



ABNA EXCHANGE

OFFICIAL NEWSLETTER OF THE AUSTRALASIAN BIOSPECIMEN NETWORK ASSOCIATION

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ABNA Updates

- Announcing our 2025 Seminar Series "Connecting the Dots: Upstream, Downstream and the Data Journey". See page 8 for more details.
- A new on-line home for ABNA is in the works. The ABNA Management Committee has put out a call for expressions of interests for website redevelopment. Interested parties should contact the ABNA President or Secretary for a copy of the RFP, the closing date is March 28.
- Planning for ABNAs Annual Conference is underway. The conference website is under construction and will be going live in March. The program planning has begun and we will be reaching out to lock in speakers. Do you have a topic you would like to see covered in this year's conference? We would love to hear from you. Please get in touch through the ABNA Secretary or info@abna.org.au

The Power of February: Seeds of Change



Welcome to the February edition of ABNA Exchange, our action-packed second issue of 2025! I'd like to start by taking a moment to honour the life of Dr. Eng Chon Boon, a kind and respected figure in our field who passed away suddenly. Dr. Eng's warm personality and remarkable contributions to biobanking were felt by many, and he was a fantastic speaker at ABNA 2024. A tribute to him can be found on page 2.

In this edition, we're thrilled to share updates from one of ABNA's Special Interest Groups, the Quality Management & Improvement SIG, which is expanding its working groups. There's something for everyone, so be sure to check it out!

Our featured article of the month, The Legacy of Leningrad: The Seed Bank that Changed the World, written by Dr. Emma Dalziell, offers a compelling look at the remarkable sacrifices made by pioneers in biobanking. It's a story that will inspire and resonate with all of us—though I'm not sure many of us would make the same sacrifices today! 😊

Additionally, explore the National Cancer Cohort Platform (NCCP), an initiative funded by the Medical Research Future Fund, and learn about the new data portal launched by The Global Biodiversity Biobanking Network. You'll also find information on the 2026 NRI Roadmap - Opening Survey. This is first consultation step in the preparation of the 2026 National Research Infrastructure Roadmap and we encourage you to submit a response.

Happy reading, and we look forward to seeing you at our next seminar series!

Georget



A Tribute to Dr Eng Chon Boon

By Dr Wayne Ng

As the Director of the Tissue Repository at the National University Hospital and Platform Lead for Cancer Databases & Tissue Banks at the Singapore Translational Cancer Consortium (STCC), Eng was a visionary leader. He was instrumental in forming the Singapore Integrated Network of Biobanks, an infrastructure network connecting academic tissue repositories in Singapore. His contributions to the biobanking sector have left an indelible mark, not only in Singapore but across the global scientific community.



It was the evening of December 18, 2024, when I received the shocking news of Dr Eng Chon Boon's passing while he was on a family holiday. The news was difficult to process and made more poignant as I was also on a trip with my own family at the time.

For many of us in Australasia and the wider Indo Pacific Rim, Eng was a familiar face; at the ABNA Annual Meeting in Adelaide last year, he spoke passionately about the role of biobanking in data sharing and synthetic data to enable greater real-world data research. He also visited Australia earlier last year to attend the ISBER Annual Meeting 2024 in Melbourne.



I had the privilege of knowing Eng through ISBER, and our professional relationship quickly grew into a meaningful collaboration. His dedication and leadership in making tissue samples more accessible for global research collaborations, particularly in the Asia Pacific region, were truly inspiring. He helped to shape the strategic future of Victorian Cancer Biobank (VCB) which I run, through his involvement in the Strategic Advisory Group. We then worked closely together to initiate a cross-border partnership between VCB and STCC. This partnership expanded access to tissue samples and promoted best practices in translational oncology research. It feels like just yesterday that we welcomed him and his team to our office for the agreement signing ceremony—an event that now holds even greater significance..

