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2023
OCTOBER
18-20

ANNUAL CONFERENCE

ACKNOWLEDGMENT OF COUNTRY

ABNA acknowledge the original inhabitants of this area, including the Yugambeh people and family groups within, and recognise their connection to the land, waters and resources in the area now known as the Gold Coast. We pay our respects to their Elders past, present and emerging.

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CONTENTS

GENERAL INFORMATION

Venue:
Sea World Conference Centre, Gold Coast, Queensland

Meeting Dates:
October 18 - 20, 2023

Conference Registration:
Hotel Reception area
09:00 Wednesday, Oct 18

Sea World Conference Centre
09:00 Thursday, Oct 19
09:00 Friday, Oct 20

Corporate Sponsors:
Exhibit bump in from 9am Wednesday, Oct 18
Exhibit bump out by 4pm Friday, Oct 20

ABNA Conference Dinner:
Registration for the dinner is on the ABNA conference website. The cost of the dinner tickets is not included in the price of the conference registration and need to be purchased separately. Delegates, guests and industry partners will need to provide their ticket and name tag for verification. In recognition of the 20 year milestone the dress code is Cocktail and we encourage all delegates to frock or suit up.

Full Conference Registration inclusions:
Wednesday - Friday: entrance to all workshops, speaker sessions, access to corporate sponsor exhibits and posters with lunch, morning and afternoon tea.

Conference Name Badges:
All delegates, including all presenters, will be provided with a name badge, this must be worn at all times within the conference venue, as it is required for access to all sessions on Wednesday to Friday, including the Conference Dinner.

Conference Proceedings:
Selected power point slides will be available on the ABNA website following the conclusion of the conference. Speakers will be requested to sign a release form or provide verbal consent.

Conference WiFi:
Delegates have access to complimentary WiFi for the duration of the conference. The Registration Desk will supply instructions for connecting to the conference network.

Dress Code:
Smart casual for all conference sessions.

Oral Presentations:
Please be aware of your allocated speaking time and do not exceed this. Reminders will be given by the session chair to assist with keeping the schedule running as listed in the conference program.

Poster Presentations:
Posters will be displayed in the area surrounding the plenary presentations with select posters featured in the sponsors area. Judging will occur during the lunch break on Thursday. Please be sure to make time to talk to the poster presenters.

Security:
The members of the conference organising committee, The Sea World Conference Centre accept no liability for personal accident or loss or damage suffered by any participant, accompanying person, invited observer or any other person by whatever means. We do not accept liability for any equipment or software brought to the conference by delegates, speakers, sponsors or any other party. Please be responsible for your own items and do not leave valuable items unsecured. Report any inconsistencies around people or items to venue staff or conference committee.

Social Media:
Please use #ABNA2023GoldCoast when posting on LinkedIn or Twitter.

Disclaimer:
The ABNA 2023 Conference Committee reserve the right to amend or alter any advertised details relating to dates, program and/or speakers if necessary, without notice, as a result of circumstances beyond our control. All attempts will be made to keep any changes to a minimum.

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PRESIDENTS MESSAGE

BOHEMIAN RHAPSODY

20 years of ABNA conferences - “It’s a Kind of Magic!”

In preparing for this momentous occasion I’ve spent considerable time reflecting on our industry and the incredible people who’ve created this community. 20 years ago, a time when Powderfinger and Delta Goodrem were topping the charts, visionary members of our community had an idea - a network that would bring biobankers together. “From Little Things, Big Things Grow” and such was the case with ABNA, but from that early meeting I don’t think anyone expected such a “Chain Reaction” or for ABNA to reach such heights. “It’s a Long Way to the Top” and we have plenty of growth to go, but with global affiliate agreements, quarterly seminars, the specimen locator and now Special Interest Groups and an Emerging Leaders Scholarship, our community is “Strong as Steel” and showing no signs of slowing.

Frequently during my term as President I have heard people remark “We didn’t realise we were biobankers!” and I feel this comment is a call to our community reinforcing the need for ongoing outreach and inclusive representation in biobanking and biospecimen science. Biospecimens are the cornerstone of research in medical spheres, conservation, food security and environmental health and only by uniting as a community can we continue to share our greatest hits, learn from our chart failures and find those illusive and timeless riffs that will ensure the longevity and ongoing impact of our discipline. From vinyl to digital, I’m excited to see what comes next!

This meeting is a celebration of ABNA and those who have made it what it is, and on that note I’d like to thank our members past and present, our international affiliates and past and present ABNA leadership. Each of you has played a role in building this community and from someone new to biobanking just 5 short years ago I can personally attest to the value and impact this community has on personal and professional growth. I’d also like to take a moment to sincerely thank our sponsors, some of whom have been with us over the decades. Without you and your constant support, meetings like this don’t happen. Thank you for your ongoing belief in our community.

This conference has been a labour of love from an incredible ‘band’ of ABNA members who have invested more time, passion and enthusiasm than I could ever have asked for. On behalf of our community, thank you. This conference also marks the end of my term as president so on a personal note I’d like to thank the 2022 and 2023 management committees for your hard work and your unwavering belief in our vision. To those who have been mentors, friends and a voice of encouragement when it was most needed - I’m eternally indebted. But now, let’s get this show on the road! Spin that record DJ and welcome everyone to ABNA’s 20th Anniversary Meeting ‘Biobanking on Record’.

“Anyway the wind blows...”

CASSANDRA GRIFFIN
2023 ABNA PRESIDENT

Cassandra Griffin

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AUSTRALASIAN BIOSPECIMEN NETWORK ASSOCIATION

ABNA is committed to providing an opportunity for individuals who have an interest in tissue banking and biorepositories to share information and experience.

ABNA supports and promotes best practice biobanking in Australasia.

ABNA AIMS

SUPPORT

Supporting new and emerging biobanks through protocol sharing and collegiate support.

BIOSPECIMEN ACCESS

Promoting biobanks throughout Australia and New Zealand to ensure high quality biospecimens are provided to support high quality research.

NETWORKING

Networking co-operatively and collaboratively with funding bodies and regulators to promote the interests of biobanking.
ABNA is an affiliated member of ISBER.

ABNA serves the biobanking community, research community and the general public and is managed by a committee structure elected by the membership.

EMERGING BIOBANKING LEADER SCHOLARSHIP

Since its inception, ABNA has made a concerted investment of energy and committee capacity into engaging early career biobankers and biobankers working in emerging biobanking disciplines.

In 2023 ABNA has an opportunity to provide support to ensure sustained engagement with emerging leaders – providing an opportunity to attend meetings or stand for committee after their initial year of membership. From this sustained engagement, emerging leaders will be better placed to leverage funding support for future attendance and ongoing membership.

ABNA recognises the need to invest in the biobanking community and the next generation of biobanking leaders to ensure succession planning and growth in the community.

ABNA is proud to announce the inaugural round of the Emerging Biobanking Leader Scholarship

Scholarship Terms

- Up to 3 ABNA scholarships will be provided in each ABNA year (October – September).
- Scholarship recipients will receive complimentary membership for 1 year and registration for the annual meeting (including the conference networking dinner) as well as up to $500 towards flights and accommodation.
- Scholarship recipients must have an abstract accepted for the event and acknowledge ABNA for their support on any subsequent poster or presentation.
- Scholarship recipients must agree to being named at the conference as the successful recipient.
- Scholarship recipients will be supported to develop two short articles during their complimentary membership for publication in the ABNA monthly newsletter, 'Bio-Babble' (min 1 page)
  - A reflection of the October meeting in the subsequent November edition
  - A reflection on their year as a scholarship recipient in the following September edition (i.e. 1 year following their award)
- Scholarship recipients must remain engaged with ABNA throughout the ABNA year with opportunities for engagement including;
  - Attendance at virtual events
  - Actively participating in an ABNA special interest group or working to develop a new special interest group proposal
  - Promoting ABNA within their local biobanking and research communities

Details for the 2024 round of Emerging Biobanking Leader Scholarships will be made available on ABNA's website, Bio-Babble Newsletter and official mail outs

2023 CONFERENCE SPONSORS

Thank you to all our conference sponsors
We are delighted to have you join us on the Gold Coast

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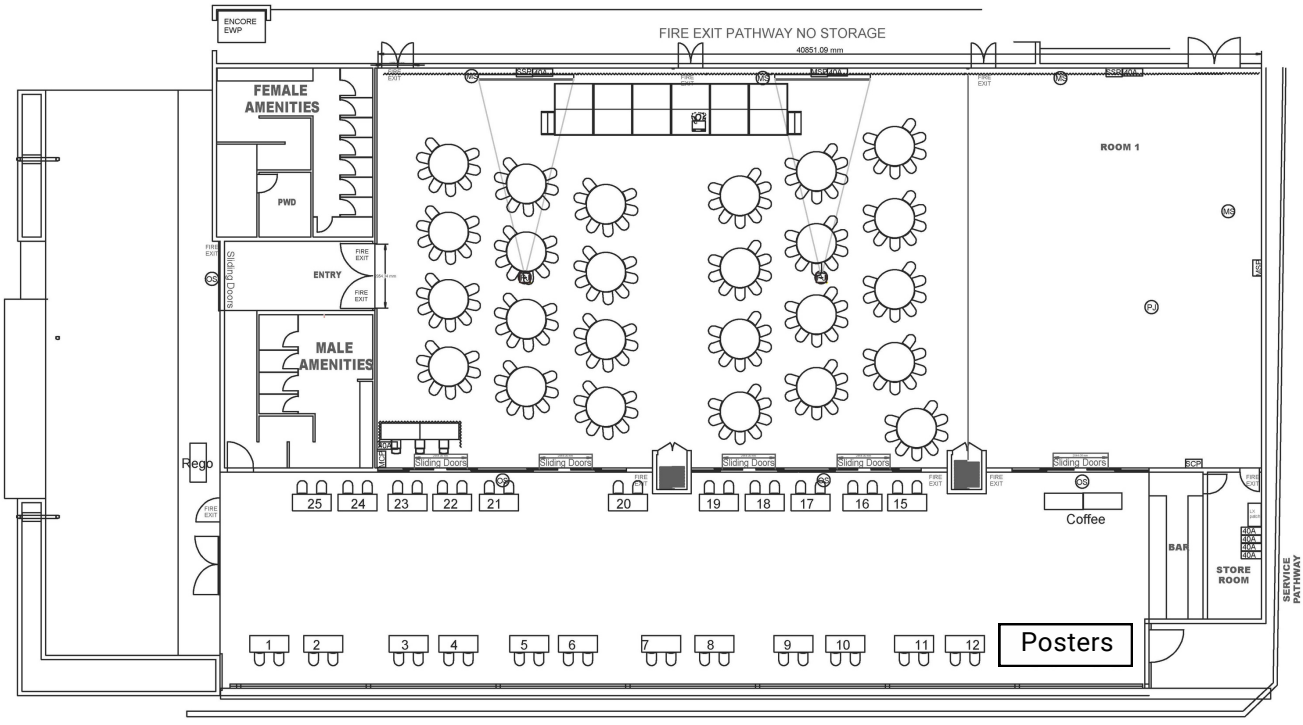
VENUE LAYOUT

SEA WORLD CONFERENCE CENTRE

BOOTH	SPONSOR
1	Abacus
2	AirConServe
20	Autima
15	Autoscribe Informatics
3	Askion
18	Azenta/BioTools
4	BioStrategy/Hamilton Storage
18	BioTools/Azenta
19	Capella Science
Coffee Cart	Cryo PDP
9	ECE Fast
21	Invitro/Micronic
17	Merck
21	Micronic/Invitro
5&6	MVE/Thermo Fisher Scientific
7&8	OpenSpecimen
11	Paragon Care
10	Pathtech
22	Revvity
12	Scientifix
16	Testo
23	United Bioresearch



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CONFERENCE ORGANISING COMMITTEE

Cassandra Griffin
President

Favourite Artists:
Queen
Guns and Roses
Meatloaf

Georget Reaiche-Miller
Vice President

Favourite Artist:
AC/DC

Leanne Wallace
ABNA co-Treasurer

Favourite Song
One Crowded Hour -
Augie March

Louise Ludlow
ABNA co-Treasurer

Favourite Album:
Tchaikovsky –
Nutcracker Suite

Chris Gorman

Favourite Artist:
Metallica

Carmel Quinn

Favourite Album:
Different Class - Pulp

Anusha Hettiaratchi

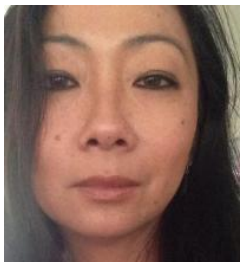
Soundtrack to 2023:
Sweet Dreams (Are Made
of This) - Eurythmics

Helen Tsimiklis

Favourite Artist:
The Weekend

Catherine Kennedy

Favourite Song:
Hey Ya! - Outkast



Shirley Wee

Favourite Song:
Black Betty - Spiderbait

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2023 PROGRAM SUMMARY

WEDNESDAY 18 OCTOBER

WORKSHOPS	Workshop 1 - "Dazed & Confused" Workshop 2 - "Both Sides Now"
LUNCH	"American Pie"
SESSION 1	"History - Past, Present & Future" - Opening Session Welcome to Country • Uncle John Graham Keynote • Associate Professor V Krishnan Ramanujan Rapid Fire Presentations x4
AFTERNOON TEA	"Tea For the Tillerman"
SESSION 2	"Dark Side of the Moon" – Biobanking after Hours • Dr Claire Gordon • Solal Chauquet • Dr Lee McMichael • Rapid Fire Presentations x2 ABNA AGM
SPONSOR COCKTAIL EVENT	"Sticky Fingers" • Elevator Pitch Presentations

australasian biospecimen network association

2023 PROGRAM SUMMARY

THURSDAY 19 OCTOBER

SPEED DATING	"Don't go Breaking my Heart"
SESSION 3	"Livin' on a Prayer" – Living Biobanks • Dr Dean Miller • Professor Kylie Pitt • Dale Arvidsson • Rapid Fire Presentation • Gold Sponsor – Bio-Strategy/Hamilton Storage
MORNING TEA	"Cherry Pie"
SESSION 4	"Sweet Child o' Mine" – Fertility and Paediatrics • Dr Daniel Morgan • Dr Andres Gambini • Dr Eden Robertson • Rapid Fire Presentations x2
LUNCH	"Meat Loaf"
SESSION 5	"Rainbow Connection" - Supporting Diversity and Promoting Culturally Safe Biobanking • Professor Cristin Print • Professor Ashleigh Lin and Xander Bickendorf • Dr Christopher Richards
SEMINAR 4	"Listen Without Prejudice" – Biobanking Diversity • The Very Rev'd Dr Peter Catt • Dr Georget Reaiche-Miller • Xander Bickendorf • Paula Nihot/Zehnab Vayani
AFTERNOON TEA	"Raspberry Beret"
SESSION 6	"Time of your Life" - 20 years of ABNA • Platinum Sponsor - OpenSpecimen • Launch of Special Interest Groups • ABNA Past Presidents – reflection and panel • Platinum Sponsor - Thermo Fisher/MVE
PARTNER SEMINAR	"Rocking all Over the World" • Dr Alison Parry-Jones and Dr Wayne Ng
CONFERENCE DINNER	"Red, Red, Wine"

2023 PROGRAM SUMMARY

australasian biospecimen network association

FRIDAY 20 OCTOBER

SITE VISIT

"The Magical Mystery Tour"
- Jellyfish Biobank encounter
- Shark Bay site visit

BREAK

"Breakfast at Tiffany's"

SESSION 7

"Rumours" – Exciting Frontiers
- Gold Sponsor - BioTools
- Dr Tamsin Rob
- Dr Hamish MacDonald
- Dr Pete Thrall
- Dr Andrew Rayfield
- Rapid Fire Presentation
- Gold Sponsor - Testo

MORNING TEA

"Pour some Sugar"

SESSION 8

"Tapestry" – Biobanking Overcoming the Past
- Dr Nicola Rivers
- Anna Russo
- Felicity Poulsen
- Gold Sponsor - PathTech

LUNCH

"Eat It"

SESSION 9

"Bat out of Hell" – Pathogens, Pests and Microbiome
- Professor Nigel McMillan
- Associate Professor Volker Herzig
- Dr Chloe Yap
- Professor Jennifer Byrne

PRESENTATIONS

"The Final Countdown"

MEETING CLOSE

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Automated storage management solutions, decappers and consumables for safe storage of patient samples/biobanking with full traceability, from ambient down to -185°C with Askion's automated LN_2 based cyro-storage.

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SAM HD

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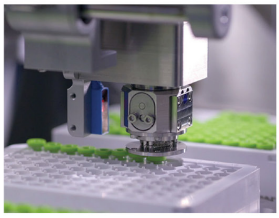
VERSO Q series

BiOS



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WEDNESDAY PROGRAM

REGISTRATION

FROM 09:30 **Conference Registration & Poster Hanging**

WORKSHOPS

10:30 - 11:15 **Workshop 1**
"Dazed and Confused" - You want to bank what!?

11:15 -12:00 **Workshop 2**
"Both Sides Now" - Tissue custodianship

12:00 - 13:00 "American Pie" - Lunch & Poster Viewing

SESSION1
"HISTORY" - PAST, PRESENT AND FUTURE

13:00 - 13:20 **Welcome to Country**
Conference Opening

13:20 - 14:05 **Keynote Presentation**
Associate Professor V Krishnan Ramanujan

14:05 - 14:45 Rapid Fire Presentations x4

14:45 - 15:20 "Tea for the Tillerman" - Afternoon Tea

SESSION 2
"DARK SIDE OF THE MOON"
BIOBANKING AFTER HOURS

15:20 - 15:40 Dr Claire Gordon
15:40 - 16:00 Solal Chauquet
16:00 - 16:20 Dr Lee McMichael
16:20 - 16:40 Rapid Fire Presentations x2
16:40 - 17:00 ABNA AGM

"STICKY FINGERS"
SPONSOR COCKTAIL MIXER, ELEVATOR PITCH AND POSTER VIEWING

17:00 - 18:30 Elevator Pitch Presentations

WEDNESDAY 18 OCTOBER

WORKSHOP 1: "DAZED & CONFUSED"
YOU WANT TO BANK WHAT!?
FACILITATOR: CHRIS GORMAN
10:30 - 11:15

SONG: Dazed and Confused
ALBUM: Led Zeppelin I
ARTIST: Led Zeppelin
RELEASE DATE: January 12, 1969
GENRE: Hard Rock, Blues Rock

Developing biospecimen processing protocols can be a challenging exercise at times. What makes matters more complicated is when the researcher or end user isn't quite sure what their requirements are or what their downstream applications are likely to be.

How do you specify a protocol, for an unspecified purpose?
How do you meet expectations when they're yet to be set?

As Biospecimen Scientists we're in a position to work with our collaborators, help them define protocols, map their downstream research applications or recognise emerging research priorities. In turn, we can then ensure that the samples banked will have the highest research utility and be fit for purpose.

Make no mistake, we don't have the answers but for anyone who has been given the brief to "process blood, freeze it and we'll figure it out later" - this workshop is for you.

We encourage participants to bring examples of 'Off the Wall' requests or vague proposals for discussion within the workshop.

WEDNESDAY 18 OCTOBER

WORKSHOP 2: "BOTH SIDES NOW"
TISSUE CUSTODIANSHIP
FACILITATOR: DR CARMEL QUINN
11:15 - 12:00

ALBUM: Both Sides Now
ARTIST: Joni Mitchell
RELEASE DATE: February 8, 2000
GENRE: Pop, Rock, Jazz

Informed consent for the donation of biospecimens and data for research, is at the heart of human biobanking principles. However, the stated wishes of the tissue donor are not always enough to ensure this outcome.

