



# ABNA EXCHANGE

OFFICIAL NEWSLETTER OF THE AUSTRALASIAN BIOSPECIMEN NETWORK ASSOCIATION

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## Membership renewal

A reminder that ABNA membership fees are payable in advance on or before 1 July each year. Membership renewals can be paid up until 1 August each year for the following financial year (after August 1 the Initial Joining Fee may re-apply).

Join ABNA's network of biobanking professionals in promoting best practice biobanking in Australasia, receive ABNA Exchange directly into your mailbox every month along with information on biobanking job opportunities and biobanking related initiatives.

Don't forget that all financial ABNA members qualify for reduced registration fees for the annual conference and are eligible to vote during the ABNA Annual General Meeting.

The 2024/2025 membership pricing is available on our [website](#).

## Chasing Gold

Welcome to the July edition of ABNA Exchange! We are officially in the second half of the year - where has this time gone?! This means we are only 3 months away from ABNA's 2024 Annual Conference, Biobanking: Shaping the Future Together! Don't forget to register before July 31st to take advantage of early bird prices.

We will soon be sending out nomination information for the 2024 Emerging Biobanking Leader Scholarship. A reminder that applicants are required to have an accepted abstract for the annual conference. See page 8 of this edition for information about the scholarship and keep an eye out for updates.

In this issue, we feature a magnificent Olympic related piece delving into the role that an athlete's microbiome can play in sports performance and the gold standards in biobanking for microbiome research in this field.

In our "5 Minutes with a Biobanker" segment get to know Dr Gillian Garvey, one of the keynote speakers for the ABNA 2024 conference, as she shares insights into her work and life as a biobanker. Additionally, meet the three dynamic speakers as part of our next instalment of the 2024 Seminar Series. Seminar 3 will discuss "Harmonised Biobanking: Ensuring Consistency Across Biospecimen Research".

Discover the latest developments in biobanking with our new segment, "Biobanking in the News," which highlights global updates and trends in this field. Additionally, stay informed with our curated list of upcoming workshops, seminars and conferences that may be of interest to you.



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

Georget



# Getting into the guts of the Olympics

By Carmel Quinn

As this edition of ABNA Exchange goes out, the eyes of the world will be turning to the opening of the 'Games of the XXXIII Olympiad', the Summer Olympics, to be held in Paris with the Paralympics following shortly in late August. Who doesn't love the Olympics, with the opportunity to become armchair experts in sports rarely thought of other than at these 4-year intervals – gymnastics, diving and weightlifting are three examples that spring to mind. At the time of writing, we do not know what this Paris Olympics will offer, but we can be certain that world record-breaking, 'superhuman' performances will feature (and that's just in the Paralympics).



The original motto of the Olympic games, "Citius-Altius-Fortius" (Latin for "Faster-Higher-Stronger") personifies what the participating athletes will strive for across all events featured in the Games. (Incidentally, in 2021 the motto was updated – adding the word "Communiter", meaning "Together"). And over the more than 125 years of modern Olympic history, humans have indeed demonstrated a capacity for incremental athletic success. The continual development of sports science has identified ways in which training methods, recovery regimens, psychological coaching and other areas can be managed to provide small but cumulative gains, resulting in the improved execution of an athlete's chosen event. In recent years, public awareness of the diverse roles that the gut microbiome plays in health and disease has grown – increasingly this is also recognised as important for the performance levels of elite athletes, potentially another area that can be exploited to gain an advantage.

## Microbiome

A microbiome is a distinct ecosystem comprised of a defined environment and its microbial inhabitants comprised of bacteria, viruses, fungi and other microorganisms collectively referred to as microbiota. Most of us are familiar with the concept of the human gut microbiome and have heard the extraordinary links being made between gut health and that of other, apparently distinct physical conditions e.g. immune, heart, and brain health. There is widespread research underway globally, exploring these links, and this includes the connection of the gut to elite athletic performance.