Eng was more than a colleague; he was a mentor, a leader, and a friend. His unwavering commitment to scientific advancement and his generosity in sharing knowledge will be sorely missed. My deepest condolences go out to his family and friends during this incredibly difficult time. We are grateful for his immense contributions to the biobanking sector, and his legacy will continue to inspire us all. He will be dearly missed.

**ABNA joins Wayne and his colleagues from VCB in honouring Dr Eng Chon Boon
and sending condolences to his family.**

Quality Management & Improvement Special Interest Group Update

Co-Chairs: Samantha Higgins & Dr Beth Caruana

Goals of the Quality Management & Improvement SIG:

- **Connect** biobanking quality professionals across Australasia.
- **Identify** quality gaps and process improvement opportunities; facilitate forums to address them.
- **Support** professional development and initiatives that enhance biobanking quality.
- **Advocate** for improved quality practices in our region, including advancing QMS, certification, and accreditation activities.

Current Working Groups:

1. Specimen Storage Resources
2. Disaster Recovery and Risk Guidelines

Our SIG membership and interest topics are expanding! We are excited to invite ABNA members to join three new working group projects:

Quality Manual Template

- Creating an adaptable Quality Manual template for easy deployment at a biobank

Specimen Retention and Disposal Guidelines

- Building resources to assist management and decision making regarding long-term storage/legacy specimens and other retention/disposal requirements

Laboratory Protocols and Method Development

- Build a resource for best practices in sample collection, processing, storage and distribution while maintaining sample integrity. Share experimental method development for new and emerging research



Interested in contributing to our existing or new working groups? We'd love to hear from you!

Please contact Beth (beth.caruana@health.nsw.gov.au) or Samantha (Samantha.Higgins@cancervic.org.au) to get involved.



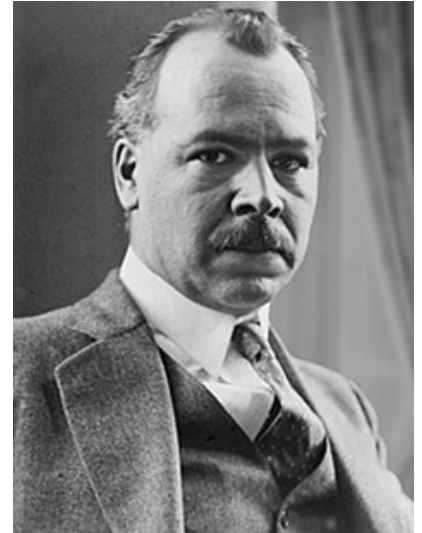
The Legacy of Leningrad: The Seed Bank that Changed the World

By Dr Emma Dalziell

Humans have long recognised the amazing ability of seeds to survive drying and periods of storage. As a species, we have been collecting and storing seeds to feed ourselves for thousands of years. However, it was only relatively recently that the concept of a seed bank – a repository designed to capture plant genetic diversity – was developed.

Nikolai Vavilov, a pioneering Russian botanist and geneticist, dedicated his life to combating famine and preserving the genetic diversity of crops. His pioneering work led to the establishment of the world's first seed bank. His legacy continues to play a crucial role in modern agriculture and the conservation of wild species.

Born in 1887, Vavilov grew up witnessing the devastating effects of crop failures and famines in Russia. These early experiences fuelled his determination to find a solution to food scarcity. Vavilov believed that the key to preventing famines lay in the genetic diversity of crops. He argued that modern domesticated crops were too inbred and vulnerable to diseases and environmental changes, whereas wild crops, with their greater genetic diversity, were more resilient.



Nikolai Vavilov

Image credit: Wikipedia

Vavilov's vision was to create a "Fort Knox of agriculture," a repository that would protect the world's food supply. His collection formed the basis of the world's first seed bank, officially known as the N.I. Vavilov Institute of Plant Industry, housed in the Bureau of Applied Botany in Leningrad (now St. Petersburg), built within an old palace on St Issac's Square.