As a primary collection strategy, many biobankers engage with state run or privately operated pathology services who themselves have legal and ethical obligations with respect to tissue custodianship. These competing obligations can create tension between biobankers and pathologists with respect to tissue access for research purposes.

In this workshop we bring together representative consumers/community stakeholders, biobankers and a research-minded histopathologist to have an open discussion about policy and practice and how biobankers and pathologists can collaborate for mutual benefit.

PANEL: Consumer Representatives – Dr Joan Carlini and Zehnab Vayani
Pathologist – Professor Sunil Lakhani

WEDNESDAY 18 OCTOBER

12:00 - 13:00 LUNCH - "AMERICAN PIE"
Corporate Sponsor exhibits
Poster Viewing

ALBUM: American Pie
ARTIST: Don McLean
RELEASE DATE: October, 1971
GENRE: Folk, Folk Rock

WEDNESDAY 18 OCTOBER
SESSION 1: "HISTORY - PAST, PRESENT & FUTURE"
OPENING SESSION
CHAIR: CASSANDRA GRIFFIN
13:00 - 14:45

ALBUM: HIStory: Past, Present and Future
ARTIST: Michael Jackson
RELEASE DATE: June 20, 1995
GENRE: Pop, R&B, Hip Hop

13:00 - 13:20 CONFERENCE OPENING & WELCOME TO COUNTRY
UNCLE JOHN GRAHAM
Welcome to Country

CASSANDRA GRIFFIN
Welcome from ABNA President

13:20 - 14:05 KEYNOTE
V KRISHNAN RAMANUJAN
Director, Cedars Sinai Biobank and Research Pathology,
Associate Professor of Medicine, Pathology & Laboratory Medicine Cedars Sinai , Los Angeles, USA
TITLE: "Happy" - Leveraging Biobanks as the Human Factors Engine for Biospecimen Research and Health Delivery
ABSTRACT: Human Factors research aims to lay out the foundation of how people interact with new infrastructural designs, new processes and to leverage the collective will of a diverse set of people for a common goal. With the advent of artificial intelligence tools and automation designs at the heart of biobanking practice, it is imperative to pivot the Human Factors research ideas for a more effective biobanking future. Besides being the cauldron for ideas on biospecimen research, biobanks are also emerging as pivotal health delivery frameworks thereby facilitating collection and curation of high-quality specimens for precision health. As the biobanks further serve as functional conduits between the clinical patient specimens and the laboratory biospecimen research, the opportunities for improving health delivery need to be explored and expanded across the national and international borders. This presentation will focus on the synergy between modern biobanking tools and biospecimen research outcomes thereby exploring opportunities to harmonize clinical information and biospecimen standards in the framework of Human Factors and Health Delivery.

WEDNESDAY 18 OCTOBER

SESSION 1: "HISTORY - PAST, PRESENT & FUTURE"

OPENING SESSION

CHAIR: CASSANDRA GRIFFIN

13:00 - 14:45

14:05 - 14:45 RAPID FIRE PRESENTATIONS

JENNIE HUI
School of Population and Global Health, The University of Western Australia, Perth, Western Australia, Australia/Busselton Population Medical Research Institute, Nedlands, WA, Australia
TITLE: "A Million Dreams" - The Busselton Health Study (BHS) Biobank: a 57-year population database and biospecimen collection
ABSTRACT ID: #164

TOM LYNCH
Sydney Musculoskeletal Health & Sutton Arthritis Research Laboratory, Kolling Institute, Faculty of Medicine and Health, The University of Sydney, Sydney NSW, Australia /Florance and Cope Professorial Dept of Rheumatology, Royal North Shore Hospital, Sydney NSW, Australia
TITLE: "Riders on the Storm": The Australian Arthritis and Autoimmune Biobank Collaborative (A3BC) biobank & registry for rheumatic diseases – history, challenges and future directions
ABSTRACT ID: #182

ANGUS NETTING
The University of Adelaide, Adelaide, SA, Australia
TITLE: The development of the Adelaide Biobank - "The Long and Winding Road"
ABSTRACT ID: #181

ALEXANDRA SMITH
Research, Peter MacCallum Cancer Centre, Melbourne, VIC, Australia
TITLE: kConFab – 25 years of biobanking and participant notification of clinically significant information
ABSTRACT ID: #177

14:55 - 15:20 AFTERNOON TEA - "TEA FOR THE TILLERMAN"

Corporate Sponsor exhibits
Poster Viewing

ALBUM: Tea for the Tillerman
ARTIST: Cat Stevens
RELEASE DATE: November 23, 1970
GENRE: Folk, Rock

WEDNESDAY 18 OCTOBER

SESSION 2: "DARK SIDE OF THE MOON"
BIOBANKING AFTER HOURS
CHAIR: LEANNE WALLACE
15:20 - 17:00

ALBUM: Dark Side of the Moon
ARTIST: Pink Floyd
RELEASE DATE: March 1, 1973
GENRE: Progressive Rock, Psychedelic Rock

15:20 - 15:40

DR CLAIRE GORDON
Department of Microbiology and Immunology, University of Melbourne
Infectious Diseases Physician, Department of Infectious Diseases and North Eastern Public Health Unit, Austin Health, Melbourne, Victoria

TITLE: "Still You Breathe" - A Research Biobank Integrated Within a Deceased Organ Donation Program

ABSTRACT: Difficulty obtaining human tissue samples is a major barrier to translating basic science research findings into clinical care. Deceased organ and tissue donors are an important source of previously healthy, viable human tissue that can be readily acquired for use in research. Sample collection for research can be undertaken at the time of organ retrieval for transplantation, providing fresh tissue for more realistic simulations of human biology. Donating to research also provides donors and their families with an additional opportunity to help others. Donation of organs or tissues for use in research has always been an option at the time of deceased donation for transplantation in Australia, however, there has been no systematic approach to coordination of donation for research. To overcome this barrier, we initiated the Australian Donation and Transplantation Biobank (ADTB; adtbiobank.org), in collaboration with Austin Health and DonateLife Victoria (DLV), which has developed into a centralised and coordinated system for collection, distribution and storage of organ and tissue samples from deceased donors for use in research nationally. ADTB is the first Australian biobank that has been integrated with a program of deceased donation of organs and tissue for transplantation and one of only a few such programs worldwide. Over the last four years, 121 organ donors have donated 962 tissue samples for use in medical research and samples have been provided to 17 research groups encompassing the scientific disciplines of immunology, microbiology, oncology, anatomy, physiology, pharmacology and surgery.

WEDNESDAY 18 OCTOBER
SESSION 2: "DARK SIDE OF THE MOON"
BIOBANKING AFTER HOURS
CHAIR: LEANNE WALLACE
15:20 - 17:00

15:40 - 16:00

SOLAL CHAUQUET
Institute for Molecular Bioscience, Brisbane, Queensland

TITLE: "Send My Love" (To Your New Liver)

ABSTRACT: Over the last decades, liver transplantation (LT) has increasingly become a viable option to save patients with end-stage and acute liver failure. While LT is nowadays a routine procedure, it is paradoxically increasingly hard to perform due to a scarce supply of transplantable livers (1). This organ shortage is currently being addressed by expanding the donor pool to include marginal livers outside normal criteria, such as those from older or obese donors (2,3). The use of marginal livers was improved in recent years due to the emergence of ex-vivo normothermic machine perfusion (NMP), an organ preservation method aimed at recreating the liver physiological environment by maintaining normal temperature and providing the essential substrate for cellular metabolism (4). While NMP results in better transplantation outcomes following the use of marginal livers, there is a lack of consensus on what criteria are to be used by surgeons to determine organ viability following perfusion (5–7). To help define clearer clinical guidelines, NMP samples need to be collected, however, perfusion lasts for several hours. Therefore, the collection of longitudinal samples at odd hours needs to be performed to increase our knowledge of NMP in livers, introducing biases from the circadian rhythm.

1. Bodzin, A. S. & Baker, T. B. Liver Transplantation Today: Where We Are Now and Where We Are Going. Liver Transplant. 24, 1470–1475 (2018).
2. Laing, R. W. et al. Viability testing and transplantation of marginal livers (VITTAL) using normothermic machine perfusion: study protocol for an open-label, non-randomised, prospective, single-arm trial. BMJ Open 7, e017733 (2017).
3. Watson, C. J. E. et al. Normothermic Perfusion in the Assessment and Preservation of Declined Livers Before Transplantation: Hyperoxia and Vasoplegia-Important Lessons From the First 12 Cases. Transplantation 101, 1084–1098 (2017).
4. Nasralla, D. et al. A randomized trial of normothermic preservation in liver transplantation. Nature557, 50–56 (2018).
5. Watson, C. J. E. et al. Predicting Early Allograft Function After Normothermic Machine Perfusion. Transplantation106, (2022).
6. Mergental, H. et al. Transplantation of discarded livers following viability testing with normothermic machine perfusion. Nat. Commun. 11, 2939 (2020).
7. van Leeuwen, O. B. et al. Sequential hypothermic and normothermic machine perfusion enables safe transplantation of high-risk donor livers. Am. J. Transplant. Off. J. Am. Soc. Transplant. Am. Soc. Transpl. Surg. 22, 1658–1670 (2022).

WEDNESDAY 18 OCTOBER

SESSION 2: "DARK SIDE OF THE MOON"
BIOBANKING AFTER HOURS
CHAIR: LEANNE WALLACE
15:20 - 17:00

16:00 - 16:20

DR LEE McMICHAEL
School of Veterinary Science, University of Queensland

TITLE: "Real Love" - Love of the night ... bats take flight

ABSTRACT: Wildlife species worldwide are impacted by a multitude of threatening processes, inclusive of disease, habitat loss and climate change. Additionally, many species suffer direct anthropogenic persecution due to the species' real or perceived threats to economy, public amenity or the species' unique ecological and physiological adaptations, be it as an apex predator, envenomation or intoxication ability, or zoonotic disease transmission capability.

The spectacled flying fox (*Pteropus conspicillatus*), a megabat species with vital ecosystem service roles of long-distance pollination and seed dispersal across Australia's far north Queensland World Heritage Wet Tropics Area, is a prime example of such a species. Within the last three decades the drastic population declines of the species (820,000 in 1985 to 80,000 in 2023), has resulted in uplisting of the species from non-threatened to endangered, with calls to uplist the species once again to critically endangered after a devastating heat stress mass mortality event in 2018.

While bat species have been established as efficient reservoir hosts of a number of zoonotic viruses globally, the spectacled flying fox is confronted with its own unique set of disease syndromes that threaten the survival of the endangered population. The bat research team at the University of Queensland, School of Veterinary Science, with the support of Tolga Bat Rescue and Research and the Spectacled Flying Fox Recovery Team, are performing research into these threatening disease processes in an endeavour to develop mitigation strategies.

This presentation will present the sample collection and research strategies employed to investigate these threatening processes and mass mortality events impacting the spectacled flying fox population and introduce the strategies to examine diseases in all four Australian mainland flying fox species that present real and potential threats to their conservation, zoonotic disease shed and comparative medical research.

16:20 - 16:40 RAPID FIRE PRESENTATIONS

LEANNE WALLACE
The University of Queensland, Brisbane, Australia

TITLE:"A Hard Day's Night" - Sampling for Body Clock Dysfunction in Mood Disorders

ABSTRACT ID: #180

CASSANDRA GRIFFIN
College of Health, Medicine and Wellbeing University of Newcastle, Australia/Mark Hughes Centre for Brain Cancer Research, The University of Newcastle, Australia

TITLE: "Always on My Mind" - Understanding the Experiences of Next of Kin Who Have Supported a Loved One With Brain Cancer to Donate Their Brain Post-Mortem

ABSTRACT ID: #176

WEDNESDAY 18 OCTOBER

ABNA ANNUAL GENERAL MEETING
"WE CAN GET TOGETHER"
CHAIR: CASSANDRA GRIFFIN & GEORGET REAICHE-MILLER
16:40 - 17:00

SINGLE: We can get together
ALBUM: Icehouse
ARTIST: Flowers/Icehouse
RELEASE DATE: September, 1980
GENRE: New Wave

16:40 - 17:00 ABNA AGM

- Approval of Minutes of 2022 AGM
- Presidents Report
- ABNA Committees
- Financial Report
- Membership Update
- Committee Elections

SECTION 9 THE RULES OF THE ASSOCIATION

9. Annual General Meetings

(1) The committee may determine the date, time and place of the annual general meeting of the Association.

(2) The notice convening the annual general meeting must specify that the meeting is an annual general meeting.

(3) The ordinary business of the annual general meeting shall be-
(a) to confirm the minutes of the previous annual general meeting and of any general meeting held since that meeting; and
(b) to receive from the committee reports upon the transactions of the Association during the last preceding financial year; and
(c) to elect officers of the Association and the ordinary members of the committee; and
(d) to receive and consider the statement submitted by the Association in accordance with section 35(1) of the Associations Incorporations Act 1981.

(4) The annual general meeting may conduct any special business of which notice has been given in accordance with these Rules.

WEDNESDAY 18 OCTOBER

"STICKY FINGERS"
SPONSOR COCKTAIL EVENT & ELEVATOR PITCH
HOSTS: CASSANDRA GRIFFIN & GEORGET REAICHE-MILLER
17:00 - 18:30

ALBUM: Sticky Fingers
ARTIST: Rolling Stones
RELEASE DATE: April 23, 1971
GENRE: Hard Rock, Rock Roots

ELEVATOR PITCH PRESENTATIONS

KATHERINE WOODS
National Serology Reference Lab, Fitzroy, VIC, Australia/St Vincent's Institute of Medical Research, Melbourne, VIC, Australia
TITLE: "Bleeding Love": NRL's plasma biobank
ABSTRACT ID: #156

CAROLINE BULL
CSIRO, Adelaide Bc, SA, Australia
TITLE: The Australian Health Biobank: Building national infrastructure for future health and medical research, to benefit all Australians
ABSTRACT ID: #159

KAYLEE O'BRIEN
NSW Regional Biospecimen Services - University of Newcastle, New Lambton Heights, NSW, Australia/College of Health Medicine and Wellbeing, University of Newcastle, Newcastle, NSW, Australia/Cancer Detection and Therapy Program, Hunter Medical Research Institute, Newcastle, NSW, Australia
TITLE: "The Core of the Matter" - The use of Tissue Microarrays in Cancer Research
ABSTRACT ID: #162

HUGH BURTON
NSW Health Pathology, Camperdown, NSW, Australia
TITLE: "Technologic" - Streamlining NSW Health Statewide Biobank Workflows with Microsoft Power Apps
ABSTRACT ID: #166

ABNA's "Sticky Fingers" Event is sponsored by
Griffith University's Gold Coast Biobank

GoldCoastBiobank

THURSDAY PROGRAM

australasian biospecimen network association

BIOBANKER SPEED DATING

08:00 Meet to walk to Shark Bay
08:15 - 08:45 "Don't go Breaking my Heart" - Speed Dating

SESSION 3
"LIVIN' ON A PRAYER"
LIVING BIOBANKS

bio-strategy delivering technology
HAMILTON SAMPLE MANAGEMENT FOR LIFE SCIENCE STORAGE

09:00 - 09:20 Dr Dean Miller
09:20 - 09:40 Professor Kylie Pitt
09:40 - 10:00 Dale Arvidsson
10:00 - 10:10 Rapid Fire Presentation
10:10 - 10:20 Gold Sponsor - BioStrategy/Hamilton Storage

10:20 - 10:50 "Cherry Pie" - Morning Tea

SESSION 4
"SWEET CHILD OF MINE"
FERTILITY AND PAEDIATRICS

Be sure. testo

10:50 - 11:10 Dr Daniel Morgan
11:10 - 11:30 Dr Andres Gambini
11:30 - 11:50 Dr Eden Robertson
11:50 - 12:10 Rapid Fire Presentations x2

12:10 - 13:10 "Meat Loaf" - Lunch

SESSION 5
"RAINBOW CONNECTION"
SUPPORTING DIVERSITY AND PROMOTING CULTURALLY SAFE BIOBANKING

13:10 - 13:30 Professor Cristin Print
13:30 - 13:50 Professor Ashleigh Lin and Xander Bickendorf
13:50 - 14:10 Dr Christopher Richards

australasian biospecimen network association

THURSDAY PROGRAM

SEMINAR 4
"LISTEN WITHOUT PREJUDICE"
BIOBANKING DIVERSITY

14:10 - 14:50 The Very Rev'd Dr Peter Catt
Dr Georget Reaiche-Miller
Xander Bickendorf
Paula Nihot

14:50 - 15:20 "Raspberry Beret" - Afternoon Tea

SESSION 6
"TIME OF YOUR LIFE"
20 YEARS OF ABNA

Pathtech™ First Choice In Science

15:20 - 15:35 Platinum Sponsor - OpenSpecimen
15:35 - 15:45 Launch of ABNA Special Interest Groups
16:45 - 16:15 ABNA Past Presidents - reflection and panel
16:15 - 16:30 Platinum Sponsor - Thermo Fisher/MVE

PARTNER SEMINAR
"ROCKING ALL OVER THE WORLD"
BIOBANKING DIVERSITY

16:30 - 16:50 Dr Allison Parry-Jones & Dr Wayne Ng

"RED, RED, WINE"
CONFERENCE DINNER

18:30 ONWARDS

THURSDAY 19 OCTOBER
"DON'T GO BREAKING MY HEART"
BIOBANKER SPEED DATING
08:00 - 08:45

SINGLE: Don't go Breaking my Heart
ARTIST: Elton John & Kiki Dee
RELEASE DATE: June 21, 1976
GENRE: Disco, Pop

08:00
MEET AT RECEPTION TO WARK TO SHARK BAY
08:15 - 08:45
BIOBANKER SPEED DATING

Rules of Engagement
Each date lasts 3 minutes
Please move to your next date when indicated
Be yourself!

THURSDAY 19 OCTOBER
SESSION 3: "LIVIN' ON A PRAYER" - LIVING BIOBANKS
CHAIR: CARMEL QUINN
09:00 - 10:20

SINGLE: Livin' on a Prayer
ALBUM: Slippery When Wet
ARTIST: Bon Jovi
RELEASE DATE: October, 1986
GENRE: Glam Metal, Power Pop

09:00 - 09:20
DR DEAN MILLER
Managing Director and co-founder, Great Barrier Reef Legacy
TITLE: "Reef"
ABSTRACT: Climate change is now accepted as the single largest threat to coral reefs worldwide and the Great Barrier Reef has experienced four mass bleaching events in just six years. With every coral bleaching event we are losing the most vulnerable corals and reefs. Living coral biobanking allows us to rapidly collect and maintain hard coral species in state of the art holding facilities for their ultimate conservation, and to make living fragments, tissue samples, skeletons and DNA available to act as a catalyst for reef research and restoration efforts. This method is available immediately, is cost and time effective, and ensures we have the biodiversity for todays corals for tomorrow.

