APRIL 2025

ABNA EXCHANGE

OFFICIAL NEWSLETTER OF THE AUSTRALASIAN BIOSPECIMEN NETWORK ASSOCIATION

ABNA Diary

ABNA 2025, 22nd Annual Conference "Biobanking Evolving Through Time" website goes live! Early Bird registration will open on 1st of May.

Seminar 2 of ABNA's 2025 Seminar Series will take place on June 17th. Keep an eye out for updates on our speaker line up.

Stay tuned for the following applications and nominations which are opening next month:

The 2025 Emerging Leaders Scholarship

The launch of Lower and Middle Income Country ABNA conference travel scholarship

Nomination for the 2025 Biennial Achievement in Australasian Biobanking Award

Associate Professor Lisa Devereux
Inaugural recipient of the Achievement in Australasian Biobanking Award, Gold Coast 2023

No jokes here: don't let time fool you

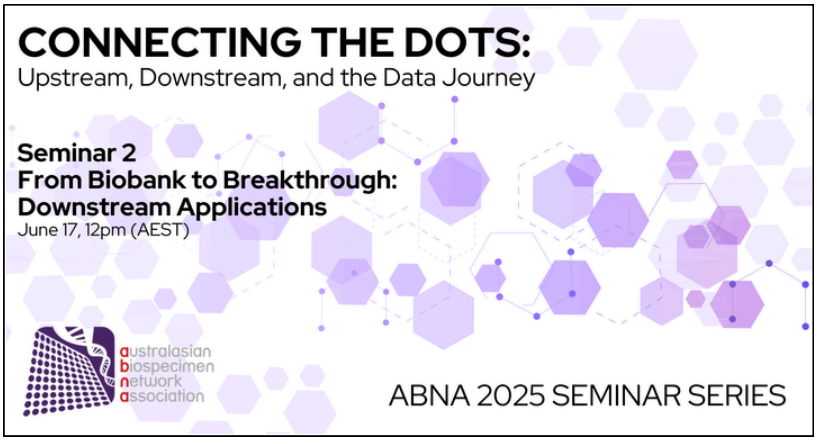
Welcome to the April edition of Exchange and we are one month closer to all of ABNA's upcoming events and initiatives. Take a look at the ABNA Diary on the left for some key dates and exclusive teasers. Don't let time fool you - stay ahead of the game! This month, we're counting down to the launch of the ABNA 2025 Conference website, and to kick things off, we're thrilled to feature one of our upcoming conference speakers in our segment, "5 Minutes with a Biobanker." Meet Dr Maiken Ueland, Director of the Australian Facility for Taphonomic Experimental Research.

This edition features a thoughtfully curated article on The Legacy of the Atomic Age written by Dr Louise Ludlow and Cassandra Griffin. It delves into the key moments in atomic history, their lasting impacts and the pivotal role of biobanking in findings and outcomes associated with long lasting effects.

We are also excited to share ISBERs announcement of the 2025 award recipients! Read on to see some familiar faces. Congratulations to all recipients. Plus don't miss out on updates from one of ABNA's SIGs.

Until next month!

Georget



5 Minutes with a Biobanker

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

This month Dr Maiken Ueland, Director of The Australian Facility of Taphonomic Experimental Research (AFTER) answers our questions.

Dr Ueland will be one of our invited speakers at ABNAs 2025 Annual Meeting in Newcastle, Oct 22 - 24.

THE QUICK QUESTIONS

Are you left or right handed?

Right

Would you rather play it safe or risk it all?

Risk it all!

Should pineapple go on pizza?

No,no,no (that is a hard pass on pizza with pineapple)

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

Handwritten

Dark vs milk chocolate, which one would you chose?

Milk chocolate (Norwegian milk chocolate please)

1. **What was your first job in biobanking?**
   Working as a research associate when AFTER was being developed.
2. **How long has your biobank been operating and what is your 'elevator pitch' for your biobank/job?**
   AFTER has been operational since 2016 and provides an invaluable resource for researchers and practitioners, enhancing their understanding of human decomposition. This knowledge supports police and forensic investigators in searching for, locating, recovering and identifying human remains.
3. **What is the craziest thing you have done to save a sample/s?**
   There has been a few interesting experiences, particularly since we often work out in remote locations collecting and storing tissue samples. The craziest has to be the time we had to purchase 100s of kg of ice at a gas station because a temporary freezer we were using for a project failed and we had to keep adding ice to try to keep the samples cold. What a way to spend a weekend!
4. **What has been your favourite moment (so far) in your biobanking career?**
   The best part of my job is to be able to work with samples from individuals who have donated their bodies to science. Being a part of making their final wishes come through is such an honor and privilege.