The institute's mission was not only to collect and preserve seeds but also to study and utilize them for breeding hardier crop varieties. Vavilov's work laid the foundation for modern plant genetics and biodiversity conservation. His theory of "Centres of Origin", presented in 1927, identified regions where major crops were first domesticated, providing valuable insights into plant breeding and genetic diversity.

The World's Collection of Plants

Vavilov embarked on numerous expeditions across the globe, collecting seeds from a wide variety of plants. By the 1920s, he had undertaken 115 separate seed collection expeditions across 64 countries and had amassed a vast collection of 380,000 samples of seeds, grains, fruits, nuts, and tubers. Vavilov's work and his enormous collection soon gained international recognition, and was referred to as "the world's collection of plants".



Vavilov (center) visiting agronomist Alberto Boerger (to Vavilov's right) at La Estanzuela experimental station in Uruguay, January 1937. Archivos del CIAAB/Wikimedia Commons

This global recognition, including from the West, was not looked upon favourably by all. Much of Vavilov's work in crop breeding relied on the theories of Mendelian Inheritance. Unfortunately, in the late 1930s, Trofim Lysenko – a devout subscriber to the Lamarckian views of inheritance, with connections to Joseph Stalin – was appointed to the Institute and in 1936 Vavilov was sacked. Undeterred by this turn of events, and still willing to pursue his life's mission of eradicating food scarcity, Vavilov returned to the field to continue making collections. Whilst on a trip in Ukraine in 1940, Vavilov was arrested for his opposition of Lysenko, and accused of spying for the British. He was found guilty and sentenced to death in 1941, but in 1943, died in prison due to the harsh conditions.



Mug shots of Vavilov during his imprisonment, 1942.

Image source: Central Archive of the Federal Security Service of the Russian Federation/Wikimedia Commons

While Vavilov awaited trial in prison, his collection at the N.I. Vavilov Institute of Plant Industry faced its greatest test, the Siege of Leningrad during World War II. Realising that Nazi occupation of the city was imminent the Institute planned to evacuate its staff, and some of the seed collection to an alternate location. During the evacuation however, the Nazi's took the main rail line out of the city, and the evacuation attempt was scuttled. The scientists instead sought refuge in the Institute, determine to keep the collection safe. With the extreme conditions brought on by a harsh winter, and a dwindling supply of food, the scientists at the seed bank protected the collection with their own lives. Tragically, at least 19 of them died of starvation rather than consume the seeds, plants and tubers they were safeguarding.

The sacrifices made by both the staff at the Institute and Nikolai Vavilov himself ultimately saved the collection, and many of the seeds they died defending were used to grow food at the end of the war. The knowledge held by the Institute was used to educate the public on how to grow various crops and vegetables – ultimately fulfilling its reason for existence, reducing food insecurity.

Pavlovsk Experimental Station

The Bureau of Applied Botany is housed within the Pavlovsk Experimental Station in St. Petersburg, a large area of land used as a field genebank – where living plants are grown and stored, and material such as seeds and tubers can be sown and regenerated. In 2010, the Station was slated to be sold to a housing developer to make way for a luxury housing estate. Moving living plants to a new location is a difficult task, not in the least due to strict quarantine regulations, and consequently, much of the collection would have been destroyed if the sale was allowed to proceed. Fortunately, in 2012, the Russian government stepped in and prevented the sale, and the Pavlovsk Experimental Station and the N.I. Vavilov Institute of Plant Industry, and its rich history still stand today.



The Institute of Plant Genetic Resources today

Image source: <https://phys.org/news/2017-01-russia-vavilov-guardian-world-lost.html>

The legacy of Nikolai Vavilov and the team of scientists at the Institute of Plant Industry lives on through the continued work of seed banks around the world today. These institutions are not only a safeguard against food insecurity but are also a vital resource for conserving biodiversity and supporting sustainable agriculture. As we face the challenges of climate change and environmental degradation, the role of seed banks in preserving our planet's genetic heritage has never been more important.

