MARCH | 2023

BIO-BABBLE

Newsletter of the Australasian Biospecimen Network Association

THE ABNA SEMINAR SERIES IS BACK!

After an incredibly successful inaugural series, the ABNA Seminar Series is back in 2023! To continue the discussions held at Biobanking: Blue Sky Horizons our 2023 series will focus on biobank diversity - celebrating the richness of the Australasian biobanking landscape, identifying opportunities for collaboration and exploring emerging challenges across the field. Seminars 1-3 will again be offered as online events and will culminate in a final session embedded in our annual conference program. This final session will include a panel and open forum exploring equity and representation in biobanking with consumer perspectives on strategies for inclusion of marginalised communities and the development of culturally safe biobanking protocols.

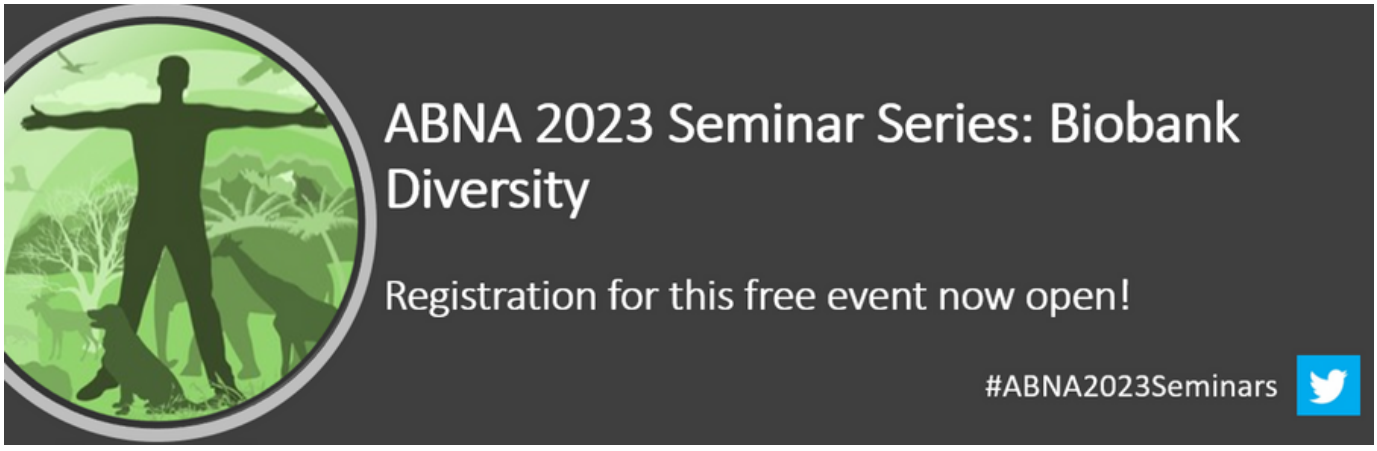
Registration is **free** and now open! **REGISTER HERE**

Seminar 1 - Field Diversity: Capturing Heterogeneity in Biobanking
12pm Tuesday 4 April

Seminar 2 - Diverse Offerings: What Do Biobanks Do?
12pm Tuesday 6 June

Seminar 3 - Technology and Diversity: Innovation and New Frontiers
12pm Tuesday 5 September

Seminar 4 - You're the Voice: Ensuring Equal Representation and Building Participant Partnerships
October 18-20 'Biobanking On Record' - ABNA 20th Annual Conference



NCRIS RESEARCH INFRASTRUCTURE SPECIALIST - POSITION PAPER

by Georget Reaiche-Miller

In November 2022 the National Collaborative Research Infrastructure Strategy released a position paper on the critical role of the national research infrastructure expert workforce.

Currently, NCRIS Research Infrastructure Specialists are placed primarily in the university sector. This means that under the enterprise bargaining agreement they fall under either "professional" or "academic" staff and these do not necessarily reflect their skill set. The need for an appropriate classification has been acknowledged in the 2021 NRI Roadmap. The position paper highlights the challenges and opportunities in acknowledging Research Infrastructure Specialists as an independent classification. Research Infrastructure Specialists are critical for research development and current classifications do not recognise, reward or retain the specialist which have specific skill sets and expertise.

Currently, facilities are constantly required to reclassify roles, update job descriptions and create new roles in order to recognise expert staff who are continually developing and contribute extensive support to staff across the university sector. The Australian Bureau of Statistics showed that the existing Research Infrastructure Specialists cohort supports an annual client base of 65,000 Person Years of Effort (PYE). When compared to the annual 81,000 PYE in the university sector, Research Infrastructure Specialists play a significant role.

Australia is an established global leader in world-class research. The Australian Government helps maintain this reputation by ensuring researchers have access to cutting edge national research infrastructure supported through the (National Collaborative Research Infrastructure Strategy) NCRIS program.