09:20 - 09:40
PROFESSOR KYLIE PITT
School of Environment and Science, Sea Jellies Research Laboratory, Griffith University, Australia
TITLE: "In the Jellyfish's Garden": Biobanking jellyfish for ecological, biomedical & taxonomic studies
ABSTRACT: Jellyfish are an ancient and diverse group of marine animals characterised by having gelatinous and transparent bodies. They are notorious for their often painful (and sometimes deadly) stings, for disrupting commercial fishing and aquaculture operations, and for clogging the cooling water intakes of coastal industries. Yet jellyfish are also critically important components of marine ecosystems, a source of novel chemicals (such as Green Fluorescent Protein) and are commercially harvested for food. Hence, we study jellyfish to manage their interactions with people and coastal industries, to understand their ecology and taxonomic diversity, for their biomedical applications and for managing jellyfish fisheries. We collect jellyfish using diverse methods, including by hand whilst snorkelling or using SCUBA, from nets deployed from small boats or ships, or from remotely operated vehicles in the deep sea. Most recently, we have begun studying rare species that are difficult to locate and capture, by collecting traces of the DNA they leave behind in the environment ('environmental DNA'). Preservation methods vary depending on the application; samples for genetic analyses may be flash frozen in liquid nitrogen or dry ice or preserved in ethanol or other preservatives (e.g. RNA Later). Samples to be analysed for their natural products are usually frozen in conventional or -80 freezers. Long-term preservation of specimens for ecological studies or that are housed in museum collections are usually fixed in formalin. Establishing specimen collections (either of whole animals or their genetic material), is essential for progressing research on this enigmatic group of marine animals.

THURSDAY 19 OCTOBER

SESSION 3: "LIVIN' ON A PRAYER" - LIVING BIOBANKS
CHAIR: CARMEL QUINN
09:00 - 10:20

09:40 - 10:00

DALE ARVIDSSON

Curator, Brisbane Botanic Gardens Mt Coot-tha and Brisbane Botanic Gardens Conservation Seedbank

TITLE: "Let it Grow": Brisbane Botanic Gardens Mt Coot-tha's role in conserving threatened flora

ABSTRACT: Brisbane City Council's Brisbane Botanic Gardens Mt Coot-tha is a 56 HA site located 7km from Brisbane's CBD. Opened in 1976, this botanic garden displays both native and exotic flora, with over 5000 species recorded.

Botanic gardens today have many contemporary roles – including conserving flora via ex-situ living collections and seed banking. Dale will outline two recent projects the Brisbane Botanic Gardens Mt Coot-tha have partnered in, to trial and grow ex-situ conservation collections of threatened species, along with botanic gardens' role in seed banking over the past 2 decades.

10:00 - 10:10 RAPID FIRE PRESENTATION

ROSE UPTON

The University of Newcastle, Callaghan, NSW, Australia

TITLE: "I'm a Believer"... in integrating biobanks into the conservation landscape

ABSTRACT ID: #179

THURSDAY 19 OCTOBER

SESSION 3: "LIVIN' ON A PRAYER" - LIVING BIOBANKS
CHAIR: CARMEL QUINN
09:00 - 10:20

10:10 - 10:20 GOLD SPONSOR PRESENTATION

KIM POWELL

Bio-Strategy/Hamilton Storage

TITLE: "Working 9 to 5": Generation Victoria's High Throughput Biosample Processing

Powell KL (1), Feng J (1), Harker J (1), Abary F (1), Mangwiro YTM (1), Williams M (1), Frugier T (1), Smith J (3), Filonzi E (3), Marrazzo V (3), Saffery R (1,2)

1. *Murdoch Children's Research Institute, Melbourne, Australia*
2. *Department of Paediatrics, University of Melbourne, Melbourne, Australia*
3. *Bio-Strategy Pty Ltd*

Introduction: Parents of every child born in Victoria over a 2-year period (from October 2021) were offered the chance to participate in the Generation Victoria (GenV) initiative, providing a range of data and biosamples. GenV's primary objective is to create a large, whole-of-state birth and parent cohort for discovery and interventional research. GenV is an Open Science platform, available to all researchers internationally. Large numbers of biosamples necessitated high throughput processing systems, including automated liquid handling instruments and a fully automated -80°C storage system to ensure biosamples could be processed, stored and retrieved efficiently with reliable sample tracking at all stages.

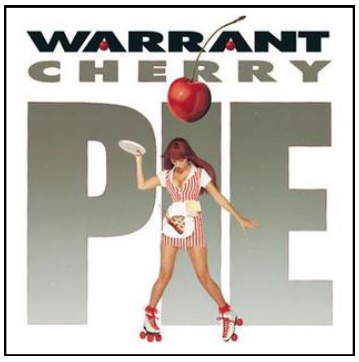
Methods: Hamilton's STAR and STARlet liquid handling instruments were used for high throughput sample processing of serum, saliva and breastmilk. Specific methods were implemented for each sample, developed and tested in conjunction with Bio-Strategy and GenV. Samples were aliquoted into FluidX tubes (variable volume) and stored in the Hamilton BiOS Automated -80°C Storage System.

Results: Using liquid handling instruments allowed GenV to process hundreds of serum, saliva and breastmilk biosamples each day which would not have been possible with manual methods. At the completion of each processing run, an output file with aliquot information was automatically integrated to OpenSpecimen LIMS. Since June 2022, 94% (52,237) of saliva samples have been processed on the STAR, since April 2002 over 74% of (53,945) serum samples and since Nov 2022 over 60% (3,875) breastmilk samples have been processed on the STARlet. All GenV saliva, breastmilk and stool samples (103,459) and approximately 80% of serum samples (157,120) are stored in the BiOS.

Discussion: The use of automated liquid handling instruments for the high throughput processing of large numbers of a range of biosamples has been hugely successful for the GenV initiative. Without this level of automation, processing times would have increased substantially along with the time taken to store the biosamples at -80°C. This would invariably impact biosample integrity which would likely have been compromised. Furthermore, the ability to have biosample and aliquot information automatically integrated from the liquid handling instruments to OpenSpecimen LIMS, eliminated many hours of manual data entry and possible data entry errors.

THURSDAY 19 OCTOBER

10:20 - 10:50 MORNING TEA - "CHERRY PIE"
Corporate Sponsor exhibits
Poster Viewing



ALBUM: Cherry Pie
ARTIST: Warrant
RELEASE DATE: September 11, 1990
GENRE: Glam Metal

THURSDAY 19 OCTOBER
SESSION 4: "SWEET CHILD O' MINE"
FERTILITY AND PAEDIATRICS
CHAIR: LOUISE LUDLOW
10:50 - 12:10

SINGLE: Sweet Child o' Mine
ALBUM: Appetite for Destruction
ARTIST: Guns N' Roses
RELEASE DATE: June 21, 1988
GENRE: Hard Rock, Glam Metal

10:50 - 11:10

DR DANIEL MORGAN & KATE WATSON

Monash IVF Group, Gold Coast, Australia Seedbank

TITLE: "Ice, Ice…Baby?" - Effective cryopreservation in IVF

ABSTRACT: Since the birth of the world's first IVF baby, Louise Brown, in 1978, human embryo culture systems have improved significantly, particularly since the mid-1990s. As a result, we are creating more good quality embryos and patients are becoming pregnant more quickly, necessitating effective strategies for cryopreserving surplus embryos for later use. Considerable effort has been invested in developing effective cryopreservation techniques in the fertility industry over the last 40 years. Slow freezing was initially the method of choice, but more recently, vitrification has proven to be a much more effective tool for cryopreserving both oocytes and embryos – it is now considered to be the gold standard globally. Vitrification provides patients with excellent embryo and oocyte survival rates and subsequent pregnancy rates of vitrified-warmed embryos; indeed, many IVF clinics and fertility specialists are steering away from fresh embryo transfers in favour of transferring vitrified-warmed embryos in a subsequent cycle. The combination of all these factors means that we are needing to store more embryos for longer than ever before. A relatively recent sharp increase in oocyte cryopreservation for non-medical (or "social") reasons has compounded these challenges, which has significant implications for our cryostorage facilities in the fertility industry.

THURSDAY 19 OCTOBER
SESSION 4: "SWEET CHILD O' MINE"
FERTILITY AND PAEDIATRICS
CHAIR: LOUISE LUDLOW
10:50 - 12:10

11:10 - 11:30

DR ANDRES GAMBINI
School of Agriculture and Food Sustainability, The University of Queensland, Gatton, QLD Australia
School of Veterinary Science, The University of Queensland, Gatton, QLD, Australia

TITLE: "Life on Mars?" Drying for a Cause: The potential of lyophilized sperm and somatic cells for in vitro embryo production

ABSTRACT: Within the realm of genetic conservation, this presentation explores the intriguing potential of sperm and cell lyophilization as a means to preserve biodiversity. Assisted reproductive technologies such as Intracytoplasmic Sperm Injection (ICSI) and somatic cell nuclear transfer (cloning) have opened numerous avenues for exploring novel genetic conservation strategies that extend beyond conventional genetic preservation methods. Across various animal species, ranging from domestic to wildlife, these cutting-edge technologies have demonstrated their effectiveness in enhancing breeding efficiency and advancing the cause of animal conservation. In this presentation, we will share our ongoing work and experiences in utilizing these technologies to safeguard the genetic diversity of both domestic and wild animal populations. In recent years, researchers have explored diverse desiccation techniques and innovative storage methodologies at non-cryogenic temperatures, primarily focusing on the preservation of mammalian spermatozoa and somatic cells. We will discuss the untapped potential of freeze-drying, scientifically known as lyophilization, a dehydration process with wide-ranging applications in pharmaceuticals, food preservation, and biotechnology. Enhancing the capability to produce embryos using lyophilized genetic material holds the promise of reducing costs and streamlining biobanking practices for human fertility medicine and the conservation of animal populations, as samples can be conveniently stored and shipped at room temperature. Indeed, lyophilization may serve as the pivotal method for preserving life on Earth and, who knows, even on... Mars?

11:30 - 11:50

DR EDEN ROBERTSON
Postdoctoral Research Fellow, Faculty of Medicine and Health, UNSW Sydney
National Research, Evaluation and Impact Manager, Redkite

TITLE: "Like a bridge over troubled waters": Bereaved parents' experience of donating their child's tumor postmortem

ABSTRACT: Despite improved childhood cancer survival rates over the past decades, many families are still faced with the devasting news of an incurable diagnosis. For example, the prognosis for a child diagnosed with a diffuse midline glioma (DMG) is extremely poor, with 90% of children dying within 2 years of diagnosis. By nature, DMGs are diffuse and located within a largely inoperable area of the brainstem. This has meant that biopsies are rarely conducted, limiting the research possible into identifying effective treatments. Postmortem tumor collection is therefore critical to furthering research, and introduces a number of ethical and logistic complexities . In this presentation, Dr Robertson will share her research into bereaved parents' experience of donating their child's tumor postmortem and the clinical implications from this research. She will focus on the potential psychological benefit that parents experience after donating and the impact of this on their bereavement journey.

THURSDAY 19 OCTOBER
SESSION 4: "SWEET CHILD O' MINE"
FERTILITY AND PAEDIATRICS
CHAIR: LOUISE LUDLOW
10:50 - 12:10

11:50 - 12:10 RAPID FIRE PRESENTATIONS

LACHLAN HOWELL
Deakin University, Melbourne
TITLE: Are Species Pathways the Answer to Biobanking and Assisted Reproductive Technology Development in Threatened Marsupials?
ABSTRACT ID: #168

LOUISE LUDLOW
Murdoch Children's Research Institute, Parkville, VIC, Australia/Children's Cancer Centre, The Royal Children's Hospital, Parkville, VIC, Australia
TITLE: "Survivor": Establishing a biobank of second malignant neoplasms from survivors of childhood cancer who received radiation therapy
ABSTRACT ID: #160

THURSDAY 19 OCTOBER

12:10 - 13:10 LUNCH - "MEAT LOAF"
Corporate Sponsor exhibits
Poster Judging

ALBUM: The Very Best of Meat Loaf
ARTIST: Meat Loaf
RELEASE DATE: November 2, 1998
GENRE: Rock

THURSDAY 19 OCTOBER

SESSION 5: "RAINBOW CONNECTION"
SUPPORTING DIVERSITY AND PROMOTING CULTURALLY SAFE BIOBANKING
CHAIR: ANUSHA HETTIARATCHI
13:10 - 14:10

SINGLE: Rainbow Connection
ALBUM: The Muppet Movie: Original Soundtrack Recording
ARTIST: Jim Henson as Kermit the Frog
RELEASE DATE: June, 1979
GENRE: Pop, Bluegrass

13:10 - 13:30

PROFESSOR CRISTIN PRINT

Chair, Scientific Advisory Board of Te Ira Kāwai (The Auckland Regional Biobank),
Lead, Genomics Into Medicine Strategic Research Initiative,
Principle Investigator, Rakeiora Program, Maurice Wilkins Centre

TITLE: "Loyal": Partnerships in Biobanking for Aotearoa New Zealand

ABSTRACT: Biobank-enabled research using human tissue is driving a rapid increase in our understanding, prevention, diagnosis and treatment of human disease. However, benefits from this tissue-based research have not been equally shared, contributing to significant inequities in the health outcomes of Indigenous Peoples worldwide, including Indigenous Māori in Aotearoa New Zealand. To address these inequities for future generations requires deliberate steps today to include Indigenous Peoples at all levels of biobanking: as biobank donors and trial participants and in biobank leadership and governance. This talk will discuss several partnerships in Aotearoa New Zealand that provide early steps towards this goal. These include partnerships to develop biobanking tikanga (the right protocols and processes) and kaitiakitanga (guardianship of tissues and of the data, including genomic data, derived from tissues).

13:30 - 13:50

PROFESSOR ASHLEIGH LIN

Program Head, Mental Health and Youth, Telethon Kids Institute, Perth

XANDER BICKENDORF

Research Assistant, Youth Mental Health Team, Telethon Kids Institute, Perth

TITLE: "Body Was Made": Ethical and moral considerations in biobanking the data of trans and gender diverse people

ABSTRACT: Trans and gender diverse people are individuals who identify as a gender that is different from that on their original birth certificate. Trans people face marginalisation and discrimination in everyday life, and therefore special considerations are necessary when conducting research with this population. In this talk we will describe the research we are conducting with the GiMS study involved trans adolescents who are accessing gender-affirming care. We will discuss some of the moral and ethical considerations related to consent, data storage, collection of biological samples and confidentiality. These issues are especially pertinent in the pollicised climate of trans health care.

THURSDAY 19 OCTOBER

SESSION 5: "RAINBOW CONNECTION" SUPPORTING DIVERSITY AND PROMOTING CULTURALLY SAFE BIOBANKING

CHAIR: ANUSHA HETTIARATCHI

13:10 - 14:10

13:50 - 14:10

DR CHRISTOPHER RICHARDS

Lead, Project Management Team, Centre for Population Genomics

TITLE: "With a Little Help from..." OurDNA: Biobanking on Diversity

ABSTRACT: Existing global resources of genetic variation are missing many large Australian communities, affecting accurate genetic diagnoses and future healthcare. The OurDNA program aims to partner with Australia's Culturally and Linguistically Diverse (CALD) communities to build a national resource of genetic variation. The program will recruit approximately 7,000 participants from under-represented CALD communities to establish a biorepository, reference database, and genomic dataset. This presentation will discuss the Centre of Population Genomic's mission and the preparation for the OurDNA program, including the challenges and barriers encountered. The focus will be on setting up the OurDNA biorepository and how we've approached balancing community engagement with producing high-value outputs.

THURSDAY 19 OCTOBER

ABNA 2023 SEMINAR SERIES
SEMINAR 4: "LISTEN WITHOUT PREJUDICE"
BIOBANKING DIVERSITY
CHAIR: ANUSHA HETTIARATCHI
14:10 - 14:50

ALBUM: Listen Without Prejudice Vol 1
ARTIST: George Michael
RELEASE DATE: September 3, 1990
GENRE: Pop, R&B

14:10 - 14:50
THE VERY REV'D DR PETER CATT
Dean, St John's Anglican Cathedral, Brisbane
DR GEORGET REAICHE-MILLER
Senior Biobank Manager, The University of Adelaide
XANDER BICKEDORF
Research Assistant, Youth Mental Health Team, Telethon Kids Institute, Perth
PAULA NIHOT

TITLE: Harnessing Diversity in Biobanking – ensuring equal representation and building participant partnerships.

14:50 - 15:20 AFTERNOON TEA - "RASPBERRY BERET"
Corporate Sponsor exhibits
Poster Viewing

SINGLE: Raspberry Beret
ALBUM: Around the World in a Day
ARTIST: Prince and the Revolution
RELEASE DATE: May 15, 1985
GENRE: Neo-psychedelia, Psychedelic Pop

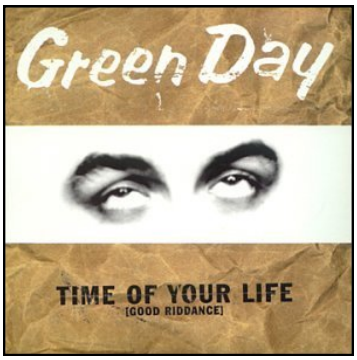
THURSDAY 19 OCTOBER

SESSION 6: "TIME OF YOUR LIFE"

20 YEARS OF ABNA

CHAIR: GEORGET REAICHE-MILLER

15:20 - 16:40



SINGLE: Time of Your Life
ALBUM: Nimrod
ARTIST: Green Day
RELEASE DATE: December 2, 1992
GENRE: Alternative Rock

15:20 - 15:35 PLATINUM SPONSOR PRESENTATION

SRIKANTH ADIGA

OpenSpecimen

TITLE: OpenSpecimen and 'Waltzing Matilda' - The Australian Journey

ABSTRACT: OpenSpecimen is a highly configurable Biobanking LIMS used in 90+ biobanks across 20+ countries. OpenSpecimen allows biobanks to collect high-quality biospecimen data and track specimens from "collection to utilization". This presentation will cover our "Australia story" - use cases from the 10+ academic biobanks we work with and discuss our journey from 2010-23.

15:35 - 15:45 LAUNCH OF ABNA SPECIAL INTEREST GROUPS

15:45 - 16:15 ABNA PAST PRESIDENTS - REFLECTION AND PANEL

- Associate Professor Daniel Catchpoole
- Lisa Devereaux
- Catherine Kennedy
- Pamela Saunders
- Dr Anusha Hettiaratchi
- Cassandra Griffin

16:15 - 16:30 PLATINUM SPONSOR PRESENTATION

DAVID FELICI

Thermo Fisher Scientific/MVE

TITLE: "How far we've come"

ABSTRACT: A retrospectively look at the changes in technology and workflows for Biobanking from Thermo Fisher Scientific and MVE Bio over the last 20 years. From the development of 2D storage and sample tracking through to vapour phase LN2 storage, and how customer needs and requirements have driven that change in technology and what is on the horizon.