The Continued Importance of Seed Banks

Today, seed banks remain vital for several reasons:



New plants for a new era: By maintaining collections of crop wild relatives, along with traditional and heirloom crop varieties, seed banks provide a reservoir of traits that can be used to improve modern crops. In an era of global climate change, our ability to produce plants with increased drought tolerance and resistance to pests and diseases is essential to ensure the continuous food supply required to prevent world hunger.



Conserving wild species: With more than 350,000 species of vascular plant species globally, of which almost 45% are threatened with extinction, seed banks also play a critical role in the conservation of wild plant species and their genetic diversity. Seeds of threatened species may be used directly, as part of conservation or restoration programs, including translocations back into the wild.



Back up: When disaster strikes, seed banks also provide an insurance policy against the loss of plant diversity. The 2004 Boxing Day tsunami killed more than 220,000 people, and devastated major agricultural areas across Indonesia, Sri Lanka, India and Thailand. Rice paddies in coastal areas were particularly impacted by saltwater inundation, rendering them unsuitable for rice cultivation which wiped out much of south-east Asia's rice supply. Rice seeds stored at major international seed banks were used to help reinvigorate the rice industry.



Facilitating research: Seed banks support the scientific research that underpin the collections by providing access to a diverse array of plant genetic material.

Modern Seed Banks

Since Vavilov's time, many agricultural seed banks have been created across the globe. Some examples include:



The USDA National Laboratory for Genetic Resources located in Fort Collins, Colorado, is the secure back-up site for the U.S. National Plant Germplasm System (NPGS). NPGS is a vast collection of over 621,000 accessions representing over 16,800 species, mainly focussing on species of agricultural importance.



The International Rice Genebank, maintained by IRRI, is located in the Philippines and holds more than 132,000 accessions of cultivated species of rice, wild relatives and species from related genera. The International Rice Genebank is the biggest collection of rice genetic diversity in the world.



The French National Research Institute for Agriculture, Food and the Environment Centre for Vegetable Germplasm located in Avignon, France stores 10,000 accessions of wild and cultivated genotypes of five important agricultural plant species: eggplant, lettuce, melon, capsicum and tomato.



Perhaps the most famous of the modern seed banks, the Svalbard Global Seed Vault is more commonly known by its moniker, the Doomsday Vault. Located on the remote Arctic Island of Svalbard, and built into the permafrost, the seed bank safeguards duplicates of more than 1.3 million accessions of agricultural species and cultivars from across the world.

In addition to the numerous agricultural seed banks, the storage of wild species in seed banks continues to be a primary conservation strategy in the face of unprecedented levels of species extinctions:



The Millennium Seed Bank Partnership (MSBP) is coordinated by the Royal Botanic Gardens Kew in the UK. Bringing together partners from across the world, the MSBP collections act as an insurance policy against extinction. With an ambitious aim to collect and store seeds of 25% of the world's flora, the collection currently holds material of 40,000 species from almost 100 countries.



A little closer to home, the Australian Grains Genebank in Horsham, Victoria holds collections of a wide range of crops, including temperate and tropical cereals, legumes, oilseeds, and minor crops. The genebank holds almost 200,000 accessions of 1,250 species from across the world, many from areas relevant to the growing conditions experienced in Australia.



The Australian Seed Bank Partnership is an alliance of 14 organisations, including many Australian Botanic Gardens which provides a link between Australia and the MSBP. The partnership consists of at least one conservation seed bank in each state and territory in Australia and holds collections of more than 10,000 predominantly Australian native species.

Further Reading

For more information about the tragic story of Nikolai Vavilov and the Institute of Plant Industry, see:

<https://www.theguardian.com/world/2024/nov/12/food-source-famine-leningrad-seed-bank-nikolai-vavilov>

<https://www.sciencehistory.org/stories/magazine/the-tragedy-of-the-worlds-first-seed-bank/>

<https://www.themarginalian.org/2023/03/08/nikolai-vavilov/>

<https://phys.org/news/2017-01-russia-vavilov-guardian-world-lost.html>

ABNA 2025 Seminar Series

"Connecting the Dots: Upstream, Downstream and the Data Journey"

The ABNA 2025 Seminar Series will take a holistic approach to biobanking, examining every stage of the process. We will explore the impact of early upstream protocols and how to ensure a balance of requirements for successful downstream applications. The series will also focus on how to future-proof your sample collection, processing, and storage to accommodate emerging technologies—some of which may not even exist yet. Additionally, we will address the essential question: how can you determine what data to capture now to ensure it will be useful and meaningful when linking to future data?