As we roll out the April edition of ABNA Exchange, we're just six months away from the Annual Conference! This month also brings the second post in our Newcastle Conference Corner Blog series.

Keep an eye out for the official announcements about the website launch and conference registration. In the meantime, dive into our blog for all the exciting details on what is available to do near the main conference venue and the various spots around Newcastle that ABNA will be using this year. There's plenty to explore and enjoy.

This month the blog also gives you the inside scoop on the speakers in the Consumer Engagement, Cooporative Research & Citizen Science session. Sticking with our Biobanking Evolving Through Time theme - this is our Roaring Twenties session, playing homage to a decade of great social change and cultural dynamism!

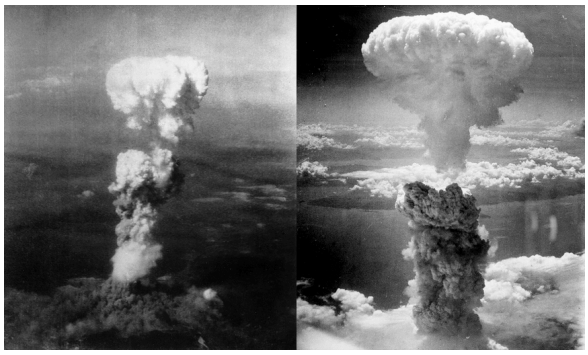
Read the April blog on our conference website

CLICK HERE

A Legacy of the Atomic Age

By Dr Louise Ludlow & Cassandra Griffin

Hiroshima and Nagasaki



This year, August 6th and 9th will commemorate 80 years since the atomic bombings of Hiroshima and Nagasaki, respectively. The first bomb, dropped on Hiroshima, devastated the city, reducing it to rubble and ash, killing an estimated 140,000 people. Three days later a second bomb detonated over Nagasaki killed 70,000 people. Tens of thousands would die later as a result of injuries or nuclear radiation. Following the two atomic bombs, the USA forced the Japanese Empire, which had been allied with the Nazis in World War II, to surrender.

Left: The mushroom cloud over Hiroshima after the dropping of "Little Boy" photographed by Bob Caron aboard Necessary Evil. Right: Atomic bombing of Nagasaki on August 9, 1945, taken by Charles Levy
Image source: Wikipedia

The survivors of the atomic bombing have provided a meaningful legacy in the form of their biological specimens and associated data. Biological samples from survivors of nuclear weapons in war are preserved in the Radiation Effects Research Foundation (RERF) facilities located in Hiroshima and Nagasaki, Japan. This is a US-Japan cooperative research institute that investigates the health effects of atomic bomb radiation for peaceful purposes. These biosamples not only inform the medical care and welfare of the survivors but also inform the establishment of international radiation protection standards.

RERF Research Programs

The Life Span Study

Investigates life-long health effects based on epidemiologic (cohort and case-control) studies. Aims to investigate the long-term effects of radiation on causes of death and incidence of cancer. About 120,000 subjects selected from residents of Hiroshima and Nagasaki identified through the national census in 1950 have been followed.

The Adult Health Study

A clinical research program based on biennial health examinations which include a general physical exam, ECG, chest X-ray, ultrasonography, and biochemical tests. This study contributes to the health management of the survivors.

The Children of Atomic-bomb Survivors (F1) Study

This study investigates whether genetic effects might be apparent that could be related to parental radiation exposure. Studies of birth defects, mortality, cancer incidence and chromosome abnormalities have not revealed any discernible effects (Washington (DC): National Academies Press (US); 1995).

The In Utero Study

Evaluating the lifetime health experience of those in utero at the time of the bombings (about 3,600 persons) with a continued follow up through middle and old age until mortality.

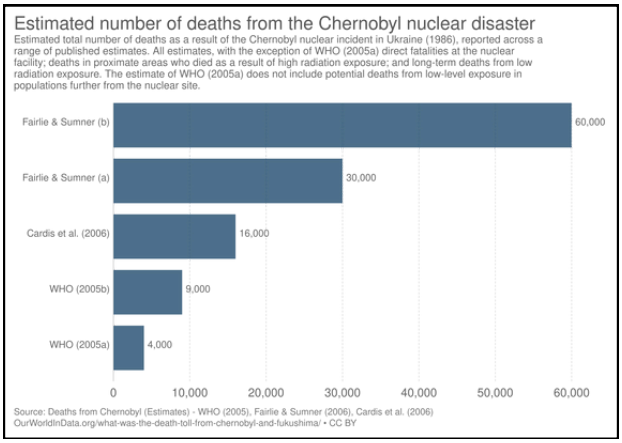
As of the end of October 2018, the Center has stored about 1.8 million tubes of biosamples including serum, plasma, blood cells and urine donated by more than 30,000 health examination participants. The collection also includes tissue samples from autopsies, still births, spontaneous abortions, and neonatal deaths, stored in formalin. Since 1986, teeth – in which radiation exposure from decades earlier can be measured have also been donated to the centre from people undergoing regular dental work.