SESSION SPONSOR: Pathtech™ First Choice In Science

THURSDAY 19 OCTOBER

PARTNER SEMINAR: "ROCKIN' ALL OVER THE WORLD"

CHAIR: GEORGET REAICHE-MILLER

16:30 - 16:50

ALBUM: Rockin' All Over the World
ARTIST: Status Quo
RELEASE DATE: November 11, 1977
GENRE: Hard Rock

16:30 - 16:50

DR ALISON PARRY-JONES

President, ISBER

DR WAYNE NG

Director-at-Large, Indo Pacific Rim, ISBER

TITLE: "Imagine" biobanking beyond the borders through an ISBER lens

ABSTRACT: Congratulations to ABNA for your 20th Birthday! Indeed, the International Society for Biological and Environmental Repositories (ISBER) will be celebrating its 25th Birthday in Melbourne, Australia next year! We are delighted to share with you a sneak peek of some the exciting ISBER tools developed to help biobanks moving forward. The Imagination of breaking the frontiers for biobanking from the founding leadership of ISBER has led us to becoming the largest biobanking forum with memberships spreading across four regions globally. With strong support from our members, vendor sponsors and partner organisations, we have been able to create several products that have made significant impacts towards biobanking sector. These include the most renown series of ISBER 'Best Practices: Recommendations for Repositories' – 5th edition coming soon, annual meetings, Biopreservation and Biobanking Journal, QBRS certification, Biobank Assessment tool, Biorepositories proficiency testing program, Regional Ambassador program etc. Following the recent successful restructuring to provide strengthened governance and communication and the creation of community of practices (CoP) within the society, we are looking forward to work closer with members and partners to create a more synergistic biobanking community, including creation of a regional strategy for IPR region. We also have a group of 6 passionate Regional Ambassadors in the IPR region, who work closely with the IPR Director-at-Large, that are keen to connect ISBER and the biobanking communities in this region. Lastly, we again would like to invite you to the ISBER 2024 Annual Meeting and Exhibits in your backyard in Melbourne in April next year!

THURSDAY 19 OCTOBER
"RED RED WINE"
GALA NETWORKING DINNER
18:30 ONWARDS

SINGLE: Red Red Wine
ALBUM: Just for You
ARTIST: Neil Diamond
RELEASE DATE: 1968
GENRE: Soft Rock

LOCATION: The Gala Networking dinner for the 2023 conference will be held at the stunning Plaza within the SeaWorld Park.

TIME: Commencing 6:30pm , Thursday 19 October. Meet at Reception at 6:20pm

DRESS CODE: In recognition of the 20 year milestone the dress code is Cocktail and we encourage all delegates to frock or suit up!

TICKETS: Tickets can be picked up in person at the registration desk.

Located in the heart of the park, the venue affords a sense of fun and a delightfully fresh menu. A highlight of the conference program, the gala dinner is sure to be equal parts a delight for the senses and a long awaited opportunity to reconnect with colleagues - old and new. There are also a number of location specific surprises including an exclusive dolphin show to ensure the occasion is memorable.

ABNA'S ACHIEVEMENT IN AUSTRALASIAN BIOBANKING AWARD

To celebrate ABNAs 20th Annual Meeting the Management Committee are proud to announce the inaugural Achievement in Australasian Biobanking Award.

This award recognises a past or present ABNA member who has contributed and/or continues to contribute to the Australasian biobanking community and upholds the ABNA core aims and mission. All current members are eligible to forward a nomination on the official form, during the nomination period. Nominations are assessed by ABNA's Management Committee and the outcome announced at the Annual Meeting.

The ABNA Management Committee congratulates this years nominees and winner!

australasian biospecimen network association

FRIDAY PROGRAM

SITE VISIT

07:20	Meet at Reception for Site Visit
07:30 - 08:50	Jellyfish Biobank Encounter & Shark Bay site visit
08:50 - 09:00	Walk back to Conference Centre
09:00 - 09:30	“Breakfast at Tiffany’s” - Coffee & Pastries

SESSION 7 “RUMOURS”
EXCITING FRONTIERS

09:30 - 09:40	Gold Sponsor - BioTools
09:40 - 10:00	Dr Tamsin Rob
10:00 - 10:20	Dr Hamish MacDonald
10:20 - 10:40	Dr Peter Thrall
10:40 - 10:50	Rapid Fire Presentation
10:50 - 11:00	Gold Sponsor - Testo
11:00 - 11:30	“Pour Some Sugar” - Morning Tea

SESSION 8 “TAPESTRY”
BIOBANKING OVERCOMING THE PAST

11:30 - 11:50	Dr Andrew Rayfield
11:50 - 12:10	Dr Nicola Rivers
12:10 - 12:30	Anna Russo
12:30 - 12:50	Felicity Poulsen
12:50 - 13:00	Gold Sponsor - Path Tech
13:00 - 14:00	“Eat It” - Lunch

FRIDAY PROGRAM

australasian biospecimen network association

OPENSPECIMEN
a krishagni product

SESSION 9
"BAT OUT OF HELL"
PATHOGENS, PESTS AND MICROBIOME

14:00 - 14:20 Professor Nigel McMillan
14:20 - 14:40 Associate Professor Volker Herzig
14:40 - 15:00 Dr Chloe Yap

15:00 - 15:10 Professor Jennifer Byrne

"THE FINAL COUNTDOWN"
PRESENTATIONS AND PRIZES

15:10 - 15:30 Prizes
Scholarship Recipients
Meeting Close

FRIDAY 20 OCTOBER

SITE VISIT: "MAGICAL MYSTERY TOUR"

07:20 - 09:00

ALBUM: Magical Mystery Tour
ARTIST: The Beatles
RELEASE DATE: December 8, 1967
GENRE: Psychedelic Rock, Art Pop

07:20 MEET AT RECEPTION FOR SITE TOUR
07:30 - 08:50
JELLYFISH BIOBANK ENCOUNTER & SHARK BAY SITE VISIT
08:50 - 09:00
WALK BACK TO CONFERENCE CENTRE

FRIDAY 20 OCTOBER

09:00 - 09:30 COFFEE & PASTRIES - "BREAKFAST AT TIFFANY'S"
Corporate Sponsor exhibits
Poster Viewing

SINGLE: Breakfast at Tiffany's
ALBUM: 11th Song/Home
ARTIST: Deep Blue Something
RELEASE DATE: July 11, 1995
GENRE: Pop

FRIDAY 20 OCTOBER
SESSION 7: "RUMOURS"
EXCITING FRONTIERS
CHAIR: CHRIS GORMAN
09:30 - 11:00

ALBUM: Rumours
ARTIST: Fleetwood Mac
RELEASE DATE: February 4, 1977
GENRE: Pop Rock, Soft Rock

09:30 - 09:40 GOLD SPONSOR PRESENTATION
ALEXIS MACLEOD
BioTools/Azenta
TITLE: Azenta Life Science
ABSTRACT: Azenta provides solutions to mitigate the risks in sample management workflow. Sample quality is the cornerstone of reliable, reproducible and quantifiable data. Our consumables ad instruments provide unparalleled protection of sample integrity, streamline sample management, and make sample handling faster, easier and more consistent.

09:40 - 10:00
DR TAMSIN ROBB
NETwork! Research Group, The University of Auckland
TITLE: "A Whole New World" - One extraordinary woman's tissue donation and the new avenues of research she inspired
ABSTRACT: A woman with ninety tumours all over her body requested and consented to donate her tumours to research after she died. In New Zealand, there is no routine rapid autopsy programme, so accepting her donation meant constructing an n=1 tissue collection protocol. Our research team recognized the value of these tissues in contributing new knowledge to our understanding of how tumours evolve as they spread around the body of a person with cancer. Therefore, we built a programme of genomic research around these tumours, collecting multiple types of genomic data on up to 44 tumour samples spread all around the body. Given the rarity of this tissue donation, we wanted to distil the most information possible. However, deciphering the complex layers of genomic data in terms of spatial relationships (relative anatomical position) and temporal progression (her decade-long cancer journey) was challenging. We understood that effectively interpreting this data required a collaborative effort across clinical, biomedical, and computational disciplines. But, we lacked a suitable platform to facilitate such cooperation. This one extraordinary woman inspired us to enter 'a whole new world' to meet these challenges, an interactive extended reality visualisation of her data, enabling us to draw connections between information across space and time.

We are grateful to our remarkable donor, for her generosity and foresight, enabling this research.

SESSION SPONSOR: AZENTA LIFE SCIENCES BioTools™ Innovative Tools for Life Sciences

FRIDAY 20 OCTOBER
SESSION 7: "RUMOURS"
EXCITING FRONTIERS
CHAIR: CHRIS GORMAN
09:00 - 11:00

10:00 - 10:20

DR HAMISH MACDONALD
Research Fellow, University of Queensland
ARC Centre of Excellence for Plant Success in Nature and Agriculture

TITLE: "Go Your Own Way": Achieving Nagoya Protocol compliance without a legal framework

ABSTRACT: Presentation abstract: As access and benefit sharing regimes such as the Nagoya Protocol are increasingly enacted in law and embraced by journals and institutions, compliance with these legal frameworks is important for scientists and collections. Demonstrating Nagoya compliance is complicated in countries such as Australia, where no cohesive legislative framework exists and where required environmental and collection permits vary widely between States. This presentation examines voluntary best-practice collection guidelines as a possible solution to this issue. It also discusses related proposals for improving the equity of plant collections, including biocultural labels, CARE databasing principles, and multilateral systems of access and benefit sharing.

10:20 - 10:40

DR PETER THRALL
Group Leader, Digital Data & Informatics, National Research Collections Australia, CSIRO

TITLE: "Information Overload": CSIRO Digitisation

ABSTRACT: The CSIRO's National Research Collections Australia (NRCA) is a world class science ready biological collections research facility. Its 15+ million specimens collected over 240 years include all major biological groups and cover the entire Australian continent and marine zones. In recent years, we have made significant advances in bringing our collections together, moving to a single integrated collection management system, addressing challenges in genomic research and associated data, and specimen digitisation in image capture and storage. CSIRO's biological collections are aiming to significantly accelerate the creation of digital assets for use in research from its specimens. To do this, we are investing heavily in mobilising and securing the collections through:
a) physical infrastructure;
b) digital infrastructure; and
c) advancing digitisation approaches and how that information gets utilised in research and application to real-world problems.
This presentation will summarise our efforts to mobilise, secure & make accessible our digitised collections as well as some of the work we are doing to help create a 21st century biological research collection.

10:40- 10:50 RAPID FIRE PRESENTATION

MARIA VILLALVA
NSW Health Pathology, Camperdown, NSW, Australia

TITLE: Implementing high throughput workflow "ch-ch-changes" to streamline Peripheral Blood Mononuclear Cell (PBMC) Isolation

ABSTRACT ID: #169

FRIDAY 20 OCTOBER
SESSION 7: "RUMOURS"
EXCITING FRONTIERS
CHAIR: CHRIS GORMAN
09:30 - 11:00

10:50 - 11:00 GOLD SPONSOR PRESENTATION

DIRK MACKY

Testo

TITLE: "Cold as Ice" - What you should expect in a quality environmental monitoring system.

Dirk Macky is the VP Solutions at Testo Pty Ltd.

Over the past 5 years, Dirk has assisted hospitals, researchers, and biobanks to ensure the preservation of critical bio-samples. Dirk has worked with NSW Health Pathology, the TGA and Biobanking Victoria on special projects that have made him an expert in environmental monitoring. In his presentation, Dirk will guide you through the evolution of measurement recording, the importance of redundancy, insurance benefits in monitoring and how ISO 20387 fits in with monitoring systems.

11:00 - 11:30 MORNING TEA - "POUR SOME SUGAR"

Corporate Sponsor exhibits

Poster Viewing

SINGLE: Pour Some Sugar on Me
ALBUM: Hysteria
ARTIST: Def Leppard
RELEASE DATE: September 8, 1987
GENRE: Glam Metal, Arena Rock, Hard Rock

FRIDAY 20 OCTOBER
SESSION 8: "TAPESTRY"
BIOBANKING OVERCOMING THE PAST
CHAIR: CATHERINE KENNEDY
11:30 - 13:00

ALBUM: Tapestry
ARTIST: Carol King
RELEASE DATE: February 10, 1971
GENRE: Soft Rock, Pop

11:30 - 11:50

DR ANDREW RAYFIELD

Research Fellow, and Research Manager, Clem Jones Centre for Neurobiology and Stem Cell Research, Griffith University, Queensland, Australia

TITLE:" Running up that Hill" A potential new olfactory cell therapy for spinal cord injury and other injuries to the nervous system

ABSTRACT: The Clem Jones Centre for Neurobiology and Stem Cell Research (CJCNSCR) at Griffith University, Queensland, Australia is pioneering the development of a potential new therapy for spinal cord injury using olfactory ensheathing cells (OECs), a type of glial cell found in the olfactory (sense of smell) system. Spinal cord injury is a devastating disease that currently affects 21,000 Australians and has a $3.7B annual burden on the Australian economy, with nearly 300 new cases every year. The solution to this disease may lie right in front of you – in your nose. OECs play a role in the nose to guide and grow newly created olfactory neurons back up into the olfactory bulb/brain every day, as we constantly lose olfactory neurons to the harsh external environment to which they are exposed.. Pioneering research starting in the 1990s discovered that these cells could be transplanted into the brain or spinal cord, where they would perform a similar task – regenerating the nervous system. CJCNSCR is building upon 20+ years of research to shortly commence a phase I/IIa cell therapy/rehabilitation clinical trial for spinal cord injury. Cell freezing and cell banking of OECs has been a vital tool in our preclinical research, and one that may benefit future human trials. The potential regenerative role of OECs and our interest in the nose does not end with applications for spinal cord injury. CJCNSCR's advances in the three-dimensional construction of cells has allowed the team to research a therapy for peripheral nerve injury, while our unique knowledge of the olfactory system has helped us identify a potential cause of neurodegenerative diseases of the brain, including Alzheimer's disease. CJCNSCR is planning a unique approach in the early detection of Alzheimer's disease, that will, amongst other processes also involve the collection of nasal tissue and potential biobanking of this tissue. These approaches are core to the CJCNSCR mission: to develop therapies to treat diseases and injuries of the nervous system.

FRIDAY 20 OCTOBER
SESSION 8: "TAPESTRY"
BIOBANKING OVERCOMING THE PAST
CHAIR: CATHERINE KENNEDY
11:30 - 13:00

11:50 - 12:10

DR NICOLA RIVERS
Monash University, Melbourne, Australia

TITLE: "Stayin' Alive": The Australian Frozen Zoo's fight against extinction

ABSTRACT: Australia's unique biodiversity is under threat from climate change, pollution, habitat loss and introduced species resulting in the country having one of the worst extinction records in the world. The Australian Frozen Zoo (AFZ; previously known as the Australian Gene Storage and Research Centre of Australia) was established in 1995 with the goal of preserving genetic and reproductive material from native and exotic animal species. While the AFZ represents a commitment to preserving genetic diversity and combating the extinction crisis, it has faced significant governance challenges throughout its existence. These challenges, including inadequate funding and fragmented coordination have limited its functionality and impact. Amid the ongoing extinction crisis, the AFZ's role becomes increasingly crucial, with potential applications in species restoration, scientific advancements, and educational outreach. This presentation aims to not only unravel the AFZ's past but also emphasize the pressing need to invest in its future, ensuring it continues to be a beacon of hope for Australia's unique wildlife.

12:10 - 12:30

ANNA RUSSO
Aboriginal Heritage and Repatriation Manager, South Australian Museum

TITLE: Consent: "The Sound of Silence"

ABSTRACT: Throughout the late 19th and 20th centuries the South Australian Museum was part of a network of doctors and scientists who actively collected Aboriginal remains. Across Australia approximately 10,000 remains were collected with the South Australian Museum alone collecting the skeletal remains of around 4500 Aboriginal people. Collecting was prefaced with ambitions in medical and anthropological research and underpinned with racist scientific theories.

In South Australia, consents to remove Aboriginal remains from traditional burial sites or to divert the corpses of vulnerable Aboriginal people from a decent interment came from the highest public offices; the Police Commissioner, the Commission of Crown Lands and the Chief Secretary. The agency of Aboriginal people did not have any role in these consent processes.

The legacy of these attitudes has a profound effect on the Aboriginal descendants who now have a responsibility that no other cultural group in Australia deals with; to rebury their ancestors' remains in a culturally appropriate way. As Museum staff today, we have a responsibility to know our history and to take action to correct the hurt that comes from the past.

Working in partnership with Aboriginal communities, the South Australian Museum has embarked on a repatriation strategy to shift the perception of Aboriginal remains from biological samples and specimens to humans and communities and place Aboriginal cultural authority at the centre of decision making about repatriation. The Museum has implemented an engaged model of repatriation and reburial that addresses the challenges of securing land access with protection in perpetuity, and effective and equitable collaboration with Aboriginal communities and their governance structures. This model provides the space, time and resourcing to build Aboriginal communities' trust and confidence to enable appropriate cultural ceremony and protocol of reburial, as opposed to the western approach to burial. The model navigates the complex terrain of cultural heritage and the political landscape. Understanding this model has implications for institutions and agencies developing their own approaches to repatriation of complex legacy collections of human skeletal remains, blood, hair and DNA samples.

FRIDAY 20 OCTOBER
SESSION 8: "TAPESTRY"
BIOBANKING OVERCOMING THE PAST
CHAIR: CATHERINE KENNEDY
11:30 - 13:00

12:30 - 12:50

FELICITY POULSEN

Research & Development Scientist, Forensic Biology/DNA Unit, NSW Health Pathology Forensic & Analytical Science Service

TITLE: "Answers don't come easy": Biospecimen collection and use in the forensic sciences

ABSTRACT: When questions arise in criminal and coronial investigations forensic scientists are there to help provide answers on the Who, What, When, Where and How. In NSW, the NSW Health Pathology Forensic & Analytical Science Service (FASS) provides independent analysis to NSW Health and Justice systems with specialist forensic medicine, forensic DNA, illicit drugs analysis, chemical criminalistics and forensic toxicology services.

Unique and challenging questions encountered in casework are constant drivers of research and innovation to improve forensic service delivery at FASS and provide more probative information to health and justice systems; ultimately assisting in the resolution of more cases.

Accessing biological samples that adequately represent the types and conditions of casework samples, and in sufficient quantities, is an ongoing challenge for the design and conduct of forensic research and validation studies at FASS. Access to representative population data for research and operational use has also been difficult. Historically, there has been a reliance on convenience sampling to support research and validation work. However, in recent years, there has been a concerted effort to build resources that can serve a wide range of research and operational needs into the future.

This presentation will provide an overview of biospecimen collection and use in forensic laboratories. Unique challenges facing forensic laboratories will be discussed along with prospects for future improvements, including increased awareness of forensic applications and enhanced engagement between forensic laboratories and organisations involved in the ethical collection and use of biospecimens.

12:50 - 13:00 GOLD SPONSOR PRESENTATION

RAOUL VON LUEDER

Path Tech

TITLE: Introduction to specialised 2D biobanking technologies

ABSTRACT: LVL technologies GmbH & Co. KG is a supplier of consumables for laboratory automation and automated liquid handling since 1986. The main focus of our product range are sample storage solutions in the standardized 96 SBS Format like: Deep Well Plates, Reservoirs, Microtiter Plates, alphanumeric coded tube rack system and our 2D Tube Rack System SAFE®. The product line of the 2D coded tubes SAFE® launched in 2013. All LVL biobanking SAFE® products are manufactured under cleanroom conditions in an ISO 9001 certified manufacturing facility in the European Union. Only the most modern and high-precision injection moulding machines (made in Germany), tools and high-power lasers are used in production. The further processing is mostly fully automated. Highest quality standards in the selection of the required raw materials (Medical Grade USP VI) and the assurance of unique coding as well as various test procedures for checking the leak-tightness of the tubes, but also with regard to leachables and extractables guaranteeing our customers a premium product for the secure long-term storage of their samples. LVL offers various tube volumes stacked in SBS-formatted racks, starting at 200µl (96tubes per rack) over 2ml (48tubes per rack) up to 8ml (24tubes per rack), external and internal thread types and a highly customizable 2D tube rack system to fit all the different needs of our customers.

