JULY | 2023

BIO-BABBLE



Newsletter of the Australasian Biospecimen Network Association

PRESIDENT: Cassandra Griffin

TREASURERS: Louise Ludlow, Leanne Wallace **DIGITAL MEDIA OFFICERS:** Valerie Jakrot, Ussha Pillai

VICE PRESIDENT: Georget Reaiche-Miller SECRETARY: Samantha Higgins

ORDINARY COMMITTEE MEMBERS: Chris Gorman, Anusha Hettiaratchi, Jennie Hui, Catherine Kennedy, Carmel Quinn, Helen Tsimiklis, Duncan Villanueva, Shirley Wee, Li Zhou,

THE EARLY BIRD GETS THE WORM



Welcome to the July issue of Bio-Babble! As we enter the second half of 2023 (how did that happen) we have lots of updates and events scheduled for our members. Our 2023 Annual Meeting Program marking 20 years of ABNA is nearing completion and we are excited to bring you a fresh and diverse program of speakers.

We have a number or special events and program highlights to celebrate this special anniversary including;

- Our Gala Cocktail Networking Dinner held within the SeaWorld Park and includes a private dolphin show, access to arcade games and live performers
- Shark Bay Biobanker Speed Dating get to know your colleagues while finned friends including large rays and sharks swim past you in this underwater experience
- SeaWorld Biobank Site tour guided tour of SeaWorld's Jellyfish biobank, followed by Shark Bay Aquarium tour

We also have two workshops to open the program and two panels embedded within the program for focused discussion and interactive brainstorming.

- Workshop 1 Dazed and Confused: You Want to Bank What? This workshop will explore bespoke biobanking and specimen processing requests, workshopping methods of approach for biobankers and biospecimen scientists as they collaborate to develop protocols.
- Workshop 2 Chain Reaction: Tissue Custodianship Working Group. This workshop will explore the regulatory, ethical and legal frameworks that impact tissue custodianship with particular reference on consumer perspectives and the position of state pathology laboratories.
- **Diversity Seminar 4 You're the Voice.** A panel of consumer representatives covering diverse cultural, religious and indigenous groups collectively discussing inclusive strategies for research engagement and participation.
- ABNA Past Presidents Panel reflecting on 20 years of ABNA and future directions

Early Bird Registrations will close 5pm Friday 28 July following which full rates or member and non-member registrations will kick-in. A reminder to those who work closely with ECR and PhD students that we also have a student rate to encourage the next generation of biobankers to engage with our growing community.



5 MIN WITH DR CLAIRE SHEPHERD

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



Dr Claire Shepherd is the Director of the <u>Sydney</u> <u>Brain Bank</u> at Neuroscience Research Australia and a Conjoint Lecturer in Pathology at UNSW.

THE QUICK QUESTIONS Red or white wine? Neither, but an aperol spritz if I'm in the mood for a drink Mac or PC? Mac Batman or Superman? Superman without a doubt! Lord of the Rings or Harry Potter? Harry Potter – I really enjoyed reading the books with my daughter and then watching the movies together

- How long have you been working in biobanking?
 14 years.
- 2. Which advance in science/research do you think has had the most impact on you as a biobanker?

Single cell and spatial multi-omics technologies.

3. 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?

Talk to people far and wide to understand the complexity of biobanking and the many challenges faced.

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

I am not sure it's that crazy but it's not uncommon to be woken from a deep sleep to feed cells, retrieve samples from a dying freezer or organise a donation.

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

Take That - 'Never Forget' Eminem - 'Lose yourself' George Michael - 'Faith' I'll leave you to ponder why :)

SPORTS BIOBANKING

By Louise Ludlow

What a thrilling time of year to watch sport! Wimbledon has just concluded with two new winners Marketa Vondrousova and Carlos Alcaraz crowned in the singles tournament, a controversial and competitive Ashes series is underway and such excitement as our Aussie cyclist Jai Hindley won stage 5 and wore the maillot jaune in this year's Tour de France!