Join us as we delve into these topics, hear from experts in the field, and engage in discussions to collectively connect the dots. The dates and titles for each seminar are listed below. The Seminar Committee is finalizing the speaker lineup, and the website will be live soon. Keep an eye on your inbox for details and information on how to register!

SEMINAR 1

April 8th

"Collecting Today for Tomorrow: Upstream Considerations"

SEMINAR 2

June 17th

"From Biobank to Breakthrough: Downstream Applications"

SEMINAR 3

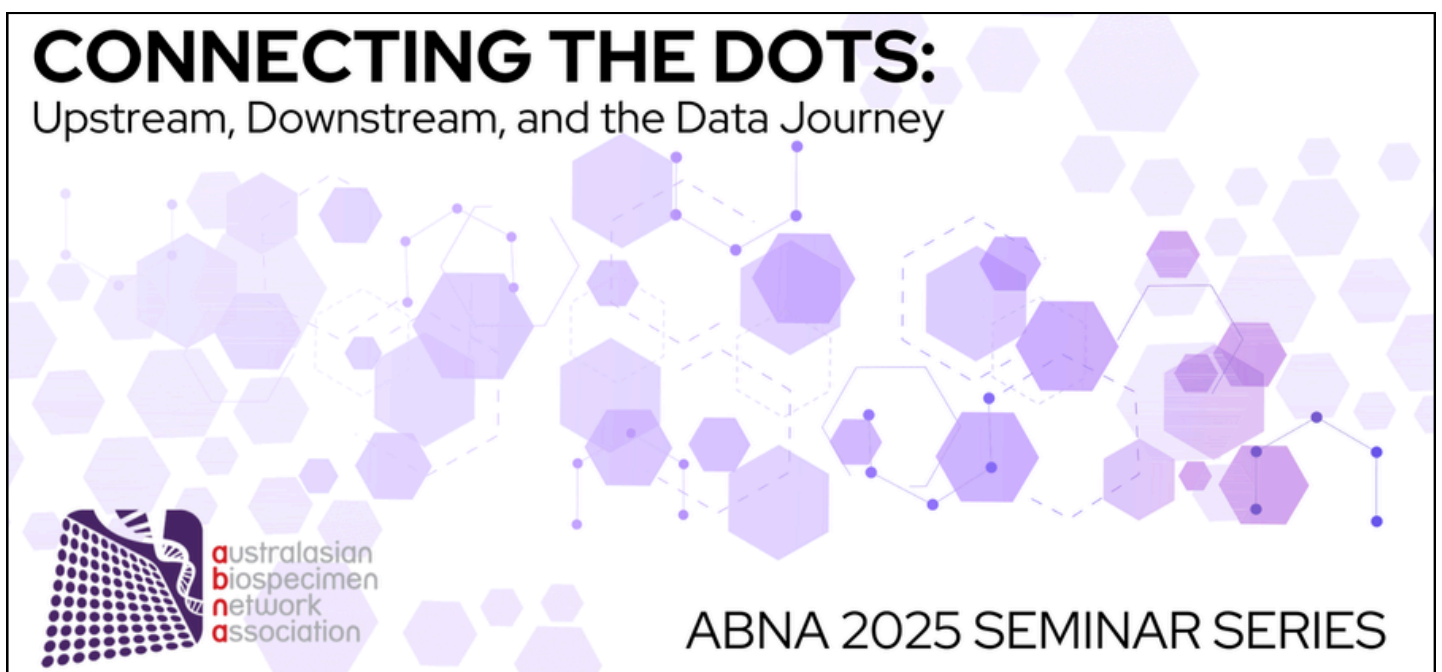
Aug 12th

"Connecting Protocols to Applications: Enabling Seamless Data Sharing and Linkage"