FRIDAY 20 OCTOBER

13:00 - 14:00 LUNCH - "EAT IT"
Corporate Sponsor exhibits
Poster Viewing

SINGLE: Eat It
ALBUM: Weird Al Yankovic in 3D
ARTIST: Weird Al Yankovic
RELEASE DATE: February 28, 1984
GENRE: Comedy Rock, Parody

FRIDAY 20 OCTOBER
SESSION 9: "BAT OUT OF HELL"
PATHOGENS, PESTS AND MICROBIOME
CHAIR: SHIRLEY WEE
14:00 - 15:10

ALBUM: Bat out of Hell
ARTIST: Meat Loaf
RELEASE DATE: October 21, 1977
GENRE: Hard Rock, Progressive Rock

14:00 - 14:20

PROFESSOR NIGEL MCMILLAN

Director, Infectious Diseases and Immunology, Griffith University, Gold Coast, Queensland

TITLE: "Daydream Believer": Biobanking the most common cause of cancer – microorganisms.

ABSTRACT: Cancer is caused by a range of environmental insults from without and hereditary insults from within. Little known fact is that 1/3 of cancers are caused by infectious disease from bacteria like *H pylori*, to viruses like human papillomavirus and HIV while hereditary cancers are only 5% of all cancers.

Yet we biobank large numbers of cancer samples in order to understand the genetics of what is ultimately late cancer which doesn't shed insights into the actual causes of the cancer in the first place. How might we address this? I will present my thoughts on cancer biobanks going forward that address this and many other issues.

FRIDAY 20 OCTOBER

SESSION 9: "BAT OUT OF HELL"
PATHOGENS, PESTS AND MICROBIOME
CHAIR: SHIRLEY WEE
14:00 - 15:10

14:20 - 14:40

ASSOCIATE PROFESSOR VOLKER HERZIG
Director, Infectious Diseases and Immunology, Griffith University, Gold Coast, Queensland

TITLE: "Poison": Spider venoms for saving honeybees from varroa mites

ABSTRACT: One third of the world's food supply comes directly or indirectly from honeybee pollination exceeding USD $215 billion/year (1). Besides its important role for global food security, honeybee pollination is important for production of plant-based medicines, biofuels, and construction materials (2). Despite their huge benefits for humans, honeybees are currently facing multiple threats, including pesticides, parasitic Varroa mites and associated viruses, other parasites and food shortages due to wildflower loss (3). Varroa mites are considered the major threat for apiculture, with ~85% of colony losses directly linked to infestations by Varroa destructor (4), a known vector of the deformed wing virus that is also directly linked to colony loss (5). Australia managed to remain free of varroa mites for decades until the recent incursion of Varroa destructor near Newcastle (NSW) in 2022. Despite DPI's ongoing efforts in controlling the mites, they might eventually spread across the entire country, which would have severe economic implications for apiculture in Australia and for agricultural industries reliant on crop pollination by bees. We therefore employed the world's largest collection of spider venoms and screened venom from >220 species for peptide toxins that target *V. destructor* mites via topical application. We isolated and identified several varroacidal spider venom peptides which are currently being further characterised for their on- and off-target activities.

1. van Engelsdorp D, Hayes J, Jr., Underwood RM, Pettis J. 2008. Plos One 3: e4071.
2. Potts SG, Imperatriz-Fonseca V, Ngo HT, Aizen MA, Biesmeijer JC, et al. 2016. Nature 540: 220–229.
3. Decourtye A. 2015. Nature 521: S58–S59.
4. Rosenkranz P, Aumeier P, Ziegelmann B. 2010. Journal of Invertebrate Pathology 103: S96–S119.
5. Villalobos EM. 2016. Science 351: 554–556.

14:40 - 15:00

DR CHLOE YAP
Industry Fellow, Mater Research Institute, University of Queensland

TITLE: "How to make gravy": Autism and the gut microbiome

ABSTRACT: It is well known that gut conditions are more common among people with an autism diagnosis. In recent decades, this has led to significant interest in the relationship between autism and the gut microbiome – the trillions of bacteria that live on and within us. Today, there are many "therapies" targeted to families that claim to support children on the autism spectrum by modulating the microbiome. However, the evidence supporting an association between autism and the gut microbiome remains weak. To address this, we performed a large and detailed metagenomics study, leveraging the deep clinical and biological data from the Australian Autism Biobank and Queensland Twin Adolescent Brain project.

FRIDAY 20 OCTOBER

SESSION 9
CHAIR: SHIRLEY WEE
14:00 - 15:10

NATIONAL RESEARCH INFRASTRUCTURE UPDATE

YOUR PARAGRAPH TEXT

15:00 - 15:10

PROFESSOR JENNIFER BYRNE

Director of Biobanking, NSW Health,NSW Health Pathology

TITLE: A national approach to collections and biobanking - "With a little help from my friends"

FRIDAY 20 OCTOBER

THE FINAL COUNTDOWN
CHAIR: CASSANDRA GRIFFIN
15:10 - 15:30

ALBUM: The Final Countdown
ARTIST: Europe
RELEASE DATE: May 30, 1986
GENRE: Glam Rock

15:10 - 15:30
PRESENTATIONS AND PRIZES

Elevator Pitch Prize
Poster Prize
Rapid Fire Presentation Prize
ABNA Achievement on Biobanking

australasian biospecimen network association

2023 SPEAKERS

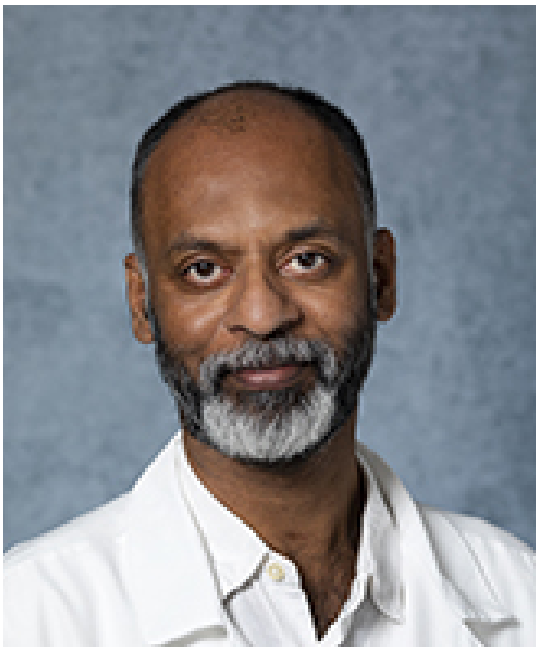
2023 KEYNOTE SPEAKER

DR V KRISHNAN RAMANUJAN

Dr Ramanujan has a career spanning three decades in various research disciplines from condensed matter physics to mitochondrial biology to cancer cell metabolism. As the director of Biobank and Research Pathology in one of the largest private hospitals (Cedars Sinai) in the Western United States, Dr Ramanujan is leveraging these years of training to mobilise the next generation biobanking infrastructure and biobanking research. Owing to his graduate training in physics and instrumentation, Dr Ramanujan understands the power of technology and quantitative frameworks that can be harnessed to pivot the need for robust biobanking research outcomes. Research at its basic premise, is a fundamental pivot for the human health and biobanking research is no exception. Awareness about the critical need for quality biospecimens.

for clinical validation and precision health in recent times has revitalized the biobanking field significantly. Automation and artificial intelligence tools are at the foundation of the next generation biobanking infrastructure.

Dr Ramanujan's biobanking research interests go beyond these vital infrastructure tools and focus on translating biobanking research outcomes to robust frameworks for health delivery. With the recent credentials in Health Delivery Sciences, Dr Ramanujan believes that the collaborative biobanking research, across the institutions and across the continents, will be able to define the shape of human health delivery network.



2023 INVITED SPEAKERS

DALE ARVIDSSON

Dale is Curator of Brisbane Botanic Gardens Mt Coot-tha and the Brisbane Botanic Gardens Conservation Seedbank. Dale's remit also includes the historic City Botanic Gardens, and beautiful Sherwood Arboretum, as well as Brisbane's well-loved and historic high-profile parks.

Commencing at Brisbane City Council in 2015, Dale has 20 years' experience as a botanic garden's professional, with a diverse background that includes visual arts and design, tourism, and underlying all of this – a love for horticulture and plants. Dale holds Advanced Diplomas of Horticulture and Conservation & Land Management, and a Bachelor of Visual Arts.

Dale is impassioned about the role of botanic gardens conserving and researching flora in the face of a changing climate and our increasing impact on the environment; as well as providing places of history, beauty and connection to plants.

XANDER BICKENDORF

Xander Bickendorf (He/They) is engaged with the Youth Mental Health Team of Telethon Kids Institute as a Research Assistant. Xander works in collaboration with the Gender Diversity Service, a multidisciplinary clinic treating trans and gender diverse children at Perth Children's Hospital.

In this role, Xander engages with young people and their families to share research participation opportunities, such as the Gender and Immunity Study. Beyond recruitment and sample collection, Xander's driving focus is community engagement and consultation – whereby the participants impacted by this research are involved in an ongoing relationship with the chief investigators to guide the goals of the research. As a Queer person of trans experience, Xander approaches research within his community with enthusiasm and believes best practise must be consciously and continually informed by the lived experience of those affected by the research.

DR JOAN CARLINI

Joan's passion lies in co-producing solutions with diverse communities, and she has was the founding chair of the Gold Coast Hospital and Health Service Consumer Advisory Group (CAG). This group works collaboratively with the hospital to ensure that the consumer voice is actively represented in the design, delivery, and planning of health services. With extensive experience in health and business advocacy, Joan advocates for vulnerable groups, striving to give them a meaningful voice in decision-making processes. Her dedication to improving the healthcare experience is deeply motivated by her personal journey with a chronic medical condition and her interactions within the health system.

THE VERY REV'D DR PETER CATT

Peter Catt holds a BD and a PhD in Evolutionary Microbiology. As Anglican Dean of Grafton during the early 2000s Peter oversaw the International Philosophy, Science and Theology Festival. He is currently Dean of St John's Anglican Cathedral, Brisbane. His interests include Christian Formation, the science and religion dialogue, and Narrative Theology. Peter understands justice to be a core spiritual value. He is President of A Progressive Christian Voice and a member of the Australian Churches Refugee Taskforce. He also serves on Anglican and Ecumenical Social Justice Committees at a Diocesan and National level.

2023 INVITED SPEAKERS

SOLAL CHAUQUET

Mr Chauquet is a final year PhD student (Due to submit his thesis in April 2023) at the Institute for Molecular Bioscience. His research focuses on using genomic and genetic data to improve understanding of disease with a focus on the translation of genomics into the clinics. During his PhD he generated data from liver biopsies collected in a pre-clinical trial of normothermic perfusion. He investigated the presence of circadian rhythm within ex vivo perfusion and its impact on liver function. As an extension to this work, he started the collection effort of additional samples in partnership with the Queensland liver transplant services.

DR ANDRES GAMBINI

Dr. Andrés Gambini is a highly accomplished veterinarian and reproductive biotechnologist with extensive experience in embryology, cell culture, and animal preservation technologies. He graduated with honors from the University of Río Cuarto, Argentina, in 2008, and after a period of farm practice, he pursued a Ph.D. program and taught Animal Physiology at the University of Buenos Aires (UBA) for five years. During his Ph.D. research, he focused on improving in vitro embryo production in horses, particularly with somatic cell nuclear transfer (cloning) followed by embryo vitrification. Dr. Gambini's research has taken him across the globe, from the National Institute of Environmental Health Sciences (NIEHS) in North Carolina, USA, where he studied mechanisms governing embryonic genome activation, to the University of Torino, Italy, and the University of Cordoba, Spain, where he served as a professor. He has continued his research in cloning, ICSI, IVF, and other reproductive biotechnologies and has achieved several breakthroughs in the field, including the first equine cloned foals in Argentina (2010) and in Australia (2018), and the first cryopreserved embryos produced in vitro in zebras (2020) and donkeys (2022). Dr. Gambini is a respected scholar, having participated as a speaker in more than 30 conferences/seminars and provided private training courses worldwide. He was an Assistant Professor at the University of Buenos Aires from 2017 to 2022 and is now a Senior Lecturer at the School of Agriculture and Food Sustainability at the University of Queensland in Australia. He is widely recognized for his contributions to the field of reproductive biotechnology and animal preservation.

DR CLAIRE GORDON

Dr Claire Gordon an immunology scientist and infectious diseases physician. She is a Senior Research Fellow in the Department of Microbiology and Immunology at the University of Melbourne, Infectious Diseases Physician in the Department of Infectious Diseases and North Eastern Public Health Unit at Austin Health. Dr Gordon completed training in infectious diseases in 2011 and then studied T cell memory at Columbia University New York and the University of Oxford before returning to Melbourne in 2018. Her research focuses human tissue-resident memory T cells in health and disease. She established and leads the Australian Donation and Transplantation Biobank (ADTB), a research biobank integrated into the existing infrastructure for deceased organ donation in Australia.

2023 INVITED SPEAKERS

A/PROF VOLKER HERZIG

A/Prof Volker Herzig studied biology and obtained his PhD from the University of Tübingen (Germany) in 2004, before joining the Monash Venom Group (Melbourne, Australia) in 2005. After working with Prof. Wayne C. Hodgson at Monash University for three years, focusing on the pharmacology of Australian spider venoms, Dr. Herzig joined the group of Prof. Glenn F. King at the Institute for Molecular Bioscience (IMB) at The University of Queensland (UQ) from 2008-2019.

During his time at the IMB, he worked on a number of different projects dealing with spider venoms and toxins and their potential application in agriculture and human health. In 2020, he was awarded an ARC Future Fellowship and started his own research group at the University of the Sunshine Coast, focusing on the effects of arachnid venom components on other arthropods. A major research focus of his work is the search for novel bio-insecticides from arachnid venoms. A/Prof Herzig has established the world's largest arachnid venom collection, comprising of venoms from > 550 spider and > 150 scorpion species, which is used for a variety of collaborative research projects worldwide.

During his career, A/Prof Herzig has published 1 edited book, 5 book chapters, and 80 journal articles, including publications in prestigious journals like Nature, Cell, Nature Communications, PNAS, Nucleic Acids Research and Biological Reviews.

PROFESSOR SUNIL LAKHANI

Professor Sunil Lakhani is a clinical diagnostic and molecular pathologist. He is the Executive Director of Research and Senior Staff Specialist at Pathology Queensland and Head of the Breast Group, University of Queensland Centre for Clinical Research (UQCCR), Brisbane, Australia.

His current research interests include lobular carcinoma and its variants, triple negative and metaplastic breast cancer and the mechanisms and therapeutic development of brain metastases.

In collaboration with the clinical units and Pathology Queensland, Prof Lakhani established the Brisbane Breast Bank in 2005. This not-for-profit biobank provides resources on a collaborative basis, supporting local, national, and international studies.

Prof Lakhani is the current Chair of Board of Directors, Breast Cancer Trials (formerly ANZ Breast Cancer Trials Group) and has supported the biobanking infrastructure for clinical trials established in Newcastle, NSW.

PROFESSOR ASHLEIGH LIN

Professor Ashleigh Lin (she/her) is a NHMRC Emerging Leadership Fellow and Program Head of Mental Health and Youth at the Telethon Kids Institute. Ashleigh's research focuses on the mental health of young people, with a particular interest in the mental health of marginalised youth, including trans and gender diverse young people. Ashleigh leads the The GENder identiTy Longitudinal Experience (GENTLE) Cohort, a collaboration with Child and Adolescent Mental Health Services to develop a research registry of trans young people seen at the Gender Diversity Service at Perth Children's Hospital. Ashleigh is the President of the Australian Professional Association for Trans Health (AusPATH), the peak body for professionals working in trans health.

2023 INVITED SPEAKERS

DR HAMISH MACDONALD

Hamish MacDonald is a research fellow at the University of Queensland and the ARC Centre of Excellence for Plant Success in Nature and Agriculture. His research explores co-productive intersections of law and science, with a particular focus on how intellectual property laws interact with genetic technologies and quantitative models. Other research areas include the international regulation of genetic resources, technical infrastructures underlying legal systems, and the intellectual property implications of artificial intelligence.

DR LEE MCMICHAEL

My research has focused on molecular studies of pathogens, disease syndromes and health of Australian wildlife and domestic species. Particular research interests include the study of emerging and novel viral infections and disease syndromes of Australian bat species. I am passionate about undergraduate teaching of genetics and supervision of Higher Degree Research students in developing their molecular biology skills in a diverse range of project areas, from molecular detection and characterisation of pathogens with zoonotic potential in wildlife and companion animals, characterisation of novel disease syndromes in threatened wildlife species with potential wildlife health and conservation impacts, and gene expression analyses investigating the health of wildlife and companion animals.

My research into the epidemiology of Hendra virus in its Australian reservoir flying fox host has contributed to establishing risk management policies at Queensland state government levels. My continuing research into emerging viruses in Australian bats has led to the discovery and characterization of a number of novel viruses with potential wildlife health and conservation implications. I work collaboratively with Biosecurity Queensland (Department of Agriculture and Fisheries), and several Australian universities, inclusive of Griffith University, University of Southern Queensland and James Cook University as part of my research into emerging infectious diseases. I have ongoing collaborations with wildlife research organisations, in particular the University of Queensland Hidden Vale Teaching and Research Centre, the Tolga Bat Rehabilitation and Research Organisation and Australia Zoo Wildlife Warriors, in undertaking conservation orientated research in Australian endangered species.

PROFESSOR NIGEL MCMILLAN

Professor Nigel McMillan is a cancer biologist and infectious disease expert. He studies virally caused cancers and novel antiviral therapies based on gene medicines and nanoparticle technologies. Following his postdoctoral training in the Canada he established his own laboratory at the University of Queensland (UQ) in 1994. He was a Principal research fellow in 2009 and Deputy Director of the UQ Diamantina Institute. In 2012 he moved to Griffith and is currently Director of the Infectious Diseases and Immunology program. He is an internationally recognized expert in the area of RNA interference and CRISPR therapy.

His lab was the first in the world to cure cancer in animal models in 2019 using CRISPR gene editing. He has published over 140 papers and books chapters including in Nature Nanotechnology, Nature Medicine, and Nature Communications. He has raised over $16mil in competitive grant funding and has served as President of the Australasian Virology Society.

2023 INVITED SPEAKERS

DR DEAN MILLER

Dr Dean Miller is a scientist, multimedia professional, international television presenter, Australian Geographic sponsored explorer, creator and lead scientist of the world's only Living Coral Biobank Project, and a highly respected voice and conservationist for all things Great Barrier Reef.
With a PhD in coral reef management, tourism, and resource allocation and a wealth of scientific experience in the field from Antarctica to the Arctic and everywhere in between, Dean's scientific research career has been rich and diverse. Having been involved in over 300 ocean expeditions on ships all over the globe, much of Dean's life has been at sea in some of the most challenging environments known, from extreme storms with 18m seas in the Antarctic to deep ocean ROV missions down to 2500m, and exploring every inch of our beautiful Great Barrier Reef.

Dr Miller is the Managing Director and co-founder of the Great Barrier Reef Legacy, a nonprofit organisation that crews and operates the only independent research vessels on the Great Barrier Reef. Dean is on a mission to collect and conserve all 400 species of corals from the Great Barrier Reef and keep them alive in land-based facilities to protect the entire biodiversity of corals and aid in research and restoration efforts. Currently, they have 85 species representing nearly 22% of Great Barrier Reef corals already secured in a project that is quickly becoming the most extensive conservation effort for coral reefs worldwide. The Living Coral Biobank facility will be the most advanced and environmentally sustainable building of its kind anywhere on the planet if funded, has been endorsed by multiple international organisations, and is a finalist in the World Architecture Awards.

