



ABNA EXCHANGE

OFFICIAL NEWSLETTER OF THE AUSTRALASIAN BIOSPECIMEN NETWORK ASSOCIATION

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Conference updates

Registration is still open for ABNA 2024. Accommodation is filling up fast so book now to ensure you are covered for your travel dates.



Abstract submission deadline - 2 September

Abstracts outcome notification - 23 September

Have you already registered for ABNA 2024? Join the #ABNA2024Glenelg conversation and download the Currinda App. The app will allow you to connect to fellow attendees, view and personalise the conference schedule and browse the submitted abstracts.

Details for logging into the app:

Client = ABNA

Email/Password = the same Currinda details you used to register for the conference

Contact info@abna.org.au if you are having any issues with the app.



For Apple devices:

<https://apps.apple.com/au/app/currinda/id1442762697>



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<https://play.google.com/store/apps/details?id=com.currinda.currindaevents>



Let the count down begin!



The countdown to ABNA 2024 has officially begun, with the event now just around the corner on October 16th!

We're thrilled to announce that the ABNA seminar series has been a resounding success! We've wrapped up all three online sessions, and we're now gearing up for the exciting finale "The Great Debate: Centralised vs. Distributed Biobanking." This debate is the 4th part of the seminar series and will be held in person at the upcoming conference. Don't miss out on this engaging discussion!

A reminder that nominations for the Management Committee will be announced soon, with details arriving in your inbox soon so be sure to keep an eye out. These nominations will be reviewed and finalised at the upcoming AGM held during the conference.

In this issue, enjoy an enlightening conversation in "5 minutes with a biobanker" with one of our keynote speakers, A/Prof Steve Salisbury head of the UQ Dinosaur Lab. "Dive" into a captivating exploration of the history of beer and its intriguing connections to biobanking. Plus, stay updated with the latest from our special interest groups and discover how biobanking is taking the spotlight under "Biobanking in the news". We're also thrilled to announce the co-chairs for the ISBER 2025 conference. Hint: there are some faces which will be very familiar to you all.

Happy reading!

Georget

Cheers to Beers, Brewers and Biobankers!

by Georget Reaiche-Miller and Darren Miller

International Beer Day is celebrated on the first Friday of August each year. It was created to honour and enjoy beer, celebrate brewers, bartenders and biobankers bringing people together to appreciate their beloved beverage.

A Brief History of Beer

The exact origins of beer are somewhat murky, but evidence suggests that it dates back to ancient civilisations where early brewers discovered that fermented grains produced a mildly alcoholic, flavourful drink. Ancient Egypt has early written records of beer from around 3000 BCE showing that beer was brewed and consumed regularly. Beer was often used as part of religious rituals and as a daily nourishment. In Mesopotamia beer was even being included in workers' rations.

More recently archaeological evidence suggests that beer-like beverages were produced in China as far back as 7000 BCE. Residue analysis of pottery jars from the Mijiaya site in the Shanxi province indicates the presence of fermented cereal grains, including barley, millet, and tubers. In ancient Europe, it is understood that various cultures such as the Celts, Bavarians and Germanic tribes brewed beer using local grains and their own methods. As societies evolved, so did brewing techniques, and by the medieval period beer had become a staple across Europe.



In Mesopotamia the temples issued workers with daily rations of barley beer as shown on this tablet.
Source: World History encyclopaedia



Evidence for beer from ancient China has been found in residues from pottery jars.
Source: Wang Jiajing, Liu Li & al. Revealing a 5,000-year-old beer recipe in China., [PNAS-2016-Wang-6444-8](https://doi.org/10.1098/rstb.2016.0444)

Reinheitsgebot

Germany, with its rich brewing traditions, played a crucial role in shaping the beer culture we know today. The German Purity Law, or Reinheitsgebot, enacted in 1516 is a landmark in the history of beer. The Reinheitsgebot, established by Duke Wilhelm IV of Bavaria, sought to regulate beer production to ensure quality and protect both consumers and the local economy.