NCRIS currently supports 24 funded projects and an international membership. The projects are led by organisations including universities, publicly funded research organisations and private companies.

NCRIS
National Research Infrastructure for Australia
An Australian Government Initiative

The position of the NCRIS community is that they feel the need to support the development and implementation of a new classification for Research Infrastructure Specialists roles independent from professional and academic positions. The new Research Infrastructure Specialists classification should reflect the other existing classifications pay scales but have distinct KPIs. The goal of the Research Infrastructure Specialists is to support and improve other people's research rather than their own. However, the structure of KPIs for the existing classifications are designed to focus on the improvement of the individual's own research record. For this reason, NCRIS has also developed a list of potential KPIs for consideration. Having a dedicated classification and KPI's would have a positive impact in improving their career pathway opportunities.

The position paper highlights several national and international case studies that support their stance. These include the introduction of; a dedicated "Research Infrastructure Specialists" classification at the Queensland University of Technology; a new academic work focus category of "Academic Specialist" at The University of Melbourne; the NCRIS Career development Opportunities designed to compensate for Research Infrastructure Specialists' ineligibility for travel support.

The position of the NCRIS Research Infrastructure Specialist - Position Paper is supported by more than 20 organisations click **HERE** to download a copy.

5 MIN WITH DR EMMA DALZIELL

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

This month we spoke to Dr Emma Dalziell, Research Scientist at the Kings Park Seed Bank in Perth & Adjunct Research Fellow at UWA

THE QUICK QUESTIONS

Red or white wine? *White (Despite appearances I don't actually drink that often, but if and when I do: Wine with food (white, red, rose, not such a fan of sparkles), a negroni before dinner, a G&T on a lazy Sunday afternoon or a nice cold IPA or sour after a hot day in the garden/in the field)*

Mac or PC? *Mac*

Batman or Superman? *Batman*

Lord of the Rings or Harry Potter? *LoTR (I'll remain true to my younger self with this: I was a snobbish ~9-year-old who had read LoTR by the time HP came out and steadfastly refused to buy in to the craze just because everyone else was. Then teenage me seeing the LoTR movies, cue *Aragorn flinging the doors open at Helm's Deep* and HP really couldn't compete. But I will admit that as an adult I really enjoy the HP movies and have made an attempt at reading the books too.)*

How long have you been working in biobanking?

12 or so years as a student and a researcher.

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

The proliferation of tools/techniques to assess seed viability, which will hopefully lead to more automation and possibly the prediction of seed-lot longevity (i.e. being able to put a use-by date on samples before the banking process begins).

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?

Identify as a biobanker! It was only last year after attending my first ABNA conference in Perth, that I really understood what a biobanker was, and that I was one! In the short time I have been an ABNA member, I have learnt so much and am so grateful to now be a part of this community.

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

Not too crazy on the sample-saving side of things (other than nervous waiting at 6pm on a Friday evening when the fire brigade had to cut power to the bank due to an electrical fault in the ceiling), but have done my fair share of crazy sample collecting. Probably the most nerve wracking was leaning over the front of a small boat in Kakadu National Park to haul in samples of aquatic plants while being eyeballed by a 4m croc sitting on the river bank about 10m away, wondering whether it had any friends lurking beneath the boat!

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

1. When the War Came - The Decemberists
2. High Hopes - Frank Sinatra
3. Dumb Things - Paul Kelly (see above 😁)

THE SVALBARD GLOBAL SEED VAULT
SECURING CROP GENEBANKS WORLDWIDE

by Louise Ludlow

More than 1,700 crop genebanks exist worldwide which enable the biobanking of species containing genes of significance to the breeding of crops. Collections are held by institutions, universities, breeding institutes, non-government organisations, private entities, and commercial companies. These collections are accessible to researchers and plant breeders to safeguard food and nutritional security and conserve plant genetic diversity.

Crop genebanks store germplasm which are the seeds, plants, or plant parts having all possible alleles for all the genes in each crop. Biobanking of seeds represents the optimal material for the long-term storage of many crops. Dried, vacuum-packed seeds can stay viable at low temperatures for long periods of time. An air temperature of -18°C and low moisture levels are optimal to ensure low metabolic activity of seeds.
The Genebank Standards for Plant Genetic Resources for Food and Agriculture published in 2013 recommends safety duplication of seeds in the Svalbard Global Seed Vault on Spitsbergen Island, the largest island within the Arctic Svalbard archipelago, Norway. The Seed Vault is owned and administered by the Ministry of Agriculture and Food on behalf of the Kingdom of Norway in partnership with The Nordic Genetic Resources Center (NordGen) and The Global Crop Diversity Trust. Management and operations are overseen by an International Advisory Council. Storage of security copies of seeds is provided free, and depositors retain ownership and access.

