administration and costs as well as help speed up processes when conducting clinical trials, without diminishing the protection of the sample donor.

Some of the changes that will apply under the new legislation:

- The scope of the new Biobank Act is broadened to apply to all identifiable human samples that are collected, stored or used regardless of where the samples are collected. This is different to what applies today as the current Biobank Act only applies to samples collected within a healthcare setting. This means, for example, that samples collected directly by a pharmaceutical company will be covered by the new Biobank Act.
- The new Biobank Act will apply to samples that are stored for more than 9 months from the time of sampling, as well as to the time prior to this, if the intention is that the sample is to be stored for more than 9 months or if the sample is not destroyed immediately after it has been analysed. Under current legislation, samples taken as routine samples have to be stored for a shorter period than 2 months or analysed within 6 months if taken for research purposes in order for the biobank legislation not to apply. The extended period of time during which samples may be stored without the legislation becoming applicable is expected to incur less administration and to help facilitate clinical trials.
- The concept of primary and secondary sample collections is abolished in the new Biobank Act. This means that a pharmaceutical company can be directly responsible for biobank samples. This is also expected to shorten processing times and to help speed up the process of conducting clinical trials.
- The general ban on final storage of samples abroad has been removed. Instead, the new Biobank Act provides for samples to be transferred outside Sweden for activities such as analysis, whereby an agreement must be in place between the principal of the biobank and the recipient regulating (i) that the samples must be returned or destroyed immediately if the biobank custodian so requests, and (ii) that the recipient may not use the samples for anything other than the purpose for which the samples were made available to the recipient. The requirement that applies in today's legislation that samples must be returned or destroyed once no longer needed will thus not apply under the new Biobank Act.
- The new Biobank Act provides a possibility for authorities to issue regulations regarding traceability of the samples in the case of transfer outside Sweden. Whether such a regulation will be issued is yet to be seen.



ISBER 2023 ANNUAL CONFERENCE

ISBER's 2023 Annual Meeting will take place in Seattle, USA from May 3 - 6, 2023 and last month ISBER announced the three conference co-chairs for this meeting -- Dr Dayong Gao, Dr Anusha Hettiaratchi, and Dr Birendra Yadav. To learn more about the chairs please see below.

The 2023 Program Planning Task Force has members from each of ISBER's four regions: Americas, Indo-Pacific Rim, China and Europe, Middle East & Africa, with varying biobanking interests and experience. ABNA members Prof Jennifer Byrne and Dr Wayne Ng, along with ABNA President Cassandra Griffin are part of the Task Force.



Dr. Dayong Gao is the ORIGINCELL Endowed Professor in Mechanical Engineering and Bioengineering, and Director of the Center for Cryo-Biomedical Engineering and Artificial Organs at the University of Washington (UW), Seattle, WA, USA (2004-present). He has been serving the International Society of Biological and Environmental Repositories (ISBER) for over 23 years as Section Editor (1999-2015) and Deputy Editor (2016-present) of the ISBER journal, "Biopreservation and Biobanking".



Dr. Anusha Hettiaratchi is the manager of Biospecimen Services located within the Mark Wainwright Analytical Centre at UNSW, Sydney. She has 14 years' experience as a bench scientist, and uses skills learnt and refined during this time to now enable research support through UNSW Biospecimen Services. She has been in this role since 2010. She is a NATA Technical Assessor. Anusha is an active member of both ISBER and the ABNA. She was elected to the ABNA management committee in 2017, has served as Vice President (2018-2019) and President (2020 - 2021).



Dr. Birendra Kumar Yadav has a rich experience of 15 years in the area of biobanking, cancer, stem cell, cell biology, and hematology. He is manager of India's First Liver Biobank known as National Liver Disease Biobank (NLDB), ILBS, New Delhi, India. Dr. Yadav has experience of establishment of two biobanks in India. He received ISBER SPECIAL SERVICE award in biobanking in 2021. Dr. Birendra is member of Biobank India Foundation (BBIF) for the growth of biobank science in India. He earned his doctorate in medicine at KNU, Republic of Korea and he has authored 34 publications.



ISBER 2023 ANNUAL MEETING & EXHIBITS
SEATTLE, USA | MAY 3 - 6, 2023



FROZEN ZOO INITIATIVES AROUND THE WORLD



The FAUNA Research Alliance is an Australasian initiative that aims to deliver conservation projects that ensure our unique wildlife, their populations, and the ecosystems they maintain are secure for future generations.

Their mission is to produce the robust tools needed for innovative long-term solutions for the conservation challenges faced by our unique wildlife. They do this through applied research projects that draw together in collaboration the diverse skills and capacities of researchers, communities and organisations across Australasia. Two projects highlighted here are the Kimberly Ark and FAUNABank – a frozen ark for wildlife.