Sports biobanking is a growing field in the Australian and international biobanking landscape. In this edition we showcase biobanks that are contributing to concussion research in sports such as football, hockey and netball and highlight the importance of biospecimen collection from elite cyclists as a key tool in the fight against doping.



Source: https://www.abc.net.au/news/2023-07-06/jai-hindley-takes-lead-of-tour-defrance/102567844

A longitudinal collection to understand the impact of repetitive mild traumatic brain injury

The Australian CTE Biobank (ACB) located at Macquarie University, studies individuals with and at risk of chronic traumatic encephalopathy (CTE). The biobank is directed by Dr Rowena Mobbs, a neurologist who leads concussion, chronic traumatic encephalopathy, and dementia services in the Department of Clinical Medicine at Macquarie University.

Concussion is a common cause of hospitalisation in athletes participating in contact and collision environments such as all codes of football, hockey, netball, extreme sports, equestrian, surf lifesaving and cycling.

The progressive condition called CTE is thought to arise from cumulative head trauma over the years by concussion and other neurological signs. In the most severe cases, this results in a diagnosis of dementia defined by progressive and delayed cognitive impairment such as troubles with memory, thinking, mood and behaviour.

Blood samples are utilised to identify biomarkers for earlier and more accurate diagnosis and possible targets for new treatments of CTE.

"The ACB is a curated bank of yearly biological samples and clinical data collected from living patients with possible or probable CTE to better understand the impact of repetitive mild traumatic brain injury over time." Source: https://www.ctebiobank.org/



The Australian Sports Brain Bank

The Australian Sports Brain Bank (ASSB) was established in 2018 headed by Professor Michael Buckland. The bank is part of the neuropathology department of Royal Prince Alfred Hospital in collaboration with the Brain and Mind Centre at the University of Sydney, and the Concussion Legacy Foundation (CLF) and Global Brain Bank. A Melbourne branch was opened in 2019 in conjunction with the Victorian Institute of Forensic Medicine. In late January the Australian Veterans' Brain Bank was officially launched to advance understanding of the long-term effect of head trauma amongst veterans. The Australian Veterans' Brain Bank is a sister organisation to the Australian Sports Bank and is based at Concord Hospital, Sydney.

Researchers aim to study the relationship between concussion, head injury and chronic traumatic encephalopathy (CTE). CTE can only be diagnosed by brain examination after death placing importance on obtaining samples to determine its extent in Australian contact sports.

In 2019, CTE pathology in the brains of two former Australian National Rugby League (NRL) players was published. These were the first reported cases of CTE in rugby league in the world, and only the second and third cases of CTE ever reported in Australian sportspeople. Since this time donors have included Australian rules football hall of fame member Graham 'Polly' Farmer in 2020. Jacinda Barclay was the first contact sportswoman in Australia to donate her brain.

The ASBB has now received more than 600 brain donation pledges from amateur and professional sportspeople. These include pledges by boxer Jeff Fenech, National Football League player Colin Scotts, Australian Football League players Daniel Chick and Sam Blease and National Rugby League players Ian Roberts and Shaun Valentine.

Preliminary findings based on the first 21 completed donations have been reported. Neurodegeneration was identified in all but one donor brain, with CTE found in more than half of the cases. Authors state: "Our findings should encourage clinicians and policymakers to develop measures that further mitigate the risk of sport-related repetitive head injury."

This international collaboration spearheaded by biobanking activities is making huge strides in understanding the effects of regular concussions in Australian sportspeople.

EDITORIAL

AFL concussion move is not before time





"...things have become more urgent as three former AFL players – Polly Farmer, Danny Frawley and most recently Shane Tuck – were diagnosed with CTE in the past 12 months, a result of the establishment of the Australian sports brain bank."