The second largest seed vault in the world is the Indian Seed Vault is located in a high-altitude mountain pass on the Chang La in Ladakh, India. This seed bank was built in 2010 by the Defence Institute of High Altitude Research and the National Bureau of Plant Genetic Resources.

Photo credit: The Svalbard Global Seed Vault by Landbruks- og matdepartementet

The Seed Vault opened in 2008 and has capacity to store 4.5 million seed samples. It is located in the Svalbard archipelago which has good infrastructure, daily flights and a reliable source of energy from local coal supplies. The area is geologically stable with low humidity and well above sea level. The surrounding sandstone is stable with low radiation. The cold climate, permafrost and deep rock secures seeds at the optimal temperature even without power. The Seed Vault is comprised of three caverns dug into a mountain at the end of a 120-metre tunnel ensuring that it will remain naturally frozen in the event of cooling system failure and rising external air temperatures due to climate change. These coal powered refrigeration units cool the seeds to the internationally recommended standard of -18°C. The surrounding bedrocks temperature of -3°C provides further security and it is estimated to take two centuries to warm up to 0°C.

The Seed Vault currently holds 1,194,244 seed samples from almost every country in the world. Seeds from 5000 species are represented with the highest number from rice and wheat represented by >150,000 seed samples. The next highest seed number is barley followed by sorghum, bean, maize, cowpea, alfalfa, soybean, chickpea, kikuyu grass, triticosecale, potato, peanut, oat, pigeon pea and mustard. These seeds are stored in sealed in custom-made three-ply foil packages, then sealed inside boxes and stored on shelves.

Photo credit: https://www.seedvault.no/

The Seed Vault invites partners to ship seeds to Svalbard on three or four regular opening occasions every year. Two-thirds of deposits have been made by international agricultural research centres. These include the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, the International Rice Research Institute (IRRI) in The Philippines, International Crop Research Institute for the Semi-Arid Tropics (ICRISAT) in India and International Center for Agricultural Research in the Dry Areas (ICARDA) which until recently had its gene bank in Syria. The largest depositors among national genebanks are the United States, Germany and Canada followed by Australia where the largest contributor is the Australian Pastures Genebank with 28,493 accessions. Australia has deposited banana, chickpea, sorghum and alfalfa seeds.

Only one institution has requested the return of seeds. This took place in 2015 because of the Syrian civil war. ICARDA was unable to maintain the Syrian genebank and withdrew seeds to replenish its collections in Lebanon and Morocco.

ICARDA

The International Center for Agricultural Research in the Dry Areas (ICARDA) seed bank was originally situated in Tel Hadya, Syria until 2012 when the Syrian civil war and the prolonged drought that exacerbated it, forced ICARDA to undertake a move to Lebanon; the organisation's researchers scrambled to save their own lives and preserve decades of work. ICARDA had been keeping backup copies of its seeds in Svalbard, Norway, since 2008. Seeds are not supposed to leave Svalbard unless something goes very, very wrong.

So far, ICARDA has been the only institution to make a withdrawal from Svalbard; after relocating, in 2015, the organization had to request its own backups so that it could grow new seeds to replace the ones it had lost. A second larger withdrawal was made in 2017. Some were then returned to the Seed Vault while others were added to ICARDA's gene banks in Lebanon and Morocco so they could be conserved and distributed. Today ICARDA houses more than a hundred and forty thousand accessions, or samples of seeds and other genetically significant plant material.

In 2017 global warming produced extraordinary temperatures over the winter, sending meltwater gushing into the entrance tunnel but not into the storage halls. Entrance tunnel improvements including waterproofing the tunnel walls, removing heat sources from the tunnel and digging exterior drainage ditches were carried out. "A lot of water went into the start of the tunnel and then it froze to ice, so it was like a glacier when you went in," Hege Njaa Aschim from the Norwegian Government told the Guardian at the time. "The question is whether this is just happening now, or will it escalate?". Since this time, temperatures have continued to increase due to climate change resulting in thawing of the permafrost. A report in 2018 from the Norwegian Centre for Climate Services warns that increasing Arctic temperatures are putting the Seed Vault at risk.

Seed Vaults are incredibly important biobanking resources to ensure seed security copies are accessible to safeguard food and nutritional security and conserve plant genetic diversity.