By restricting ingredients, the law aimed to ensure the purity and consistency of beer. This helped prevent the use of potentially harmful or unregulated substances. Prior to the law, beer production was somewhat chaotic, with brewers often using various additives and impurities that could compromise the drink's quality including the addition of hallucinogens. The law mandated that only three ingredients—water, barley, and hops—could be used in beer production. Yeast, was not yet understood, early brewers observed that beer fermented and carbonated, but they did not know why.

Today, while the Purity Law still influences German beer production, breweries now experiment with wild yeast, mixed fermentation, and innovative brewing methods, leading to an explosion of new beer styles and flavours.

The Yeast is History

Fermentation was typically initiated by natural yeast present in the environment or in the brewing ingredients. Yeast was later included as an essential ingredient once its role in fermentation was discovered in the 1800's by French microbiologist Louis Pasteur. Pasteur conducted experiments that demonstrated yeast was a living organism responsible for fermentation. His research, published between 1857 and 1864, explained that yeast cells were essential for converting sugars into alcohol and carbon dioxide during fermentation.

This understanding marked a significant advancement in brewing science. The brewing industry began to take advantage of the scientific knowledge about yeast. Breweries started to cultivate and maintain specific yeast strains, leading to more consistent and controlled fermentation processes. As brewing science progressed, techniques for yeast management, propagation, and storage improved. Modern brewers use advanced methods to cultivate, propagate, and store yeast, ensuring the production of diverse beer styles with consistent quality. The contemporary craft beer movement has expanded the exploration of different yeast strains and fermentation techniques.

The Role of Biobanks in Beer Production

Biobanks for yeast for beer, often referred to as yeast banks or yeast collections, are crucial for modern brewing, especially for craft brewers and research institutions. They serve as repositories for a diverse range of yeast strains used in beer production. Yeast banks hold a variety of yeast strains, each with unique characteristics that influence the flavour, aroma, and style of beer. For example, ale yeast (*Saccharomyces cerevisiae*) and lager yeast (*Saccharomyces pastorianus*) have different fermentation properties that are essential for different beer styles.

By maintaining a reliable source of yeast strains, brewers can ensure consistency in their beer production. This is especially important for commercial breweries that aim to produce a consistent product batch after batch. Having access to a wide range of yeast strains allows brewers to experiment with new flavours and characters. Yeast banks provide a resource for brewers to explore novel fermentation profiles and create unique beer recipes. Yeast banks help preserve historical and rare yeast strains that might otherwise be lost.

The Wreck

An example of a preserved strain (albeit not from a biobank but preserved under water) is our very own shipwreck beer. In 1796, the colonial trading firm Campbell and Clark sent the ship Sydney Cove from Calcutta, India, to Port Jackson; it was loaded with provisions such as ales, wines, spirits, and essential supplies like grain and timber. Unfortunately it never reached its destination and ran aground north of Tasmania, but while the ship missed Sydney, the beer on board managed to survive for almost 200 years on the icy seabed. In the 1990s, marine archaeologist Mike Nash and the Australian Historic Shipwrecks Team recovered the beer during excavations and transported it to a museum in Launceston for preservation. Today, thanks to a partnership between the museum, the Australian Wine Research Institute and Australian brewing company James Squire, the historic beer has been brought back to life through re-brewing. The shipwreck yeast is showcased in 'The Wreck', a rich, dark, 7% alcohol porter – a popular style in the late 18th century.



Top - A diver salvages a beer bottle from the Sydney Cove shipwreck site.
Source Mike Nash, Parks and Wildlife via the Queen Victoria Museum & Art Gallery
Left - James Squire's The Wreck Preservation Ale

There are a number of leading commercial yeast biobanks and collections:



Wyeast Laboratories is one of the most well-known commercial yeast suppliers. Wyeast was established in the early 1960s and offers a wide range of yeast strains for various brewing needs, including both ale and lager strains for hobbyists and small-scale brewers and they offer their yeast in liquid form ready to go. Strains are maintained in two forms in their yeast bank: a culture slant with overlay and at $-70\text{ }^{\circ}\text{C}$.



White Labs is a laboratory that provides numerous specimen services including a biobank that houses a comprehensive collection of yeast strains. White Labs also conducts research to develop new strains for different brewing applications. They operate yeast production facilities in San Diego, California; Asheville, North Carolina, and Copenhagen, Denmark as well as a distribution warehouse in Hong Kong.