SEMINAR 4

Oct – 22-24th Debate

"Specimen with Associated Data vs Data with Associated Specimens"



FEBRUARY 2025

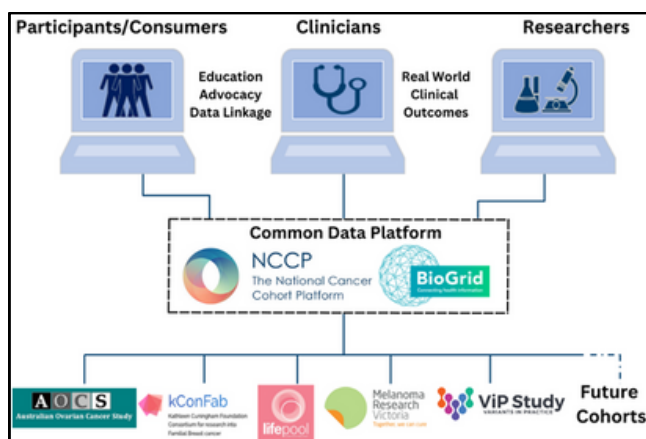
The National Cancer Cohort Platform

By Genevieve Chappell & Associate Professor Lisa Devereux

The National Cancer Cohort Platform (NCCP) is a Medical Research Future Fund funded initiative being led by Prof Karin Thursky and 14 other investigator colleagues including community members. The key partners are BioGrid as the technical facilitator and five existing cancer cohorts: Australian Ovarian Cancer Study ([AOCS](#)), Kathleen Cunningham Consortium for Familial Breast Cancer ([kConFab](#)), [LifePool](#), Melanoma Research Victoria ([MRV](#)) and Variants in Practice ([ViP](#)).

Over 4 years, beginning in 2023, the NCCP will develop a public facing platform where researchers can conduct high level interrogation of available resources, with some features similar to the Tissue Specimen Locator hosted by ABNA. The NCCP will provide a federated tool which allows researchers to 'think out loud' about what might be possible in terms of data and biospecimen access for research by interrogating multiple cohorts for timely real-world data. The NCCP will facilitate increased traffic to each of the cohorts for 'next step' detailed discussion around research requests, resources available and for approval through each cohorts' Access and Governance group/s. The NCCP will also incorporate a platform tailored specifically for members of the community to better inform people about biobanking and cohort driven research, to showcase research progress at a summary level and to reach a large community audience. Equity and diversity are a key focus for NCCP and we are submitting multiple grant submissions to support additional work to achieve greater diversity in the participant group through development of culturally safe recruitment tools.

The platform's design and development will be guided by a "Data to Knowledge" learning health systems approach and co-design principles drawing on the knowledge, experience and expectations of our learning health community made up of cohorts, researchers, data experts, clinicians and participants. BioGrid Australia are leading the development of the platform including the implementation of data ingestion processes and linkage for the NCCP, supported by an agreed common data model and standards to streamline data aggregation, enabling access to de-identified aggregate data within and across cohorts via co-designed web portals.



Overview of the NCCP Common Data Platform.

For more information and the latest NCCP news click [HERE](#) or scan the QR code below to sign up to their newsletter.



A key part of the development work has involved detailed 'What Matters to You' sessions. Separate sessions have been convened for Cohort and Data Managers, Researchers, Community Members and Clinicians. These data are being analysed in detail to inform the design of each element of the Platform. The NCCP will be scalable and open for membership by other cancer cohorts nationally. This represents a unique opportunity for biobanks across Australia to increase their visibility to researchers. This can be as a single source of material or, importantly it will provide researchers with the ability to test availability across multiple biobanks for the samples they require. This capacity will power large scale research.

Genevieve Chappell is the NCCP Project Manager and ABNA colleagues Lisa Devereux, Heather Thorne, Sonia Mailer, Nadia Traficante and Sian Fereday among the investigators.