In order to allow the RERF biosample information to be shared with researchers in Japan and around the world, there are also plans to provide a system enabling individual researchers to quickly and easily search for and extract biosamples they need for research by building a database that centralises and comprehensively manages the data.

There are thousands of living atomic bombing survivors which are called Hibakusha. There will come a day when there are no longer any Hibakusha alive but their biosamples will live on indefinitely creating a legacy of the atomic age.

The Chernobyl Tissue Bank

In keeping with the subject of radiation exposure, another key disaster comes to mind. In April 1986 the number four reactor of the Chernobyl Nuclear Power Plant exploded. With dozens of direct casualties, this is one of only two nuclear accidents to be rated on the maximum severity scale – the other being the meltdown of the three Fukushima Dai-ichi nuclear power reactors in 2011. Considered the worst nuclear disaster in history, the Chernobyl explosion occurred while running a test to simulate cooling the reactor during a hypothetical blackout. Despite being aware of an accidental drop in reactor power due to a design issue, the operators carried out the test regardless resulting in a dramatic power surge. The subsequent steam explosions and meltdown destroyed the building but were followed by a core fire that spread radioactive contaminants across the Soviet Union and Europe. Over 68,000 people were evacuated, however evacuation took up to 36 hours in some areas leading to mass exposure. The radioactivity released at Chernobyl tended to be more long-lived than that released by a bomb detonation hence it is difficult to draw a simple comparison between Hiroshima, Nagasaki and Chernobyl.



Left: A map showing caesium-137 contamination in the Chernobyl area in 1996 (image source: Wikipedia). Middle: The range of published estimated death tolls (image source: Wikipedia). Right: The promotional poster from the 2019 HBO mini series around the 1986 disaster and the cleanup efforts that followed.

12 years later the Chernobyl Tissue Bank (CTB) was established supported by the World Health Organisation, European Commission, US National Cancer Institute and Sasakawa Health Foundation of Japan. The CTB is a repository of biological material and data from patients with thyroid tumours who were exposed as children or adolescents to radioactive fallout from the accident and stores research data alongside remaining samples.

Key aims of the CTB

Ensure that specimens of thyroid cancer removed on or after October 1, 1998, are consistently described and sampled; that the materials (extracted tumour and normal DNA/RNA, blood samples, and in some cases fixed tissue sections) along with the demographic, clinical and pathological information, are available for appropriate research studies; and that all specimens and data are collected and shared with appropriate informed consent.

Review tumour specimens and provide a consensus diagnosis by an international committee of expert pathologists for all cases. Diagnostic information is available to research groups carrying out molecular biological, therapeutic, epidemiological, and other studies.

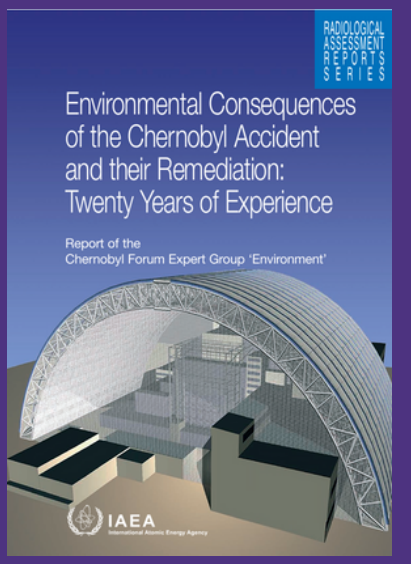
Maximize the amount of information obtained from small pieces of tumour and promote collaborative, rather than competitive, research on a limited biological resource.

Ensure that knowledge pertaining to the consequences of this accident may benefit the patients affected and be of value in responding to future nuclear accidents as well as in understanding and treating thyroid tumours more generally.