DR DANIEL MORGAN

Daniel completed his undergraduate training in 2004 at the University of Sydney, Australia, majoring in biochemistry and genetics, performing his Honours project in colon cancer research. He then went on to attain a PhD in 2008 in epigenetics at the University of Queensland and the Queensland Institute of Medical Research. His PhD project encompassed identifying and characterizing genes involved in epigenetic reprogramming in the mouse.

He began working in assisted reproduction in 2010 at Genea in Sydney, Australia. During his 12 years there, he completed his embryology training and progressed to Senior Embryologist, functioning as one of the primary trainers of new embryologists into the network for more than 8 years. He was the primary Fertility Laboratory Trainer at their Centre of Excellence for Fertility in Bangkok, Thailand bringing together his passion for the ART industry as well as his strong skills in presenting lectures and training for participants from across the globe. Daniel was also based in Beijing, China for 12 months, developing Genea Consult's external auditing service and performing capability assessments in the Asia Pacific region, including in China, Japan, Malaysia and Thailand.

Daniel is currently the Scientific Director for Queensland for Monash IVF Group, a role he has held since March 2022. He is responsible for the scientific leadership, operations and provision of clinical Embryology, Andrology, and Endocrinology services within Queensland's rapidly growing clinics. He has recently overseen the transition from sequential to single-step media for Queensland's two largest clinics, a first for Monash IVF Group.

2023 INVITED SPEAKERS

DR WAYNE NG

General Manager, Victorian Cancer Biobank, Director-at-Large Indo-Pacific Rim region, International Society for Biological and Environmental Repositories (ISBER)

As the General Manager of the Victorian Cancer Biobank (VCB) Consortium, he oversees the operations and leads the strategic planning of the consortium. VCB is a collaborative tissue bank network operating in Melbourne, Australia, that offers over 450,000 ready-to-use specimens from nearly 40,000 donors, prospective collection services and biospecimen services for clinical trials primarily in cancer. As a core research infrastructure in the country, the VCB has facilitated over 300 research projects locally and internationally.

Wayne has recently been elected as the Director-at-Large of ISBER for the Indo Pacific Region and is currently chairing the ISBER Local Engagement Taskforce to support the organisation of the 2024 ISBER Annual Meeting in Melbourne. He has leadership experience by way of roles on the committees for ABNA, and the Australian Donation and Transplantation Biobank. He was a Regional Ambassador for ISBER prior to his Directorship, and chaired the plenary symposium at the 2023 ISBER Annual Meeting in Seattle.

DR ALISON PARRY-JONES

Alison Parry-Jones (BSc, MA, PhD, MRSC) is the Operations Director of the Wales Cancer Biobank (WCB). She is responsible for the day to day running of the biobank and is based at the University Hospital of Wales in Cardiff. She is the Designated Individual on the WCB licence issued by the Human Tissue Authority and is therefore responsible for governance and compliance across all WCB sites in Wales. She has extensive project management experience in academia and is a PRINCE2 registered practitioner. Her background is in analytical chemistry and before moving into project management she worked in bioanalytical laboratories specialising in phase I and II clinical research. Her interest in the legal and ethics issues within biobanking led her to complete an MA in Medical Ethics and Law in 2012.

She is the President of the Board of the International Society for Biological and Environmental Repositories (ISBER) and is a member of an American Society of Clinical Pathology Board of Certification working group that developed an international Qualification in Biorepository Science online examination. She is on the UKAS Biobank Accreditation Steering Group for ISO20387 and recently became a member of the Scientific Advisory Board for the European ISIDORe consortium (Integrated Services for Infectious Disease Outbreak Research).

PROFESSOR KYLIE PITT

Professor Kylie Pitt is a marine ecologist at Griffith University, with specialist expertise in the ecology of jellyfishes. Kylie leads the Griffith Sea Jellies Research Laboratory, a state-of-the-art research facility specialised for studying jellyfishes. The laboratory is located within the iconic Sea World theme park, is on display to the public and provides a unique opportunity for the community to observe scientific research being done.

Collecting and preserving jellyfishes is an integral part of the research done by Kylie and her team. Research projects that require biobanking of samples include developing the use of environmental DNA (eDNA) to improve detection of dangerous 'Irukandji' jellyfishes, determining how communities of jellyfishes change through space and time, and understanding the role of jellyfishes within marine food webs. Kylie's research has highlighted the important role of jellyfishes in the functioning of marine ecosystems.

2023 INVITED SPEAKERS

PROFESSOR CRISTIN PRINT

Cris qualified in Medicine from Auckland Medical School in 1989 and began research while working as a house surgeon in Dunedin, NZ. A molecular immunology PhD in the University of Auckland led to a four-year postdoctoral period in the Walter and Eliza Hall Institute in Melbourne, Australia, before moving to Cambridge University, UK for six years where he was a Fellow of St Edmunds College and developed a deep interest in genomics and bioinformatics. While there he co-founded a bioinformatics biotechnology company, which became listed on the Tokyo stock exchange in 2007. In 2005 he returned to the University of Auckland where he leads a cross-disciplinary research team of clinicians, biologists and data scientists who use genomics, systems biology and bioinformatics to better understand human disease, especially cancer. He currently chairs the Scientific Advisory Board of Te Ira Kāwai (The Auckland Regional Biobank), leads the Genomics Into Medicine Strategic Research Initiative, is a Principle Investigator in NZ's Rakeiora program, the Maurice Wilkins Centre and the 'Healthier Lives' National Science Challenge. His previous roles include acting as Director then chairing NZ's Institute of Environmental Science and Research (ESR) for a period of time and acting as President of the NZ Society for Oncology and Joint Director of the Bioinformatics Institute at the University of Auckland. Most of his research, teaching and professional activity focusses on translation of tissue-based research into advances for human health.

FELICITY POULSEN

Felicity is a Research & Development Scientist within the Forensic Biology/DNA Unit at the NSW Health Pathology Forensic & Analytical Science Service (FASS) and a part-time PhD candidate at the Queensland University of Technology Centre for Genomics and Personalised Health. Felicity's research focuses on emerging DNA analysis technologies and their application to forensic investigations. She has also been involved with internal validation and implementation of novel DNA analysis methods, including automated processing, to enhance operational capabilities at FASS. Felicity's current work relates to the use of massively parallel sequencing technology to implement new capabilities to provide investigators with more information about the donor of biological evidence in challenging criminal and coronial cases. This includes DNA intelligence applications, such as the prediction of biogeographical ancestry and externally visible characteristics, as well as whole mitochondrial genome sequencing.

2023 INVITED SPEAKERS

DR ANDREW RAYFIELD

Dr Andrew Rayfield has experience in academia, research and industry. He has 16 years research experience with a focus in the fields of biomedical science and neuroscience. His primary area of research relates to the biology of glia, and in recent times has expanded to include developing a cell therapy for spinal cord injury using olfactory ensheathing glia. He has six years of industry experience, working for variety of Life Science companies, including Life Technologies a division of Thermo Fisher Scientific.

Andrew's Doctoral research was the novel discovery of a gut scaffold protein in the mammalian brain. The project went onto define and characterise this and other proteins of the same family in the rodent brain, advancing knowledge in the fields of neurodegeneration, epilepsy, and cancer research.
Since 2017, Andrew has been a Research Fellow, and the Research Manager of the Clem Jones Centre for Neurobiology and Stem Cell Research at Griffith University. The Centre's goal is to develop cellular therapies for the injured nervous system, focussing on the development of a cellular therapy for spinal cord injury. The therapy involves taking olfactory ensheathing glia, purified from the olfactory mucosa and reassembling the cells in a three-dimensional construct ready for surgery. The therapy also relies on an intensive exercise rehabilitation component. The Centre has successfully completed one of two clinical trials for intensive exercise rehabilitation and aims to commence work on a full rehabilitation-cell therapy Phase I human clinical trial in 2023/24. The Centre is also working to create a large-gap peripheral nerve repair technology using glial cells (currently in pre-clinical models), and their expertise in the olfactory system has piqued their interest in the way bacteria and viruses use this system to enter the brain and the spinal cord. The centre recently published a landmark study that is the first to show the link between olfactory mucosa damage, microbial infection, and the development of Alzheimer's disease-associated pathologies in a rodent model.

In addition to Centre management, Andrew is responsible for, Lab research strategic planning, managing staff and HDR students, entrepreneurship and commercialisation, financial management, publication output, grant and ethics applications, clinical trial development, qualitative research, implementation science, quality control, marketing management, and external stakeholder management.

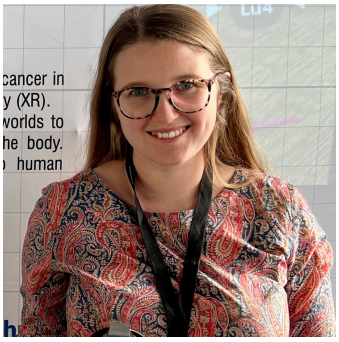
DR CHRISTOPHER RICHARDS

Chris leads the Project Management Team at the Centre for Population Genomics. Chris has a research background in animal model genetics and ten years of experience managing research programs in industry, academic and not-for-profit settings. Chris oversees project delivery across the CPG by combining the best parts of research and project management approaches to deliver on the CPG's impact-driven agenda. Chris leads the delivery of the CPG's flagship program, OurDNA.

2023 INVITED SPEAKERS

DR NICOLA RIVERS

Dr Nicola Rivers is a reproductive scientist and educator based at Monash University. Dr Rivers completed her PhD in 2021, focussing on the development of cryopreservation and assisted reproductive methods as conservation tools for small freshwater fish species in Australia. In her current role, Nicola aims to equip future scientists with an understanding of reproduction across diverse species and its role in addressing contemporary challenges such as biodiversity loss and climate change. Nicola has advocated to federal and state governments for improved nationwide biobanking infrastructure to preserve animal reproductive tissue and currently supports the Australian Frozen Zoo in its mission to bank away reproductive cells and tissues from Australian fauna to safeguard our native species against extinction.



DR TAMSIN ROBB

Dr Tamsin Robb is a postdoctoral research fellow in the NETwork! research group at The University of Auckland. In her PhD, she was privileged to be involved in the tissue collection via rapid autopsy of over ninety tumours from around one patient's body, and she spent the next three years using genomic technologies to better understand how these tumours had evolved and spread around the patient's body. She has also worked with artists and digital data specialists to explore how this wealth of information can be visualised interactively in augmented reality.

DR EDEN ROBERTSON

Dr Eden Robertson is an experienced psychosocial researcher, with a special interest in supporting children with a serious illness and their families. Dr Robertson has completed a Bachelors of Psychology (Honours), Graduate Certificate in Adolescent and Young Adult Health and Wellbeing, and a PhD in childhood cancer (2019). She is currently a Postdoctoral Research Fellow within the Faculty of Medicine and Health, UNSW Sydney, alongside her role as the National Research, Evaluation and Impact Manager for Redkite. In 2020, Dr Robertson received a prestigious Fulbright Scholarship. She is a passionate about empowering families to be more involved in their child's care, as well as involving consumers in research.

ANNA RUSSO

Anna Russo is the Aboriginal Heritage and Repatriation Manager at the South Australian Museum. Her daily focus is to collaborate with Aboriginal communities across Australia, planning the repatriation and reburial of Aboriginal ancestral remains held by the Museum. Anna's recent collaboration with the Traditional Owners of the Adelaide Plains, the Kaurna Yerta Aboriginal Corporation led to Kaurna's establishment of Wangayarta, a reburial-memorial park dedicated to reburial of Kaurna ancestors. The legal protections of the Wangayarta mean the reburied Kaurna ancestors will never be disturbed again. In 2022 Wangayarta was recognised with the AILA National Excellence in Cultural Heritage award. Over the last five years, Anna has led the South Australian Museum's cultural heritage repatriation policy development, aligning policy with international standards and best practice. As an advocate for Aboriginal community engagement, Anna ensures the Museum's repatriation program is community led, underpinned by cultural authority, and respects long standing Aboriginal traditions and protocols.

2023 INVITED SPEAKERS

DR PETER THRALL

My current role is Group Leader for Digital Data & Informatics within the National Research Collections Australia at CSIRO. I am an evolutionary ecologist with broad interests in the population biology of host-microbe interactions. My own research addresses two conceptually related areas, one aimed at understanding how spatial, demographic and genetic processes drive the coevolution of host resistance and pathogen infectivity, and the other on plant-soil mutualist interactions (e.g., in the context of invasion processes). My most recent work focuses on the application of eco-evolutionary principles to predicting and managing biotic interactions in agro-ecological systems.

ZEHNAB VAYANI

Zehnab has a passionate commitment in working collectively with others to improve healthcare in Queensland. She has a demonstrated track record of successfully for healthcare services being more accessible, holistically focused and better integrated around the needs of health consumers and their families by actively taking a social determinants of health focus that is informed by her own family lived experience of complex health care across a number of care settings. She is also a champion for co-designed innovation in healthcare that balances ethical considerations around health consumer and carer human rights, quality, safety and accessible information to inform advances in personalised healthcare and medicine. Outside of her studies and health consumer roles she is a mother of two girls and lives with her family on the Gold Coast. Zehnab is an actively engaged health and consumer advocate.

DR CHLOE YAP

Dr Chloe Yap is a junior doctor at The Prince Charles Hospital, and an Industry Fellow at Mater Research Institute, University of Queensland. She graduated MD-PhD in 2022, and her PhD thesis leveraged the rich phenotypic and multi-omics (genetic, epigenetic, gut metagenomic and blood metabolomic) data from the Australian Autism Biobank. Working in partnership with the Autism CRC to answer questions of specific interest to autistic people, this approach has contributed to a more comprehensive understanding of autism biology and commonly co-occurring conditions. Her work has been recognised with an International Society for Autism Research Early Career Investigator Award, CSL Florey Next Generation Award and a Fulbright Future Scholarship. Ultimately, Chloe hopes to unify her interests in psychiatry, medicine, bioinformatics, and health systems to improve the physical wellbeing of people living with mental health conditions.

australasian biospecimen network association

SUBMITTED ABSTRACTS

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ABSTRACT ID: #154

INTEGRATION AND SYNERGIES OF SCIENTIFIC CORE FACILITIES – A PLACE FOR BIOBANKING? THE WESTMEAD EXPERIENCE

Karena Pryce (1), Judith Heads (2), Jane Carpenter (1, 2), Christine Clarke (1, 2), Xin Maggie Wang (1, 2)
1. *Westmead Insitute of Medical Research, Westmead, NSW, Australia*
2. *University of Sydney, Sydney, New South Wales, Australia*

The Westmead Research Hub (WRH) is a consortium of over 1,400 researchers that study disease mechanisms affecting children and adults. WRH is a long-standing joint venture of over eleven health and medical research partners. WRH receives grant funding of >$25 million annually across the disease spectrum. A major strength is integration of research with clinical treatment centres, resulting in strong collaborative links between researchers and clinicians and the hub is recognised for successfully translating its research discoveries into diagnostic, prognostic and therapeutic solutions. Currently several biobanks are located across the Precinct.

Operationally the hub supports a Scientific Platform model. This comprises 10 core facilities providing cutting edge technology, state of the art instruments and training and education programs to ensure the best possible scientific support to researchers and beyond. The Westmead Biobank (WB), which operates as a service-model, is one of the core facilities in the Scientific Platform.

Based on the needs of the biobanks at the Westmead Precinct, the WB established in September 2018 to consolidate activities into a centralized model to further improve the biobanking quality, efficiency, cost-effectivity and sustainability over the long term. It has subsequently evolved to a fully-fledged service-model Biobank offering sample processing and management of biospecimen collections.

A 5-year plan was established that will focus on areas such as infrastructure/ services, Ethics/Governance, QM and Certification.

WB works closely/ together with the other core facilities in the Scientific Platforms, under a unified governance structure, building interrelated services, equipment and relationships to deliver biobanking support and connect end-to-end scientific services to process and analyse biospecimens. Central biospecimen storage facilities, biospecimen processing services, data management and other biobank services provided by WB will promote quality and sustainability of biobanking activities at Westmead.

So, what does the future hold for the Westmead Biobank? In line with the 5-year plan, the WB is undertaking the following activities: certification (specific for New South Wales); expansion of services to cover the management of multiple collections; implementation of a new LIMS; and streamlining researcher access to materials to ensure the strengths in biobanking at Westmead are maximally translated into research outcomes.

ABSTRACT ID: #156

"BLEEDING LOVE": NRL'S PLASMA BIOBANK

Katherine Woods (1, 2), Kate Zhang (1), Terri Sahin (1), Wayne Dimech (1), Philippa Hetzel (1)
1. *National Serology Reference Lab, Fitzroy, VIC, Australia*
2. *St Vincent's Institute of Medical Research, Melbourne, VIC, Australia*

The National Serology Reference Laboratory (NRL) is a global leader in the science of quality for infectious disease testing, supporting laboratories in more than 70 countries to ensure accurate, consistent, and reliable results.

Towards this goal, NRL has established and maintained over 30 years, a sample repository of over 14,000 plasma samples from participants infected with a range of pathogens, including HIV, HBV, HCV, HTLV, Syphilis, alongside healthy donor plasma. These samples are sourced primarily from national blood services across the globe.

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The value of any plasma repository is only as good as its characterisation, therefore extended testing of the plasma is critical. NRL characterises samples using validated testing algorithms and is accredited by NATA as a medical testing laboratory (ISO/IEC 15189) and licenced by the TGA under the cGMP.

The NRL plasma repository is used to support pathology laboratories across Australia and internationally, through access to these well-characterised samples. Many laboratories do not have access to required samples in sufficient numbers or volume for assay validation/verification and other quality activities. Access to commercially supplied material is costly and time-consuming, and the provenance and supply of such samples is often uncertain.

NRL also provides External Quality Assessment Schemes (EQAS) to assess the integrity of pathology laboratories' entire process for infectious disease testing. Using samples from the repository a panel of positive and negative samples are provided to each EQAS participant. Samples are representative of those typically received by the testing laboratory. Following testing each pathology laboratory's data is statistically analysed, and a final report compiled. Laboratories can assess their results and compare their performance with peers.

To date, the samples held in the NRL plasma repository have supported Australian laboratories for the validation/verification and implementation of their assays, competency testing of staff, research and development, and in quality assurance programs.

ABSTRACT ID: #159

THE AUSTRALIAN HEALTH BIOBANK: BUILDING NATIONAL INFRASTRUCTURE FOR FUTURE HEALTH AND MEDICAL RESEARCH, TO BENEFIT ALL AUSTRALIANS

Bev Muhlhausler, Sarah Payton, Caroline Bull

CSIRO, Adelaide Bc, SA, Australia

The AHB is a pilot study, with a vision to help translate biomedical research into improvements in health and healthcare by providing future research opportunities on biospecimens and data from a nationally representative sample.The AHB dataset will be the only adult population level biomedical data that can be linked to more detailed survey information regarding a person's health status, nutritional intake, physical activity, and health conditions.Establishment of the AHB will bring Australia in line with other developed countries, including the UK, Canada and Sweden, whose national biobanks have played a significant role in health and medical research.

What is the AHB ?