The National Collection of Yeast Cultures, have more than 4400 strains collected over 70 years and they specialize in maintaining a diverse collection of yeast strains for brewing research and commercial use. They offer an extensive catalogue of their collection for brewing and baking strains including an identification service, DNA fingerprinting and authentication of *Saccharomyces cerevisiae* strains. They also facilitate the deposit of organisms into their open collection of cultures for patent purposes as well as a confidential safe deposit service.

As well as these key commercial yeast biobanks, there are many more within universities and research institutions, which are used for brewing research, genetic studies, and the development of new brewing techniques. The Australasian Yeast Group (AYG) includes scientists from various sectors including academia, industry, and research institutes, facilitating communication and collaboration among its members. It maintains a link with the Australian Society for Biochemistry and Molecular Biology through a Yeast Special Interest Group.



The University of the Free State Yeast Culture Collection (UFS YCC) houses a collection of over 3000 yeast isolates from various habitats within South Africa and worldwide. The UFS YCC is a national and international resource for researchers and industries interested in yeast diversity, and a core member of the Biodiversity Biobanks South Africa ([BBSA](#)) network.

These yeast banks typically store yeast strains in a stable, viable form, such as in liquid cultures or on agar plates. When a brewer needs a particular strain, they can request it from the bank, which will provide a sample of the yeast to be used in brewing. Maintaining yeast viability is crucial. Yeast banks often use cryopreservation or freeze-drying techniques to keep the yeast strains alive and stable over long periods.

The Biobanks with no Beer?

Yeast banks are an essential resource for brewers and researchers alike. They not only support the production of diverse and high-quality beers but also contribute to the ongoing innovation and preservation of brewing traditions. Whether for a homebrew experiment or a large-scale commercial production, having access to a well-maintained yeast collection can make a significant difference in the brewing process. Keep this in mind when you have your next beer – Cheers!

5 Minutes with a Biobanker

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



This month A/Prof Steve Salisbury from the School of the Environment, The University of Queensland answers our questions.

Steve is the head of the UQ [Dinosaur Lab](#) and is one of ABNAs keynote speakers at this year's annual conference!

THE QUICK QUESTIONS

Chilli on food?

Yes

What is better the book or the movie?

Book

Is it football or soccer?

Soccer

Are you usually 5min early or 5min late?

5 minutes late

1. How long have you been working in biobanking?

I've been a professional palaeontologist for 20+ years

2. What has shaped your views on biobanking?

I'm not sure that I'd consider myself a biobanker per say, but my interest in palaeontology started when I was a kid. I just never grew up.

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

Wading through chest-deep water (not) knowing there was a 3+ m long crocodile in the area

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

Working with Goolarabooloo Traditional Custodians to save Walmadany (James Price Point) from a \$35 billion LNG precinct. All specimens remained on Country.

5. What was the last conference you attended and where was it?

CONQUEST24, Queensland Education Science Technicians, Brisbane, 24-26 June 2024



ABNA 2024 - GLENELG, ADELAIDE
BIOBANKING: SHAPING THE FUTURE TOGETHER
16 - 18 OCTOBER 2024

Special Interest Group updates

QUALITY MANAGEMENT & IMPROVEMENT SIG

The Quality Management and Improvement (QMI) Special Interest Group (SIG) aims to enhance biobanking quality through networking, knowledge sharing, and advocacy. Goals include connecting professionals across the Australasian region, identifying and addressing quality gaps, facilitating professional development, and promoting QMS advancements. Our SIG consists of 22 members with diverse backgrounds including quality management, operations, biospecimen science and biobank coordination. We meet quarterly and have instigated 2 working groups to progress our first-year goals: biospecimen storage and biobank disaster preparedness.

Current initiatives include developing a biospecimen storage resource list, creating a biobanking disaster recovery resource, and instigating an end-of-year workshop to provide comment towards the ISO20387 global systematic review. Additionally, we will be hosting a Quality Management Q&A at the upcoming ABNA conference, so get your questions ready!