The CTB currently includes material and information from patients with thyroid carcinomas and cellular follicular adenomas from the contaminated oblasts (regions), who were younger than 19 years of age at the time of the Chernobyl accident. For controls, the CTB also includes patients who were born after the accident and not exposed. A variety of biospecimens have been collected with tissue snap frozen or stored in representative paraffin blocks. The CTB pathology panel, an international group of expert thyroid pathologists, review all samples to reach a consensus diagnosis agreed prior to samples being released for research.

Researchers who request access to samples are provided with extracted nucleic acid from thyroid tissue, rather than tissue samples themselves. This maximizes the potential for data extraction and ensures the largest possible research utility for each sample.

Humans are not alone when suffering the impact of radiation related disasters and research conducted on voles in Sweden showed that the dose of radiation absorbed from soil was far lower than that used in the laboratory to simulate the same mutagenicity. The International Atomic Energy Agency (IAEA) continues to undertake studies on the present and future environmental impact of Chernobyl including sampling of soil, trees, fruits fungi and various species of fauna.
Click HERE to read the full article or click on the image to read the IAEA report on environmental consequences and their remediation.



Between 24 February and 31 March 2022 the Chernobyl nuclear power plant site came under the control of Russian armed forces. The IAEA has stated that they continue to closely monitor and assess the situation in Ukraine on a daily basis, prioritising nuclear safety and security implications, alongside ongoing verification activities.

ISBER 2025 Awards

ISBER has announced the 2025 Award Recipients! Join us in congratulating the award recipients below.

OUTSTANDING ACHIEVEMENT IN BIOBANKING

Jajah Fachiroh

Assistant Professor in the Department of

Histology and Cell Biology at FK-KMK UGM

LEADERSHIP AWARD

Helen Morrin

Curator of Otago University's He Taonga

Tapu Cancer Society Tissue Bank

(HTTCSTB) in Aotearoa New Zealand (NZ)

SPECIAL SERVICES AWARDS

Note from ISBER President, Dr Dayong Gao: These awardees are from all over the world, covering four regions (Americas, EMEA, Indo-Pacific, China) of the entire ISBER community. They have played pivotal roles and provided outstanding leadership in ISBER as well as regional and global biobanking initiatives, events, publications, and conferences. They have also made distinguished contributions to advancing education in biobanking science and practice, promoting biobank-driven research, fostering collaboration across disciplines and regions, and ensuring that biorepositories continue to serve as vital assets in scientific, medical, agricultural, industrial discovery and development worldwide.

Dr. Engela Helena Conradie

Hengjun Gao, M.D, Ph.D.

Ms. Debra Leiolani Garcia

Ms. Cassandra Griffin

Dr Gregory Grossman

Dr Wayne Ng

Dr Stella Somiari

Dr. Zhiquan (Andy) Shu

Clinical Trials & Cohort Biobanking SIG Update

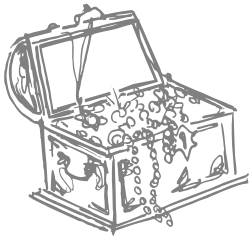
By Jennie Hui, Ilka Priebe & Wayne Ng

The Ultimate Treasure Hunt of Medical Research

At the 2024 ABNA conference, some of the brightest minds in medical research gathered to discuss the future of biobanks. The atmosphere buzzed with excitement as experts shared their visions for transforming these hidden gems into invaluable resources for scientific breakthroughs. Here are the highlights:

- **Central Biobank Database:** Picture a national treasure map for researchers to find and request samples easily! No more feeling like Indiana Jones on a quest for the perfect samples.
- **Raising Awareness:** Imagine the magic of public relations, engaging websites, and social media buzz to spread the word. Think of PR as the fairy godmother, turning biobanks from Cinderella into the belle of the ball!
- **National Biobank Infrastructure:** Big dreams need big plans and investments to make them a reality.

Just like setting up the ultimate treasure hunt - creating detailed maps, hiding clues and ensuring everyone has the tools they need to find the treasure. Ambitious, a bit chaotic, but totally worth it when you finally uncover the prize!



Curious for more?