The Kimberly Ark

The Kimberley Ark project is establishing a genebank for species of the Kimberley region most likely to be impacted by the cane toad invasion. The actual “bank” itself is remarkably simple, all that is required is a container to store the tissues in liquid nitrogen to keep them frozen at the correct temperature.

Cane toads are highly toxic and have advanced across Northern Australia. Predators that eat the toad are particularly vulnerable and the populations of quolls, goannas and other native carnivores have since crashed dramatically, resulting in a drastic loss of genetic diversity. When many individuals are lost the population must start again from very low numbers. This leads to inbreeding between closely related individuals and results in population health issues and the loss of the species’ ability to respond to changes in the environment.

Kimberley Ark scientists achieved an Australian first (second time world-wide) in 2014 when they obtained sperm samples from a lizard species. Currently the team are working up techniques and protocols for yellow-spotted monitors, sand monitors, heath monitors and various skink species that are at high risk of extinction.

The race is on to bank target species, ensuring the genetic diversity is frozen in time before the cane toad further destroys existing diversity.

FAUNABank

Given Australasia’s rapid extinction rate there is the unique challenge of developing new technologies for wildlife conservation.

FAUNABank will support research in frozen genome storage. A critical missing element in wildlife conservation is the long-term security of diminishing genetic diversity in declining populations. Critical genes for survival are being lost from many species whose population numbers in the wild are now becoming too small to maintain genetic health and avoid inbreeding.

FAUNABank will utilise frozen sperm, eggs, embryos and other tissues, to create insurance populations for at risk fauna and in the hopes of future species reintroductions.

FAUNA Research Alliance has established a network and steering committee of gene banking expertise and capacity across Australia and New Zealand. However, there is a requirement for a full-time coordinator so that this potential can be turned into National facilities with established best practice in gene storage technology, biosecurity, long-term management and curation.

An effective system of gene banks that holds the sperm, eggs, embryos and other tissues of wildlife will make genetic impoverishment of at-risk populations and extinction of species a thing of the past.

Australia & New Zealand have suffered 57 fauna extinctions in the past 200 years

Our amphibians, birds, reptiles and mammals remain at risk.



59

AMPHIBIANS AT RISK



177

BIRDS AT RISK



147

REPTILES AT RISK



117

MAMMALS AT RISK

Internationally, frozen zoos are working together to build a “Noah’s Ark” of frozen tissue. The Frozen Ark project, established in 2004 at the University of Nottingham, now consists of over 5,000 species housed in 22 facilities across the globe.

The Frozen Ark uses donations to deliver projects and activities. The funds it receives through donations are used to for the collection of DNA samples and to support the process of biobanking – the deep freezing of endangered species’ genetic materials. This includes funding the equipment and the expertise required in the sampling and preservation itself. Furthermore, donations allow The Frozen Ark to raise awareness of conservation through ongoing public engagement, including its education and outreach programmes, and develop a worldwide alliance on endangered species biobanking.



The CryoArks biobank is an initiative that aims to bring together the diverse collections of animal frozen material found in museums, zoos, research institutes and universities across the UK to make them accessible to the UK’s research and conservation community.

CryoArks has storage space at the Natural History Museum’s Molecular Collections facility for up to 150,000 samples. This capacity will be available to store new samples collected under the CryoArks umbrella and also duplicates of key specimens (e.g. high priority taxonomic groups, unique specimens, material from endangered species and extinct populations) found in legacy frozen collections across the country.

There are guidance documents available on the CryoArks resources page that will help collections to organise samples and data. Within the UK, the CryoArks biobank initiative may also be able to arrange for someone to come and help you sort through your existing sample collection.

There are several cryobanking facilities in Australia, including the Australian Frozen Zoo, the CryoDiversity Bank and the Ian Potter Australian Wildlife Biobank, as well as private collections.

The Taronga Institute of Science & Learning, a world-class facility built has been built at Taronga Zoo Sydney which houses a range of purpose built laboratories, including a multi-disciplinary research laboratory, teaching laboratory and Cryodiversity Bank.



Efforts are directed to strategic biobanking of high conservation value gametes & tissues for long-term storage & targeted use in assisted fertilisation and species recovery efforts. Their programs include prioritised biobanking of sperm from wild populations of frogs impacted by recent drought and bushfire events, and Great Barrier Reef corals including heat-tolerant genotypes for supporting an assisted evolution approach for reef resilience.

The CryoDiversity Banks at Taronga Western Plains Zoo in Dubbo and Sydney, store and care for a portion of frozen coral cells until they are needed to re-seed the reef. The total number of species now housed in Taronga’s CryoDiversity Bank is 29 and represents the largest coral bank in the world. This living genebank is also providing cells for studies which advance our understanding of coral biology and adaption to oceanic changes.

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

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