CTE diagnosis and research

Heather Anderson

Heather Anderson (29 July 1994 – 13 November 2022) was a medic in the Australian Defence Force, played rugby league and then Australian rules football during her contact sports career, which began at age five and spanned 18 years.

In November last year, Anderson died by suicide at an army barracks in Perth, Western Australia, she was 28. Her brain was donated to the <u>A</u>SSB after her death by her family hoping to better understand why she died. Researchers from the ASSB posthumously diagnosed her with CTE. She is the first female professional athlete to be diagnosed with this disease.

Anderson in 2017 (Source: https://en.wikipedia.org/wiki/Heather_Anderson)



The Athlete's Biological Passport at the Tour de France

The testing of cyclist's blood and urine is a key tool in the fight against doping to enable a clean sport and deter the use of prohibited substances and methods.

The Athlete's Biological Passport was launched in 2008 by the Union Cycliste Internationale (UCI) and involves the evaluation of biological markers over time that reflect an individual's biological profile. This profile can be used as a reference to allow the detection of doping substances and prohibited methods – blood doping (including autologous) and gene doping. This program is managed independently by the International Testing Agency (ITA).



Source: https://www.wadaama.org/en/news/wadas-athlete-biologicalpassport-important-tool-protecting-clean-sport

In 2021, ITA collected 500 out-of-competition samples from riders destined to take part in the Tour de France. At the Tour de France, 184 riders were subject to a pre-competition blood test and 393 blood and 162 urine samples were collected over the three weeks of racing resulting in over 60% of athletes being tested. Testing was targeted based on risk assessment, performance and intelligence. Importantly, at every stage of the race, the yellow jersey and stage winners were tested.

Samples collected during the race are analysed in the World Anti-Doping Agency (WADA)-accredited laboratory in Paris and specific further analyses were carried out by the Cologne WADA-accredited laboratory upon request of the ITA.

Samples are stored for up to 10 years and may be re-analysed when new and more powerful analytical methods are developed or if intelligence is received. Such long-term storage of samples revealed that Lance Armstrong's urine showed evidence the prohibited hormone erythropoietin during his first Tour de France victory in 1999. Doping control samples may be used for research purposes by the WADA-accredited laboratories after their compulsory storage period has expired in agreement with the terms of consent.

A total of 120 dried blood samples were collected towards the opioid painkiller tramadol detection programme during the 2022 Tour de France. Testing resulted in Columbian cyclist Nairo Quintana being stripped of his sixth-overall finish at the 2022 Tour de France after tramadol was found in his system at the race. The two dried blood samples provided by Quintana on July 8 and 13 during the 2022 Tour contained both tramadol and its two main metabolites.



Case Report



Source: https://www.cyclingnews.com/news/courtof-arbitration-confirms-nairo-quintanas-tour-defrance-tramadol-disqualification/

RECAP ON ABNA SEMINAR 2

By Carmel Quinn

On 6 June, ABNA held the second seminar in the 2023 'Diversity' series. Seminar 2 was titled 'Diverse Offerings – What Do Biobanks Do?' and featured 3 speakers, spanning the fields of academic, industry and clinical trials biobanking.



Proceedings were begun by Dr Anusha Hettiaratchi, Manager, UNSW Biospecimen Services who described the biobanking landscape at the University of NSW in Sydney, including the evolution of the Health Precincts Biobank and the current model employed to meet UNSW (and external) biospecimen research needs.

Dr Chris Gorman, Biobank Coordinator at the Telethon Kids Institute in Perth, WA continued the presentation with his description of the Biospecimen Services facility (BioSpecs) that he manages. Studies using Chris's facility are truly diverse and mainly consist of single-site and multi-site clinical trials.

The seminar was concluded with an industry perspective, by means of a presentation from Dr Izabela Piotrowska of pharma company Boehringer Ingleheim (BI). Izabela manages BI's Global Biobanking program, developing a demand-driven strategy for collection, and ultimately promoting the use of the banked samples both within, and external to BI. Unsurprisingly, Izabela encounters complex regulatory compliance environments within her role.