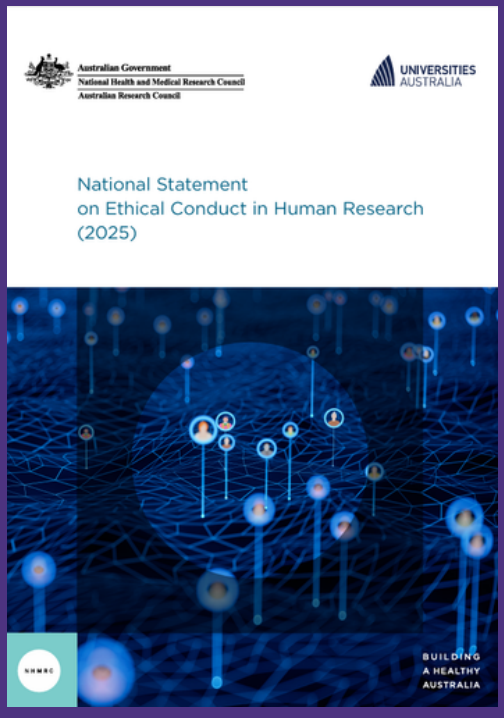
Check out the full report on ABNAs website HERE

National Statement - 2025

The 2025 National Statement is effective from 1 October 2025. From that date, the National Statement on Ethical Conduct in Human Research 2023 will be revoked and researchers submitting human research proposals for ethics review, ethics review bodies and those involved in research governance will be expected to apply the guidance in the 2025 National Statement.

he National Statement on Ethical Conduct in Human Research 2025 incorporates a revised Section 4 as well as changes to other sections and some additional minor changes.

More information and to download the whole document, click HERE.



Biobanking in the News

Healthcare Worker Biobank

A few months following the initial reports of COVID-19 cases in South Africa, a new cohort study involving healthcare workers was initiated.

The participants, comprising doctors, nurses, allied health professionals, and other hospital staff—75% of whom were women—volunteered their blood, plasma, and nasal swabs for research. During the first month, samples were collected weekly, then every two weeks for the next six months. For the following six months, samples were taken every three months, and subsequently every six months until five years had passed since the study began. The final collection has now been completed.

Under the leadership of Ntobeko Ntusi, former head of medicine at the University of Cape Town and current president of the South African Medical Research Council, along with Wendy Burgers, professor of virology, the collection has significantly enhanced our understanding of human immune responses to SARS-CoV-2. This research has also influenced future infectious disease studies both locally and globally.

The data collected from this cohort led to 20 major publications in leading scientific journals, including Nature, New England Journal of Medicine and Science Translational Medicine. The studies brought together scientists from across South Africa, including from the South African National Institute for Communicable Diseases. Partnerships with global institutions also amplified the impact of the research. Beyond answering urgent pandemic questions, the study also built crucial local research capacity.

Read the full article **HERE**.

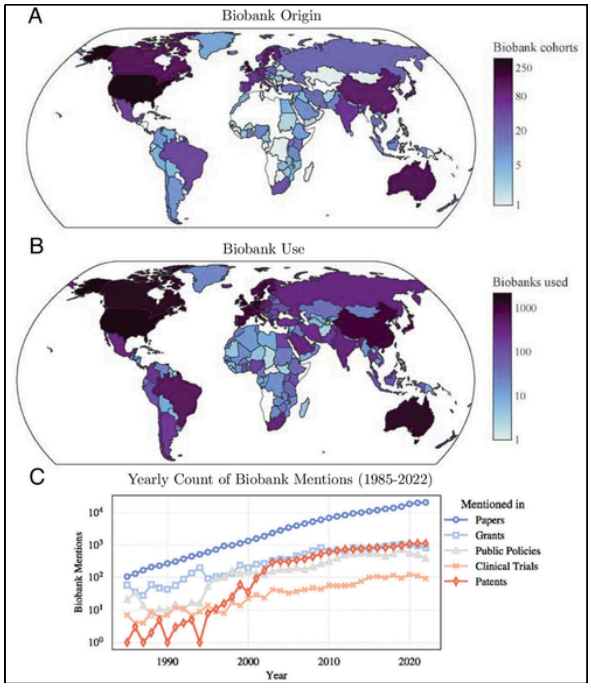
Publication

The idea for a biobank impact factor has been around for years, however a new publication in PNAS introduces a comprehensive measure of the multifaceted impact of biobanks.

The article "Quantifying the impact of biobanks and cohort studies" addresses long-standing challenges, including the absence of a centralised biobank repository, limited data on biobank impact, and a lack of standardised practices for biobank recognition.

The authors reveal a concentration on limited disease areas, widespread co-authorship-for-access practices, and systemic under-citation of biobank resources. Their findings demonstrate that traditional metrics fail to capture the true value of biobanks and offer a framework for evaluating scientific resources.

Click **HERE** to read the full article.



Biobank origin, use, and mentions. (A) The origin of biobank cohorts based on the nationalities included in the biobank's cohort sample. (B) The countries using biobanks based on the affiliation of authors mentioning a biobank in their publications. (C) Number of biobank mentions per year across papers, grants, patents, clinical trials, and public policy documents between 1985 and 2022.

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