BIOBANKING OF SEEDS TO PROMOTE WORLD PEACE

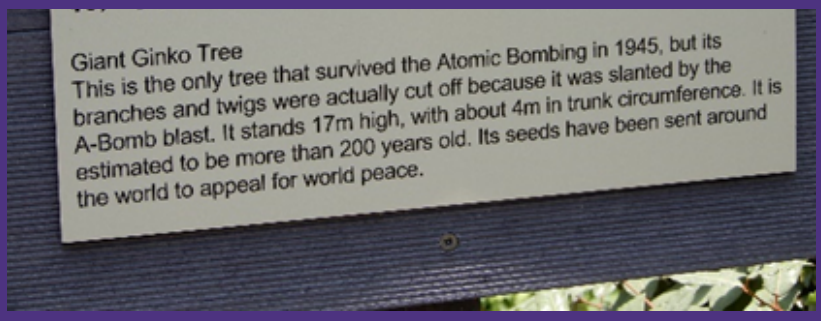
The devastating and horrific atomic bomb attack on Hiroshima during World War II in 1945 needs little introduction. Amazingly 170 trees survived and are still growing (https://glh.unitar.org/en/trees-in-hiroshima/).

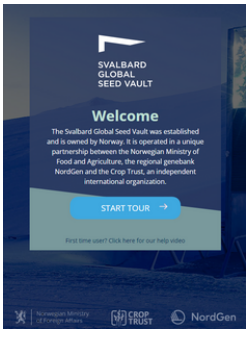
In 2019, I had the opportunity to visit one of the six Gingko trees that survived. Japanese people regard the Gingko as "the bearer of hope". The tree is in the Shukkeien Garden only 1.37 km from the atomic bomb epicentre on a knoll above a tranquil lake. This was the only Gingko tree to survive in this garden and stands 17m high on a slanted angle caused by the blast.

Seeds from this tree and many others have become part of the Green Legacy Hiroshima. This biobanking initiative has been established to safeguard and spread worldwide the seeds and saplings of Hiroshima's surviving trees. In Australia and New Zealand saplings are growing at La Trobe University, Australian National University, Fremantle City, Griffith University, Katherine School of the Air and Dunedin Botanic Garden. These seeds represent a message of hope, peace and a green legacy and have been distributed to 40 countries by 126 partners around the world.

Surviving Ginko tree in the Shukkeien Garden with the english portion of the accompanying plaque dedication.

Photo credit: Louise Ludlow





Interested in seeing inside the Svalbard Global Seed Vault but too time poor to travel to Norway? Earlier this month they released a virtual tour of their facility.

Click on the image on the left to take a virtual tour of the Seed Vault.

ABNA ACHIEVEMENT AWARD

2023 will see the introduction of the ABNA Achievement Award. This award is designed to recognise a past or present individual, ABNA member biobanker, who has contributed and/or continues to contribute to the Australasian biobanking community.

The nominated individual should demonstrate ABNA's aims of;

- Supporting Australasian biobanking
- Promoting ethically sound high-quality specimens for research
- Promoting the benefits of biobanking
- Enhancing knowledge amongst the biobanking community

The ABNA Achievement Award will be awarded on a yearly or bi-yearly basis, pending nominations, with the winner announced at ABNA's Annual Conference. The inaugural award will be presented at ABNA's 20th Annual Conference, Gold Coast, October 2023.

NOMINATION & SELECTION PROCESS

ABNA members will be notified via email when nominations are open. Nominations will be through an e-form and as part of the nomination process, individuals will need to provide:

- Description of your reasons for nominating the individual
- Description of the nominees' contributions in support of the nomination

THE FINE PRINT

1. Nominations for this award will be sought from active ABNA members and the submissions will be judged by the ABNA Prize sub-committee.
2. Judging will be a merit-based comparison of the achievements and alignment with ABNA's aims as listed above.
3. Current members of the ABNA Management Committee will not eligible for nomination.
4. Only nominations received on the official nomination form will be accepted.
5. No nominations will be accepted once the nomination period has closed.

australasian biospecimen network association

Register now to attend the ISBER 2023 Annual Meeting!

Meeting Theme:

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.

Unable to join the meeting in-person? Join us for the virtual portion of the meeting from June 7-8!

The virtual meeting will feature:

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

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

ISBER 2023 ELECTION RESULTS

ISBER is pleased to announce the results of the 2023 Election.
Click **HERE** to learn more about each new board member including their bio sketch and their position statements.

ABNA congratulates all the new board members and looks forward to working closely with them during their term as office bearers.

A special mention to ABNA member Dr Wayne Ng on his election as Director-at-Large: Indo-Pacific Rim. Wayne is a past member of the ABNA Management Committee member and takes on this role on the ISBER Board which was once held by ABNA and ISBER Past-President A/Professor Daniel Catchpoole.

CONGRATULATIONS WAYNE AND ALL THE NEW BOARD MEMBERS

PRESIDENT-ELECT
Dayong Gao

SECRETARY
Rebecca Pugh

TREASURER
Cathy Seiler

DIRECTOR-AT-LARGE:
INDO-PACIFIC RIM
Wayne Ng

DIRECTOR-AT-LARGE:
AMERICAS
Billy Schleif

If you have any suggestions for a short article for Bio-Babble, please contact: abna.biobabble@gmail.com
Content deadline for April edition: 21.04.23

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