5 Minutes with a Biobanker

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

This month Associate Professor Lisa Devereux, Cohort Manager and Biobanker, Lifepool Population Cohort and CASCADE-BROCADE rapid autopsy programs, Coordinator MAGIC study, Sir Peter MacCallum Department of Oncology, University of Melbourne answers our questions.



THE QUICK QUESTIONS

Are you left or right handed?

Right – but years of tissue culture have given me a degree of dexterity with the left hand, and in my old age, I have developed the ability to fill in an excel sheet left handed!

Would you rather play it safe or risk it all?

'Play it safe' is all about following protocols which is at the core of being a biobanker!

Should pineapple go on pizza?

Yes – those extra vitamins come in handy

Do you prefer to type or hand-write meeting notes?

Handwritten

Dark vs milk chocolate, which one would you chose?

Milk chocolate – but actually any chocolate

1. What was your first job in biobanking?

I managed the Peter Mac Tissue Bank between 2001 and 2008 but before that, as an RA, I was involved in collecting all kinds of human tissue for our research.

2. How long has your biobank been operating and what is your 'elevator pitch' for your biobank/job?

Lifepool has been running since 2010. Population cohorts with ongoing data linkage and consent to future contact provide essential resources for research into cancer risk, screening and impact. Rapid autopsy tissue donation is a unique and valuable opportunity to understand metastasis and treatment resistance. I have been involved with CASCADE from 2016, and Manager since 2017. It is a privilege to work with participants, donors and their families. My role is so great: I have contact with participants, clinicians, researchers and other health professionals. No day is ever the same.

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

I have collected limbs from distant surgery sites and transported them via trolley (and other means) to Anatomical Path labs at even more distant sites at all hours of the day, just so we didn't miss the opportunity to collect these valuable samples.

4. What has been your favourite moment (so far) in your biobanking career?

Too many to name. However, being part of ABNA from the beginning and seeing it grow to what it is today is pretty special.

Biobanking in the News

2026 NRI Roadmap – Opening Survey

National Research Infrastructure (NRI) comprises the nationally significant assets, facilities, services, and associated expertise to support leading edge research and innovation.

As with previous Roadmaps, the 2026 Roadmap will be based on extensive consultation with the research sector, engagement with experts and stakeholders across government and industry, and informed by international trends.

As a first consultation step in the preparation of the 2026 National Research Infrastructure Roadmap, this survey aims to gather input on research trends over a 5-10 year horizon and associated research infrastructure requirements as perceived by a diverse range of stakeholders across disciplines, sectors, and roles.

ABNA encourages member biobanks to take part – click [HERE](#) to access the survey.



2025 NRI Timeline

The Global Biodiversity Biobanking Network release new data portal

The Global Genome Biodiversity Network (GGBN) is an international network of institutions that share an interest in the long-term preservation of genomic samples representing the diversity of non-human life on Earth.



Their mission is to foster collaborations among biodiversity repositories in order to ensure quality standards, improve best practices, secure interoperability, and harmonise the exchange of material in accordance with national and international legislation and conventions.

In order to meet the goals of the GGBN, members are required to include their genomic collections through a shared data portal to be made available for research. Earlier this month GGBN released the latest iteration of this data portal: <https://www.ggbn.org>.

Enhanced features in this release include a main search that has been reworked to increase the performance and usability. Interested researchers can now browse through 4.4 million frozen biodiversity samples and 6.9 million material entities with faceting and sorting. In addition, the landing page now provides full text search across all major resources (samples, members, wiki, document library) which will enable easier access to GGBN information.

The 114 GGBN members can now be explored in a dedicated search (<https://www.ggbn.org/members>) where you can find information about their collections in general. Currently the Data Portal contains over 4 million records from almost 140,000 taxa.

If you have any suggestions for a short article for ABNA Exchange, please contact: info@abna.org.au
Content deadline for the March edition is 20.03.25



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