- The AHB is a biobank of biospecimens donated by Australian adults
- AHB is currently a pilot program to determine feasibility
- CSIRO has been appointed Custodian of AHB
- A unique resource for researchers in the future to undertake a wide range of studies to improve the health and wellbeing of all Australians
- Will make research easier and faster by providing a of biospecimens representative of the Australian community
- Will contribute to discoveries that help Australians lead longer, healthier lives
- 4000-5000 participants are expected to donate samples to AHB
- Funded by the Australian Government Department of Health & Aged Care,
- and administered in partnership with the Australian Bureau of Statistics (ABS)
- Progress to date: Collection started Jan 2022, closing mid 2024; To date ~5000 people have consented; ~2800 have already donated blood & urine samples; Sonic Clinical Trials is contracted to process, aliquot & freeze samples; University of Newcastle has been contracted to provide long term storage for the collection; 85,000 aliquots are already in long term storage

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What samples are stored, and how can they be accessed ?

- Plasma (EDTA, LHep), Serum, Buffy coat (EDTA, LHep) and urine samples are currently being collected, and stored at -80oC.
- AHB envisages opening for researcher applications in late 2024
- Researchers from Australian Research institutions, Universities and Industries will be able to apply to access the collection
- It is planned that researchers can access data generated by others on AHB samples

Data linkage, AHB Data Repository & Genomics

- A unique aspect of AHB is that results may be linked to data held by ABS
- AHB participants have also participated in the National Health Measures Survey (NHMS), and either the National Health Survey (NHS) or the National Nutrition and Physical Activity (NNPAS) Survey
- Researchers may apply to ABS to link data from these surveys,
- or to other data held by ABS (e.g. Medicare, hospital admissions, PBS)
- CSIRO will also manage an ongoing repository of data from AHB samples, to encourage data linkage, collaboration, and minimise duplication
- >90% of AHB participants so far have consented their samples being included in genomic research.

ABSTRACT ID: #160

"SURVIVOR" ESTABLISHING A BIOBANK OF SECOND MALIGNANT NEOPLASMS FROM SURVIVORS OF CHILDHOOD CANCER WHO RECEIVED RADIATION THERAPY

Britt Grantham (1, 2), Lisa Forsberg (3), Dong Anh Khuong Quang (2), Greg Wheeler (3), Peter Downie (4), David D Eisenstat (1, 2), Louise E Ludlow (1,2)

1. *Murdoch Children's Research Institute, Parkville, VIC, Australia*
2. *Children's Cancer Centre, The Royal Children's Hospital, Parkville, VIC, Australia*
3. *Peter MacCallum Cancer Centre, Melbourne, VIC, Australia*
4. *Children's Cancer Centre, Monash Children's Hospital, Clayton, VIC, Australia*

The life-saving treatments applied to paediatric cancer patients can have serious impacts on their health, wellbeing and development both during and after active treatment. Second malignant neoplasms (SMN) can be a late effect of the radiation therapy used to treat some childhood cancers. Radiogenomics research for children treated for cancer is currently not a high priority for investigation in Australia or internationally. Radiogenomics involves the study of genetic variation associated with the response to radiation therapy.

We aim to identify novel germline markers that place children at risk for developing a radiation induced SMN. We will establish links with the adult Long Term Follow-up Clinic at Peter MacCallum Cancer Centre to approach participants who developed a SMN post childhood radiotherapy and controls who were treated with radiotherapy but did not develop a SMN. Following consent, we will access health information, collect blood samples and seek access to surgically resected SMN tissue with an initial focus on meningioma, breast and thyroid cancer. Access will be coordinated with the relevant biobanks and institutional pathology departments. Whole genome sequencing along with SNP microarrays of study specimens is planned to identify genetic markers indicating risk.

In the long-term, this study will lead to the development of a genetic assay to predict those patients at risk of a radiation induced SMN. The study will also produce a comprehensive set of biospecimens and associated health information including clinical outcome data which will be made available for further research.

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ABSTRACT ID: #162

"THE CORE OF THE MATTER" - THE USE OF TISSUE MICROARRAYS IN CANCER RESEARCH.

Kaylee O'Brien (1,2,3), Megan Clarke (1,2,3), Cassandra Griffin (1,2,3), Rodney Scott (1,2,3,4)
1. *NSW Regional Biospecimen Services - University of Newcastle, New Lambton Heights, NSW, Australia*
2. *College of Health Medicine and Wellbeing, University of Newcastle, Newcastle, NSW, Australia*
3. *Cancer Detection and Therapy Program, Hunter Medical Research Institute, Newcastle, NSW, Australia*
4. *NSW Health Pathology, Newcastle*

Tissue microarrays (TMAs) are becoming increasingly used in oncology research as a means of high-throughput and resource efficient analysis. For biobanks this is of increasing relevance given the growing demand for tailored TMA development using previously banked or privately-owned tissue collections. Containing multiple tissue cores obtained from formalin fixed paraffin embedded (FFPE) blocks, TMAs allow for large numbers of samples to be assessed and analysed through staining or assessment of a single slide – reducing the variability that can be introduced through repeated runs over time and limiting the need for additional costly reagents.

While TMA's have clear benefit in terms of high throughput analysis and reduced expenditure, there are also a number of key limitations that should not be quickly dismissed, including restricted view of cell morphology, reducing the integrity of the residual sample once the core has been extracted and sampling bias – which is particularly relevant in the oncology space when one considered the heterogeneity of tumours such as glioblastoma.(1)

With growing investment into the development of TMA platforms in many biobanking services and an increasing demand from both the diagnostic sector and research sector, our goal is to present a balanced view of the benefits and drawbacks of TMAs. Our hope is that this weighted discussion will enable biobankers to best assess individual requests and make an informed decision that will benefit both researchers and allow individual biobankers to uphold custodianship responsibilities and ensure donated samples are employed in a way that maximises research utility.

1. Voduc D, Kenney C, Nielsen TO. Tissue microarrays in clinical oncology. Semin Radiat Oncol. 2008;18(2):89-97.

ABSTRACT ID: #164

"A MILLION DREAMS" - THE BUSSELTON HEALTH STUDY (BHS) BIOBANK: A 57-YEAR POPULATION DATABASE AND BIOSPECIMEN COLLECTION

Jennie Hui (1,2), Michael Hunter (1,2), Kevin Murray (1), John Beilby (2), Matthew Knuiman (2), Alan James (2)
1. *School of Population and Global Health, The University of Western Australia, Perth, Western Australia, Australia*
2. *Busselton Population Medical Research Institute, Nedlands, WA, Australia*

The Busselton Health Study (BHS) Biobank is a 57-year database and biospecimen collection on over 30,000 children and adults with in-depth cross-sectional and longitudinal data. Established in 1966, the biobank is one of the longest running epidemiological research programs in the world. It has been described by public health experts as a "national treasure". It currently has over one million biological samples including serum, plasma, DNA, RNA, sputum, throat swabs and urine stored in -80˚C freezers. Detailed self-report (e.g demographic, smoking history, alcohol consumption, general health, diet and nutrition, medication, medical history, ears and hearing, eyes and visions, respiratory, food and allergies, sleep, back pain, mood and well-being, depression, physical activity, information technology, community value) with objective clinical measures (e.g full blood picture, urea and electrolytes, glucose, lipid and liver function tests), genetics, metabolomics, lipidomics and microbiome data are stored. Linked health data (hospital morbidity data collection, emergency department data collection, deaths, cancer registrations and mental health data) are also available on all samples in the BHS biobank for approved projects. The BHS data and specimen biobank has provided local, national and international researchers with a diverse, unique and immediate resource for targeted studies. The biobank is world-renowned in scientific circles, as evidenced by the over 500 peer reviewed research publications and ongoing collaborations with international genetics and normative data consortia.

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In its role as a "population laboratory", the BHS biobank is a collaborative resource and is almost unique in its capability to accelerate important and topical population health studies and provide translational outcomes in risk prediction, diagnosis, treatment and patient care. In an economic evaluation on social return of investment conducted in 2017, it was estimated that the annual increase in Australian Population Health attributable to BHS research is $24,363,178. BHS also contributed directly to a number of significant career advancements and collected data have been used in education and training of undergraduate and postgraduate students.

ABSTRACT ID: #166

"TECHNOLOGIC" - STREAMLINING NSW HEALTH STATEWIDE BIOBANK WORKFLOWS WITH MICROSOFT POWER APPS

Hugh Burton, Cesar Odria, Beth Caruana
NSW Health Pathology, Camperdown, NSW, Australia

All biobanks need to optimise the efficiency of internal operations to maximise their research support capacity. The NSW Health Statewide Biobank (NSWHSB) is currently adopting Microsoft Power Apps to consolidate and streamline routine workflows and reporting in the context of ISO-9001 certification. The Microsoft Power Apps online platform empowers users to design custom applications with minimal hard coding and offers versatile, adaptable solutions. Being part of the Microsoft suite, Microsoft Power Apps has consolidated online interfaces and documentation and therefore minimises potential fatigue and non-compliance that could be associated with the use of multiple platforms.
Microsoft Power Apps are being used to improve staff training, stock management, equipment maintenance and staff on-call processes. Previously, staff training records were paper based, which proved unsustainable for a team where some members work off-site, leading to problems with version control and documentation access. We created one app that sends emails to relevant staff, allowing them to read and acknowledge new procedures. Finally, we have created an app for on-call staff that provides all critical information and contacts in one place so that staff can quickly find the information required to respond to freezer alarms. These apps are available for sharing within the biobanking community and we welcome discussions about other biobanking processes that could benefit from app creation and use.

Acknowledgements: The NSW Health Statewide Biobank gratefully acknowledges support from NSW Health and the NSW Office for Health and Medical Research.

ABSTRACT ID: #167

HOW TO KEEP UP WITH FFPE BLOCK REQUESTS

Alice Rykers
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With advancements in technology Formalin Fixed Paraffin Embedded blocks has become a valuable source of tissue for research. With an increase in demand of this type of tissue from our biobank we have found that t can be difficult to keep up with requests. These blocks come from our partnering hospital laboratories as a part of the archival process of surgical tissue. These laboratories have been experiencing increasing workloads and short staffing for a while as well as priority of diagnostic work over research means that there can be long delays with obtaining the blocks. With our increase in demand and the delays of being able to pass on the blocks we have the need for a new process of requesting samples with the help of the Anatomical Pathology team at LabPLUS.

ABSTRACTS

ABSTRACT ID: #168

ARE SPECIES PATHWAYS THE ANSWER TO BIOBANKING AND ASSISTED REPRODUCTIVE TECHNOLOGY DEVELOPMENT IN THREATENED MARSUPIALS?

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There is increasing evidence of the potential benefits of assisted reproductive technology development in threatened animal species. Some of these benefits include the potential to reduce inbreeding and boost genetic diversity retention in wildlife captive management, create financial efficiencies and cost-savings in long-term captive breeding programs, and provide valuable frozen repositories to protect against population declines in situ.

Despite this, there is an alarming lack of optimised reproductive technologies for Australia's unique and declining marsupials. This presentation will explore the concept of species pathways for research and development as a mechanism to support the optimisation of biobanking and assisted reproduction in some of Australia's most iconic marsupials, including the koala (*Phascolarctos cinereus*), Northern hairy-nosed wombat (*Lasiorhinus krefftii*), Greater glider (*Petauroides volans*), Brush-tailed rock-wallaby (*Petrogale penicillata*), and Tasmanian devil (*Sarcophilus harrisii*).

I will present proposed pathways of model species and target threatened species required to develop biobanking and assisted reproduction in 15 of Australia's most at-risk marsupial species and 7 model species, as well as detail the monetary investment required, and reflect on the research success stories and research gaps remaining. The technical expertise and ex situ facilities exist to put these species pathways and research programs into action. All that is needed now for significant conservation gains and biobanking development is greater investment by policy makers in marsupial assisted reproduction.

ABSTRACT ID: #169

IIMPLEMENTING HIGH THROUGHPUT WORKFLOW "CH-CH-CHANGES" TO STREAMLINE PERIPHERAL BLOOD MONONUCLEAR CELL (PBMC) ISOLATION

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Biobanks aim to facilitate the management of high-volume and -quality biospecimens essential for downstream research, where efficient workflows are key to scaling biospecimen processing, storage, and retrieval. The NSW Health Statewide Biobank aims to support medical research at scale and operates on a fee-for-service partial cost-recovery model.

To meet current and future demands for peripheral blood mononuclear cell (PBMC) isolation, we have overhauled the previous workflow to improve efficiency while creating capacity to produce higher quality PBMCs. The new workflow integrates process automation and optimised workstations with streamlined communication supported by revised documentation. Specifically, we changed our isolation procedure from density gradient centrifugation with cell counting using dual chamber disposable slides to a bead-based isolation method (either performed manually or automatically) combined with a validated, automated cell counting and analysis system with pre-programmed cell profiles (1).

Using the bead-based isolation method, we currently process up to 100 PBMC samples per week, and we are now scaling the workflow to process more than triple the amount of PBMC samples. Previously, one technical officer could process batches of up to 6 samples using density gradient centrifugation, whereas now batches of up to 12 samples can be processed with bead-based isolation. Another advantage is the bead-based method has capacity to generate higher quality PBMCs through granulocyte, red blood cell and neutrophil removal and more accurate cell counts (2).

ABSTRACTS

ABSTRACT ID: #169 (continued)

Throughout this process we have updated documentation to meet our ISO-9001 certification and possible future ISO-20387 accreditation. In summary, by adopting improved methods for PBMC isolation and processing, the NSW Health Statewide Biobank can meet growing research demands while maintaining high quality control standards.

Acknowledgements: The NSW Health Statewide Biobank gratefully acknowledges support from NSW Health and the NSW Office for Health and Medical Research.

1. Cadena-Herrera D, Esparza-De Lara JE, Ramírez-Ibañez ND, López-Morales CA, Pérez NO, Flores-Ortiz LF, et al. Validation of three viable-cell counting methods: Manual, semi-automated, and automated. Biotechnology Reports. 2015;7:9-16.
2. Chometon TQ, Siqueira MdS, Sant´ anna JC, Almeida MR, Gandini M, Martins de Almeida Nogueira AC, et al. A protocol for rapid monocyte isolation and generation of singular human monocyte-derived dendritic cells. PLoS One. 2020;15(4):e0231132.

ABSTRACT ID: #170

ESTABLISHING QC SCIENTIFIC TESTING PROGRAM TO DETERMINE FIT-FOR-PURPOSE OF LONG-TERM STORED SAMPLES ACROSS A CONSORTIUM OF FIVE TISSUE BANKS

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Background: Long-term stored samples and associated data are paramount resources for research driven, biomarker discovery for better diagnosis and prognosis of cancers. Their preservation and robust storage conditions are essential for accurate de novo representation of cancer in the body. VCB Consortium, established in 2006, encompasses five tissue banks that have accrued 450,000+ samples from multiple tumour streams. Biobanks historically rely on Quality Control (QC) measures prior to storage and there remains limited understanding on the impact of long-term storage. In addition, literature on testing the stability of these samples and/or expected variance between tumour streams is scarce. We established a QC Scientific Testing Program to examine a subset of VCB samples to improve understanding on fitness for purpose.

Methods and Results: Having engaged with researchers for feedback, a Quality Working Group comprised of researchers and experts in Biobanking and Pathology was established for scientific and strategic advice. 140 plasma, 140 serum and 83 snap frozen tissues (SFT) derived from Breast, Colorectal and Lung cancers collected between 2007 to 2019 were selected and tested for haemolysis (blood derivatives), RIN and DIN (SFT). Aligning with current literature, the acceptance criteria for haemolysis in blood samples was limited to ≤ 2mg/mL free haemoglobin, and RIN and DIN values ≥ 6 in SFT, hence suitable for gene sequencing. Preliminary results show that the selected plasma and serum samples passed the haemolysis measurement, and over 89% and 91% of SFT had RIN and DIN values ≥ 6, respectively.

Conclusion: With emerging technologies, researchers' criteria for sample suitability are becoming increasingly stringent. Broader dissemination of information of QC programs and partnerships among biospecimen science professionals is necessary. Our study indicates that VCB's long-term stored samples are fit-for-purpose for the majority of client's downstream applications. Furthermore, we demonstrate possible variance between tumour streams that indicates further large-cohort testing may be required.

ABSTRACTS

ABSTRACT ID: #171

GENERATION VICTORIA: A POPULATION-WIDE, REPRESENTATIVE PREGNANCY AND CHILDHOOD BIOBANK IN VICTORIA, AUSTRALIA

Kim L Powell (1), Yeukai TM Mangwiro (1), Melanie Williams (1), Tony Frugier (1), Jatender Mohal (1), Anna Fedyukova (1), Will Siero (1), Melissa Wake (1), Richard Saffery (1,2)

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Introduction: Today's children face an increasing burden from complex health and development problems, such as mental illness, obesity, autism, and allergies. Parents of every child born in Victoria over a 2-year period (commenced 4th October 2021) were offered the chance to participate in the Generation Victoria (GenV) initiative, providing a range of data and biosamples. GenV's primary objective is to create a large, whole-of-state birth and parent cohort for discovery and interventional research. See https://www.genv.org.au/ for more information.

Methods: Two classes of biosamples are included in the GenV biobank:

GenV collected - child and parental saliva, infant stool, breastmilk
Excess clinical - longitudinal pregnancy serum, plasma, Group B Streptococcus (GBS) swabs, newborn screening blood spots
The Victorian Clinical Genetics Service and 8 Victorian Pathology Laboratories store excess clinical biosamples, with a waiver of consent from HREC allowing deidentified storage, which over the next two years will be linked to GenV participants.

Results: As of 31st August 2023, 109,160 participants including 42,861 children have consented to GenV, reflective of the overall Victorian population in terms of urban-rural, language-ethnicity and socioeconomic status. Around 90% of participants consent to saliva collection and genetic research. 89,065 saliva, 5,538 breastmilk, 6,106 stool and 193,312 pregnancy serum, plasma and GBS biosamples have been collected.

Discussion: GenV has established an internationally unique biobank containing large numbers of pregnancy, newborn and parental biosamples. The next stage for the GenV biobank focusses on linking clinical biosamples to GenV participants, developing the biosample access policy and distributing biosamples to research groups nationally and internationally to enable researchers to undertake important research (such as genetics, epigenetics, microbiome, metabolomics/lipidomics, macro/micronutrients) aimed at improving child health outcomes and reduce the disease burden of all children and the adults they become. We encourage researchers to engage with GenV at https://www.genv.org.au/for-researchers/enquire-about-collaborating-with-genv/.

ABSTRACT ID: #172

LOOKING FORWARD: THE LARGEST BIRTH COHORT COLLECTION OF BREASTMILK AND STOOL IN AUSTRALIA

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Introduction: Exclusive breastfeeding rates amongst Australian mothers drop from 96% to 15% by 6 months. This affects maternal, infant health, and potentially compromises the infant gut microbiome. The first longitudinal study of its kind, GenV aims to establish the largest inclusive and diverse biobank spanning early pregnancy and infancy, allowing research into the detection of early milk biomarker signatures predictive of low breastmilk supply, early breastfeeding cessation and impacts on the infant gut microbiome.

ABSTRACTS

ABSTRACT ID: #172 (continued)

Methods: Parents of every child born in Victoria over a 2-year period (commenced 4-Oct-21) were offered the opportunity to participate in GenV and provide a range of data and biosamples. In the 2nd year of recruitment ~16,000 home collection kits were distributed to GenV participants. These included 7-day+ post-birth infant stool and breastmilk collection kits containing a unique breastmilk preservative, that allows stable large scale home collection and transport at room-temperature.