This informative and well-received seminar followed the first in the series, 'Field Diversity – Capturing Heterogeneity in Biobanking' with two further seminars to follow. Seminar 3, 'Technology and Diversity – Innovation and New Frontiers' will be delivered on 5 Sept, with the final seminar in the series, 'Participant Diversity – Equity and Inclusion' featuring a panel discussion, to be held at the ABNA 2023 Annual conference to at Sea World on the Gold Coast.

HAVE YOU HEARD? CHANGES TO THE NATIONAL STATEMENT

The <u>National Statement on Ethical Conduct in Human Research (2023)</u> consists of a series of guidelines made in accordance with the National Health and Medical Research Council Act 1992 and has recently been updated with changes taking effect from 1 January 2024. Since changes made in the statement are mostly of minor significance, there was no need for public consultation during this update. General amendments on the statement covered language alignment, changes in citation and wording as well as the removal of some text from the previous statement. A summary of the minor amendments is also available for download on the NHMRC's statement's webpage and includes;

- Amendments to the wording and citations concerning opt-out consenting
- Language alignment concerning shared or banked data or information that is stored in a form that can identify individuals
- Citation changes around the use of banked biospecimens for low-risk research
- Language alignment surrounding the approval of research involving genomics or young people
- Language alignment and citations regarding greater than low risk research
- Clausal revisions around research that is intended to study or expose illegal activity or that is likely to discover it

ABNA recommends members review these changes which, while minor, may result in the need for updates or amendments to institutional biobanking policy documents.

ARDC HESANDA



Australian Research Data Commons

The Australian Research Data Commons (ARDC) initiated the Health Studies Australian National Data Asset (HeSANDA) program in 2020 to build national infrastructure to support the sharing of health research data for secondary research purposes, bring value to the research community, increase the efficiency of research, and provide benefits for the health of Australia's population.

The first stage of HeSANDA (2020-2023) focused on the sharing and reuse of data from publicly funded clinical trials research conducted in the academic sector. ARDC invested \$3.5M into the clinical trials research community which has co-designed a nationally federated research data infrastructure. In collaboration with 72 organisations, ARDC has developed a national data catalogue and data request platform so that clinical trialists can make their data discoverable and requestable in accordance with a national framework they designed together.

ARDC is now expanding its investment into health data infrastructure (the 'People Research Data Commons') to support a broader range of health research areas and data types, and a broader infrastructure offering including secure data access, data integration, and advanced analytics which may be of interest to the biobanking community.

The priority of the HeSANDA expansion project is to evaluate the feasibility of applying the HeSANDA infrastructure model for data discovery and requests in other health research areas through four main phases of work:

- Trageted consultations (Q2 2023)
- Public consultations (Q3 2023)
- Design (Q3-Q4 2023)
- Development (Q1 2024)

Public consultations will occur through a series of workshops one of which was in July, registrations are still open for <u>Workshops 2 & 3</u>, and repeat workshops may be organised subject to demand. Interested parties who are unable to attend the workshops may be allowed to contribute to the consultations by providing written submissions and feedback via email. All interested parties should register for this event regardless of whether they can attend the workshops.

ABNA TO-DO LIST... DON'T FORGET

- Early Bird Rates for the 2023 Annual conference end 5pm 28 July AEST!
- Nominations for the inaugural Achievement in Australasian Biobanking Award can be lodged HERE
- ABNAs Cost Recovery/Market Survey is still accepting submissions. To participate, please complete your responses in the spreadsheet attached to your Biobabble email.
- Abstract submissions are now open and will remain so until 1 September. For more information or to **SUBMIT**



If you have any suggestions for a short article for Bio-Babble, please contact: abna.biobabble@gmail.com Content deadline for August edition: 25.08.23