If you would like to join the QMI SIG or contribute to the development of key biobanking resources, email the chairs on Samantha.Higgins@cancervic.org.au and/or beth.caruana@health.nsw.gov.au

The Clinical Trials & Population Cohort Biobanking (CTPCB) SIG aims to bring together expertise to facilitate the improvements of biobanking for current and future clinical trials and cohort studies across Australasia. The inaugural SIG team currently consists of 11 active ABNA members and meets quarterly.

Together, we have identified 4 initial goals, which include:

- sharing current information relating to biobanking for clinical trials and population cohort studies, such as national guidelines, grant opportunities and conferences etc.
- facilitating a round-table discussion at the ABNA 2024 conference in Adelaide
- reviewing the [InFORMed PICF Template](#) and to inform the relevance to trials and cohort biobanking
- promoting the expertise of SIG members to wider ABNA community

As a sneak peak, the roundtable at the 2024 ABNA conference will explore ways to promote and improve visibility of biobanking as an essential tool in facilitating health innovation. The roundtable will also discuss strategies to meet some of the challenges in achieving long term sustainability.

We continue to welcome new members to join our ranks as we work towards these important goals. Feel free to reach out to us for more information to get involved:

Wayne Ng: Wayne.Ng@cancervic.or.au

Jennie Hui: Jennie.Hui@health.wa.gov.au

Ilka Priebe: Ilka.Priebe@csiro.au

CLINICAL TRIALS & POPULATION COHORT BIOBANKING SIG

Our SIG is focused on the world of biobanking for all biodiversity – our membership spans many taxa including plants, corals, mammals, amphibians, fish, reptiles and also spans a large variety of sample types. We are particularly interested in facilitating sharing of knowledge and increasing research output in relation to biobanking.

BANKING FOR BIODIVERSITY SIG

Our membership comprises 20 members and we welcome membership across the gamut of biobanking of all diverse organisms in Australasia. During our first meeting we identified a couple of priorities for the year:

- to facilitate a platform for sharing knowledge and networking, and
- to collaboratively develop a perspectives piece on biodiverse biobanking within Australasia.

All members should receive a Teams invite shortly.

At the upcoming Conference in Adelaide there will be a workshop for our second official meeting where we will work together on some pre-planned activities to facilitate our perspectives piece. Your attendance is welcomed (dates and times TBA) either in-person, or virtually.

Banking for Biodiversity SIG chairs:

Emma Dalziell: emma.dalziell@uwa.edu.au

Rose Upton: rose.upton@newcastle.edu.au

POST-MORTEM TISSUE COLLECTION SIG

The value of post-mortem tissue samples in biomedical research is becoming a growing point of discussion, particularly in the area of brain biobanking. Whether through rapid autopsy/rapid tissue collection programs or integrated into forensic pathways; the collection of post-mortem tissues allows for unique insight into disease pathogenesis for end stage disease, heterogeneity in diffuse or heterogenous diseases and the collection of larger sample sizes in conditions where scarcity is an ongoing hurdle to translational research.

Given the unique logistical, ethical and social challenges relating to consent and stakeholder engagement, we have set the following milestones;

- A mapping exercise to identify rapid autopsy and rapid tissue retrieval programs within our own regions allowing possible expansion of network.
- Preparation of a shovel ready grant to be available for funding opportunities.
- An advocacy and stakeholder engagement project encompassing a national survey of health care professionals.
- Exploration of opportunities for advocacy and engagement with coronial services.

Please join us at our roundtable discussion in person or virtually at ABNA 2024, details to be advised. Associate Professor Laura Forrest will describe “Lessons learnt from the CASCADE rapid autopsy programme at Peter MacCallum Cancer Centre”.

For more information or if you are interested in joining the Post-Mortem Tissue Collection SIG, please contact:

Cassandra Griffin: Cassandra.Griffin@newcastle.edu.au

Louise Ludlow: louise.ludlow@mcri.edu.au

ISBER 2025 Annual Meeting

ISBER is pleased to introduce the 2025 Program Planning Co-Chairs. The ISBER2025 Annual Meeting & Exhibits in Montreal, Canada will be co-chaired by Prof. Daniel Catchpoole, Dr. Anusha Hettiaratchi and Dr. Vanessa Tumilasci. Read about their career paths, expertise, and years of experience volunteering with ISBER [HERE](#) and save the date for May 13-16, 2025!