Results: There was a very high return rate of the biosamples (49% (5,591 breastmilk and 6,037 stool)) which have been, processed, and stored in our purpose-built, fully automated -80°C biobanking facility. Participants providing samples closely represent the Victorian population sociodemographic profile in areas such as maternal age and Socio-Economic Indexes for Areas (SEIFA). GenV breastmilk samples stored using the preservative are fit-for-purpose. The samples (n=96) demonstrate comparable breastmilk component levels to fresh samples, aligning with pilot feasibility test results for the preservative conducted before recruitment.

Conclusion: At this large scale, the breastmilk and stool samples collected, present unique opportunities for research investigation and collaboration both within Australia and internationally. To explore at a population level the relationship between breastmilk components, cessation, and the infant gut microbiome. Importantly, it will facilitate research to support mothers in breastfeeding their infants, improve infant outcomes, and reduce the incidence of preventable health consequences for mothers and their infants..

ABSTRACT ID: #173

"TOO LOW FOR ZERO": VALUE IN LOW VOLUME BLOOD COLLECTIONS FOR PBMC RETRIEVAL

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Introduction
Human Peripheral Blood Mononuclear Cells (PBMC) are an integral resource for research. A vital component of the body's immune response and tumour microenvironment, PBMCs are used in a myriad of downstream research applications for both solid tumours and haematological malignancies. Full collection tubes for PBMC retrieval are always preferable, however in such contexts as paediatric cancer research, or protocols involving individuals from whom blood draw is problematic due to previous IV chemotherapy or repeated venous access damage – this is not always achievable. In many cases, small volume samples are discarded or collections not pursued due to perceived lack of value.

While determination of acceptable PBMC concentrations will vary dependant on the downstream application, it is unclear whether there is a direct correlation between minimum volume of blood and PBMC concentration.

Method
Twenty-seven samples of less than 4ml were utilised from a cohort collection obtained through a paediatric diabetes study. Whole blood was separated into two phases by centrifugation and the interface removed and diluted 1:1 with Phosphate Buffered saline. The diluted blood was underlayed with Ficoll plaque plus and the density gradient was centrifuged. The layer containing the PBMC's was removed washed twice and resuspended for counting using Trypan blue and a Life Technologies Countess machine. Live Cell concentration was analysed for any correlation with total blood volume by plotting data points and performing a linear regression.

Results and Conclusion
The number of live PBMC's isolated from a whole blood volume ranging from 1ml to 4ml extended from 1.4 to 15.2 x106. With an R value of 0.0845 there appears to be no correlation between the whole blood volume collected and the number of live PBMC's isolated. These results show that low volume samples can still result in the isolation of a useful number of live PBMC's prior to freezing.

ABSTRACTS

ABSTRACT ID: #174

HARMONISED DATABASE INFRASTRUCTURE TO SUPPORT LOCAL BRAIN CANCER BIOBANKING AND DATA REGISTRIES FOR NATIONAL LINKAGE

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Capturing clinical information and annotating biospecimens is crucial for high-impact translational brain cancer research. Historically, individual sites have devised their own data language and infrastructure to capture, record and interrogate clinicopathologic data. This entire process is notoriously time-consuming and an insuperable task for many sites. Important clinical parameters are often not recorded in a readily extractable form and require interpretation, relying on the cooperation of multiple sub-specialties. Duplicated efforts at individual sites drain limited resources and have led to fundamental differences in what clinicopathological data is captured and how parameters are defined and stored. A critical prerequisite step towards linking sites to a national brain cancer registry is to unify local database infrastructure.

Drawing on expertise in glioma surgery, neuropathology, and medical and radiation oncology across three NSW Health districts, each with established brain tumour biobanks and translational research programs, we harmonised the data dictionaries of our existing and prospective bio-specimen and data collections. We co-designed modern, secure, web-based REDCap database infrastructure for capturing participant identifiers, consents, demographics, lifestyle factors and medical histories. Database pages for radiation and systemic therapy, radiographic assessments and clinic encounters are repeatable allowing longitudinal data capture, and neurosurgery and integrated diagnostics pages are synchronised so that pathology and molecular findings are matched to each surgical intervention. Our design incorporates branching logic to enhance usability and data piping to automatically generate treatment summaries and compute key parameters, including time-to-treatment change, progression-free and overall survival.

Our consolidated data dictionary has enabled future data capture and reporting strategies to be aligned across multiple biobanking and registry sites. A harmonised data dictionary fosters research collaboration and the pooling of better-defined cohorts for the rapid translation of research results into clinical care. We invite any interested groups to contact us to implement a version of this resource at their site.

ABSTRACTS

ABSTRACT ID: #175

PREDICTING SUCCESS RATES IN A PROSPECTIVE COLLECTION OF HIGH GRADE SEROUS OVARIAN CANCER IN CHRISTCHURCH, NEW ZEALAND

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In New Zealand, approximately 350 women are diagnosed with ovarian cancer every year. Of these, about 70% are high-grade serous ovarian carcinoma (HGSOC) which account for over two thirds of ovarian cancer deaths. The age standardised incidence and mortality rates are even higher for wāhine Māori and Pasifika.Therefore, HGSOC are a clinically important subtype for biobanking, subsequent clinical research, and addressing health inequities. Several factors hinder the successful collection of HGSOC samples, resulting in long patient recruitment periods, and incidental collection of other tumours. These patients are often diagnosed in late stages of the disease and proceed from imaging to debulking surgery without biopsy. Therefore, subtype is confirmed post-surgery via histological report. Only a proportion of patients identified through imaging will result in collection of a HGSOC sample, meaning recruitment of a larger cohort is required for successful collection. This is resource intensive for a biobank. Therefore, to more accurately predict biobanking rates of HGSOC, we analysed the data from a small prospective collection of ovarian tumour samples.

From clinically identified patients, we investigated how many successful samples of HGSOC were collected compared to other histological subtypes, or no collection. Additionally, we determined the resources that need to be budgeted to account for redundancy within the collection pathway. This preliminary data will assist He Taonga Tapu Cancer Society Tissue Bank to more accurately predict patient recruitment, and develop better costing models to support biobank sustainability.

ABSTRACT ID: #176

"ALWAYS ON MY MIND" – UNDERSTANDING THE EXPERIENCES OF NEXT OF KIN WHO HAVE SUPPORTED A LOVED ONE WITH BRAIN CANCER TO DONATE THEIR BRAIN POST-MORTEM

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Brain Cancer is a devastating and incurable disease. With a median survival of approximately 14 months for stage 4 disease (1), patients have limited avenues for clinical hope. Post-mortem brain donation is an invaluable gift to research providing insight into pathogenesis as well as spatial and temporal heterogeneity, and as post-mortem biobanking programs increase in number so too does the need to understand the human experience associated with them.

We interviewed 27 next-of-kin following the death of their loved one and subsequent donation to the Mark Hughes Foundation (MHF) Biobank. A thematic analysis based on the work of Braun and Clark(2) was carried out on the transcribed qualitative interviews and, to date, data from 15 interviews have been analysed resulting in 4 preliminary themes.

ABSTRACTS

ABSTRACT ID: #176 (continued)

Themes included; 1: "We were just doing it, that's it!" – Brain donation is a straight forward decision grounded in altruism and pragmatism, 2: "I didn't feel helpless… because I could do this last thing for him" – supporting donors is a source of comfort, pride and empowerment, 3: "His death has had some sort of purpose" – Brain donation can provide meaning for suffering and tragedy and 4: "I can still remember the zipping up of the bag" – perceptions of procedures and processes. These preliminary themes represent that brain donation is an instinctive decision, grounded in pragmatism, and that it provides a sense of comfort and anecdote to suffering, while assisting in making meaning for loved ones. We also obtained insight into areas in need of improvement, for example the removal of the donor in the event of a home death and the role of the body bag.

Our data indicates that supporting a loved one to donate their brain is a positive experience providing a source of hope, empowerment, and purpose. Data indicating areas for consideration will be utilised to improve delivery of the program for future donors and their loved ones.

References

1. Ahmed SP, Castresana JS, Shahi MH. Glioblastoma and miRNAs. Cancers. 2021;13(7):1581.
2. Braun V, Clarke V, Hayfield N. Thematic analysis: A reflexive approach. SAGE Publications; 2023.

ABSTRACT ID: #177

KCONFAB – 25 YEARS OF BIOBANKING AND PARTICIPANT NOTIFICATION OF CLINICALLY SIGNIFICANT INFORMATION

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kConFab, the Australian/New Zealand consortium for research into families at high risk of breast and ovarian cancer, has completed collection & recruitment of 2,100 families during the past 25 years. In 2018, we secured peer-reviewed funding to recruit multi-case prostate cancer families to facilitate a similar range of research as is conducted in our multi-case breast and ovarian cancer families. Biological material, and genetic, epidemiological, and psychosocial data are collected from affected and unaffected, female and male participants over the age of 18. This material is available to peer-reviewed, ethically approved and research projects. In total, kConFab has supplied biospecimens and/or data to 203 research projects world-wide, many of which are ongoing.

The kConFab biological repository contains blood specimens from a total of 14,295 participants and 234 best friend controls. The standardized blood processing protocol produces plasma, non-lymphocytes, blood pellets and white blood cell fractions. White blood cells undergo EBV transformation which can be used in functional assays or as a replacement source of DNA/RNA. To date, 2,375 unique EBV transformed cell lines have been made.

As of June 2021, 97% of kConFab families have had genetic testing; identifying 48% of families with a pathogenic, large genomic rearrangement (LGR) or splice site mutation in either BRCA1 or BRCA2. An additional 11% of families carry unclassified variants in BRCA1 or BRCA2; with a further 1 % with mutations in the ATM, CHEK2, PALB2, BRIP1, RAD51C/D or TP53 genes. Of the 2,502 female participants who harbour a pathogenic germline mutation, 68% are affected with breast or ovarian cancer. Over the past two years we have performed mutation notification to families that carry a rare PALB2 loss of function variant or CHEK2, BRIP1, RAD51C/D C4-5 variant.

kConFab has collected a total of 1,480 fresh tissue collections, including prophylactic mastectomy and oophorectomy specimens; and has a large collection of archival specimens, many of which are already on tissue microarrays. The tissue bank consists primarily of breast, ovarian and prostate tissue (tumour and normal), with a small proportion of other cancer tissues. For the past eight years we have run a rapid autopsy program to facilitate research into the mechanisms of resistance, metastasis, and cancer evolution using genomic and biological tools. 50 rapid autopsies from breast, ovarian and prostate cancer patients consented into kConFab have been performed.

The kConFab resource enables researchers to answer important questions relating to familial aspects of breast cancer. Information about the kConFab resource and the application process are available on the web site (http://www.kconfab.org)

ABSTRACTS

ABSTRACT ID: #178

"WHERE THE STREETS HAVE NO NAME" - HOW UNSW BIOSPECIMEN SERVICES DEVELOPED GUIDELINES FOR PUBLISHING DE-IDENTIFIED RESEARCH DATA TO ASSIST IN MAINTAINING PARTICIPANT PRIVACY AND CONFIDENTIALITY

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There is widespread recognition of the importance of protecting the privacy and confidentiality of participants who donate their samples and data to biobanks. Biobank activity inherently requires sample and data sharing with a wide range of stakeholders, each with differing authority to access this information.

In Australia there is no national guideline for sharing research data beyond the information contained within the National Statement of Ethical Conduct in Human Research (1). During our review of the current local, state, and federal policies it became apparent that there was no documented process for researchers to follow to assist them in maintaining participant privacy and confidentiality when publishing research and genomic data generated from biobank samples and data.

Addressing this required the development of practical guidelines for Data Access & Release, and Data Publication for Researchers, which align with the existing UNSW Biospecimen Services data governance framework. We have developed guidelines to assist researchers to understand their responsibilities for ensuring participant privacy and confidentiality when publishing research data, providing guidance for uploading research outcomes to genomic databases, with links to information on the levels of risk associated with different types of genomic data (2). While these guidelines stand alone, they are complementary to the existing UNSW Biospecimen Services Material Access and Release guidelines.

The UNSW Biospecimen Services guidelines have the benefit of providing a resource that other biobanks can adapt to provide for their users, facilitating compliance and best practice.

We welcome feedback on the guidelines with a view to developing a consensus approach for the broader Australian research community.

1. NHMRC National Statement on Ethical Conduct in Human Research 2007 (Updated 2018). The National Health and Medical Research Council, the Australian Research Council and Universities Australia. Commonwealth of Australia, Canberra.
2. Byrd, J.B., Greene, A.C., Prasad, D.V. et al. (2020) Responsible, practical genomic data sharing that accelerates research. Nat Rev Genet 21, 615–629. https://www.nature.com/articles/s41576-020-0257-5

ABSTRACT ID: #179

"I'M A BELIEVER" ... IN INTEGRATING BIOBANKS INTO THE CONSERVATION LANDSCAPE

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The climate crisis currently at play worldwide has led to a long list of stressors on biodiversity in a wide array of ecosystems. Our biodiverse environs are often sensitive to seemingly small changes, with many organisms being affected by disruptions to habitat. Biobanks have the potential to advance and complement current conservation efforts, at a relatively low cost, by preserving the genetic diversity of species and allowing correction of genetic effects caused by decreasing population sizes. For example, by reintroducing sperm collected before a disturbance event, captive breeding programs can improve genetic diversity of captive and reintroduced wild populations. While these methods have been used successfully in some species, this approach is often overlooked and has experienced a slow uptake in conservation. Amphibians are currently experiencing alarming declines and provide a perfect case study for demonstrating the value of biobanking to conservation. Following the devastating 2019/20 bushfires across the East-coast of Australia, an applied effort to collect and store sperm from a range of species was mobilized as part of an integrative effort including multiple conservation approaches. Building on this effort, we have banked sperm from isolated populations of the cryptic Littlejohn's tree frog, with the bold vision of performing genetic rescue in this species. Here, we present our progress in applied efforts to integrate biobanking into conservation projects and our vision on where this will lead to next for threatened species conservation in Australia.

ABSTRACTS

ABSTRACT ID: #180

"A HARD DAY'S NIGHT" - SAMPLING FOR BODY CLOCK DYSFUNCTION IN MOOD DISORDERS

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The body clock—or circadian—system is a regulator of health, and its dysfunction is a major cause of illness. It is very difficult to study the signature of circadian rhythms in humans in real time given the requirements of frequency and number of sample collections. The Human Studies Unit (HSU) together with a national team of multidisciplinary researchers is involved in a world first, highly granular investigation of body clock dysfunction in mood disorders. There are links between disturbed sleep patterns and mood disorders such as depression and bipolar disorder. The aim of the study is to develop precision "circadian therapies" to correct the body clock dysfunction for those with mood disorders.

The investigation requires intensive sample collection, processing and analysis over a 24 hour period. The logistics of the study have proven challenging. HSU has developed sampling and logistics protocol to allow for half-hourly collections to occur to measure 15 biomarkers involved in circadian rhythm and mood disorders across 4 sample types. Such studies are expensive and logistically complex to administer. For the study described here a total of 110 blood collection tubes will be handled over a 24 hour period generating many more tubes for distribution to 4 different laboratories. Some analytes are unstable at room temperature and require immediate processing and storage. The physical handling of these tubes in the laboratory by minimal staff creates challenges with sample integrity and standardisation. Sample accessioning and data capture require layers of additional data to accurately attach a tube to a timepoint and source. Storage of the residual material will provide avenues for future analysis and replication.

ABSTRACT ID: #181

THE DEVELOPMENT OF THE ADELAIDE BIOBANK - "THE LONG AND WINDING ROAD"

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The University of Adelaide Biobank, established in 2014 has been a member of Australasian Biospecimen Network Association (ABNA) since 2015. The Adelaide Biobank originated as an initiative driven by the University's Deputy Vice Chancellor of Research following a petition from the Executive Deans of the Faculties of Science and Health Science in 2012. The Deans sought support to assist University of Adelaide researchers in futureproofing their human, animal and environmental research material stored at -80°C.

In response to this request, in 2014, a working group developed guidelines
A) A purpose-built facility designed for the long-term storage of materials at -80°C - The Adelaide Biobank.
B) Implementation of an Information Management System to catalogue all materials stored at -80°C, identifying unwanted materials and those earmarked for long-term storage.
C) Development of comprehensive guidelines for the management of local -80°C freezers.

In 2016, these guidelines evolved into a university-wide policy governing the management of materials stored in -80°C freezers. The implementation of this policy together with strategic incentives led to increased utilization prompting the commissioning of a second purpose-built facility in 2019.

In 2019 a significant review of the policy increased its scope to encompass cold storage management spanning temperatures from 4°C to -190°C. The Adelaide Biobank expanded its services to include active sample storage, distribution and disposal, robust data management, education, and training.

In 2023, a third facility was commissioned to accommodate growth until late 2025. Scoping for the development of a standalone facility that will include sample processing services and extend its services to non-University of Adelaide researchers. Collaboration and support from ABNA have played a pivotal role with the development of the Adelaide Biobank.

ABSTRACTS

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"RIDERS ON THE STORM": THE AUSTRALIAN ARTHRITIS AND AUTOIMMUNE BIOBANK COLLABORATIVE (A3BC) BIOBANK & REGISTRY FOR RHEUMATIC DISEASES – HISTORY, CHALLENGES AND FUTURE DIRECTIONS

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AIMS: The A3BC is a national rheumatology research network, built on the foundation of the Australian Rheumatology Association Database (5800+ participants, since 2003), with newly added biobanking infrastructure across state nodes. It aims to create and integrate a broad range of data and biospecimens from Australians with rheumatic diseases, to boost research capacity and output into safer and more effective diagnostic and treatment strategies.

METHODS: Philanthropic seed funding helped conceptualise (2016), then operationalise (2020) the A3BC, a collective effort from rheumatology leaders across Australia. Key challenges included national ethics and governance approvals, database development, site harmonisation, staffing and impacts from the COVID-19 pandemic. Several federal/state government grants helped evolve the project into a mature program of work, supporting cohort studies, registries and clinical trials in adult and paediatric rheumatology, underpinned by the national network and infrastructure.

RESULTS: As of September 2023, 400+ biobank participants have enrolled across 7 sites in NSW, WA, SA and QLD; VIC and ACT sites are nearing commencement. Primary diagnoses include rheumatoid arthritis (RA), psoriatic arthritis, spondyloarthritis, giant-cell arteritis, undifferentiated arthritis, gout, first-degree relatives and healthy controls. Over 16,600 samples have been collected, including serum, plasma, PBMCs, buffy coat, whole blood, RNA, synovial tissue/fluid, oral swabs and stool. Longitudinal clinical, biological, patient-reported, and linked administrative health data are integrated in a central database for open-access research requests. Current studies are exploring DMARD tapering, therapeutic drug monitoring, microbiome profiles, cardiovascular risk, T-cell responses to DMARDs, biomarkers and linked PBS and MBS data.

CONCLUSION: The A3BC enables innovative research with faster translation towards precision and preventive medicine. Future directions include continued expansion of the network and key cohorts, particularly those with pre- and early RA and juvenile idiopathic arthritis, finalising multi-jurisdictional data-linkage approvals, and contributing to national efforts towards federated machine learning of health data for better management of chronic rheumatic diseases.

THANK YOU TO ALL THOSE THAT ATTENDED

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