**MEET THE 2025 ANNUAL MEETING
Program Planning Co-Chairs**

Dan Catchpoole, PhD, FFSc(RCPA)
Children's Hospital at Westmead
AUSTRALIA

Anusha Hettiaratchi, PhD
University of New South Wales
AUSTRALIA

Vanessa Tumilasci, PhD
Beckman Coulter Diagnostics
CANADA

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How good are your lab methods?

Find out with IBBL's 2024 Biospecimen Proficiency Testing program

Registrations for IBBL's 2024 Biospecimen Proficiency Testing (PT) program are now open.

The Biospecimen PT program allows laboratories to verify and benchmark their performance. You can assess the accuracy and precision of your biospecimen characterisation methods (DNA quantification and purity, RNA integrity, RNA quantification and purity, Cell viability, Tissue histology,...) or the efficiency of your processing/extraction methods (DNA/RNA from whole blood, FFPE cells or frozen tissue, microbial DNA extraction from stool or saliva, cfDNA extraction from whole blood, Viable PBMC isolation,...).

To find out more or check the full program go to <https://www.lih.lu/en/biospecimen-proficiency-testing/>. If you have any question, please contact ISBERPT@ibbl.lu.

Registration closes on the 31st of August, 2024.



AUGUST 2024

Biobanking in the news

South Africa's biorepository network

The newly formed Medical Biorepositories of South Africa (MBirSA) was conceived to address the growing importance of biorepositories in healthcare and scientific advancements. Funded by and sitting within the framework of the Department of Science and Innovation, MBirSA aims to foster a unified network of medical biorepositories across South Africa. MBirSA aspires to become the national hub for harmonising critical principles and governance that shape the landscape of medical biorepositories. They have identified 5 objectives that underpin their mission:

- Establish a robust network
- Standardise processes with ethical rigour
- Increase accessibility and collaboration
- Professional development through training
- Ensuring infrastructure integrity



Redesigning consent

The recent launch of a simplified template for a participant information and consent form (PICF) will change how participants engage with health and medical research in Australia.

Clinical Trials: Impact & Quality, with support from the ARDC, has redesigned the PICF to create a simpler, shorter, and more engaging PICF template as part of their InFORMed Project. The new participant-centric template was designed with input from over 700 survey respondents, including consumers, researchers, contract research organisations and human research ethics committees. This will also have implications for participants consenting to biobanking.

Learn more about the InFORMed Project [PICF template and user guide](#).



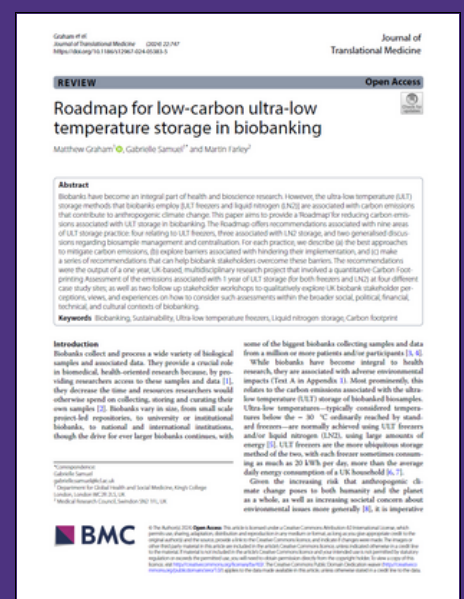
Australian Research Data Commons

How green is your cold storage?

A paper has recently been published that may be of interest to our members using and maintaining infrastructure for cold storage.

Published in the *Journal of Translational Medicine*, the paper describes a UK-based multidisciplinary research project that involved a quantitative Carbon Footprinting Assessment of emissions associated with 1 year of ULT storage (for both freezers and LN2) at four different case study sites. In addition, two follow up stakeholder workshops were delivered to qualitatively explore UK biobank stakeholder perceptions, views, and experiences on how to consider such assessments within the broader social, political, financial, technical, and cultural contexts of biobanking.

Click on the image of the article to access the full text.



If you have any suggestions for a short article for ABNA Exchange, please contact: info@abna.org.au

Content deadline for September edition: 20.09.24



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