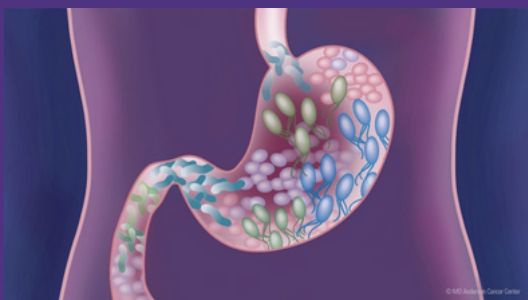


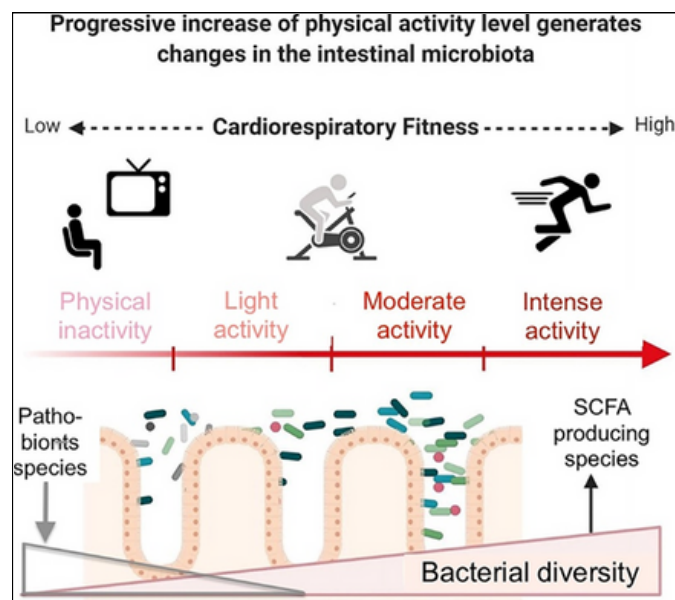
Image source: [LINK](#)

Unsurprisingly, nutrition is a vital consideration for any athlete and key to their level of performance, and realisation is growing that the nutritional effects upon the gut microbiome may be contributing indirectly to performance level. A balanced diet with all food groups represented in appropriate proportions is the basis of good nutrition; however, use of sports supplements by athletes is commonplace, whether or not there is good scientific evidence to support their efficacy. The Australian Institute of Sport (Ref 1) (AIS) is a reliable and accessible source of information about nutrition and supplements for athletes, with the latter divided into categories A-D depending on the levels of benefit or harm they are likely to confer: Group A consists of items with "strong scientific evidence for use in specific situations in sport using evidence-based protocols" and includes examples such as sports drinks, multivitamins, and probiotics. Supplements included in groups B-D have lower levels or no evidence of efficacy or are banned substances where use would risk a positive doping test result.

Interestingly, the AIS stress that the first and most important measure to implement when looking to boost microbiome health, before any supplement use is considered, is to improve basic diet; a healthy gut environment with a diverse range of microbial taxa requires a diet high in natural fibre (vegetables, fruit, wholegrains), which provide the short chain fatty acids (SCFAs) that are the primary fuel source for the advantageous "good" microbes in the gut.

It has been shown that as well as diet, physical activity can alter the gut microbiota composition through mechanisms including modulating hormone release, and diverting blood flow to skeletal muscle, away from the gut (Ref 2). A recent study (Ref 3) comparing metagenomics datasets from athletes and healthy (sedentary) adults showed differences in taxonomic profiles between the two cohorts, and postulated that microbes generating increased SCFA production, prevalent in the athlete microbiome, contributed to increased physical performance. However, further studies are necessary to tease out the relative contributions of diet and physical activity to the change in microbiome composition.

As well as linking exercise to establishing a favourable gut microbiome environment, a recent study conducted in mice (Ref 4) has identified a pathway linking the gut microbiome and the brain; results indicate that the gut microbiome can regulate the *motivation* to exercise. If this could be replicated in humans it presents some fascinating possibilities i.e. can manipulation of the microbiome stimulate people to want to exercise to improve their health, and by extension could athletes be induced to push themselves even harder?



#### **Beneficial effects of exercise and gut microbiota modifications in inactive subjects.**

Bacterial diversity increases, including SCFA- producing species. Conversely, pathobionts such as *E. coli* or *E. faecalis*, potentially disease-causing species which, under normal circumstances, are found as a non-harming symbiont, decrease. Longitudinal studies monitoring exercise intensity and modality, diet, subjects' characteristics and gut microbiota are still lacking.

Image source: [LINK](#)

## Microbiome Biobanks

Biobanking of microbiota is still in its infancy, with few microbiome-specific biobanks in evidence. The May edition of ABNA Exchange included an article describing the newly launched [Microbiota Vault](#) initiative which is aiming to safeguard the global diversity of microorganisms. Although there are plans to make microorganisms from the vault available for research, the primary aim is conservation and safeguarding against extinction. There are other biobanks being launched around the world focusing on the human microbiome, which seek to bank specimens specifically for research access - possibly the largest initiative being the 'Biobank for Microbiome research in Massachusetts: [BIOM-Mass](#)' at the Harvard-Chan school of Public Health. BIOM-Mass is aiming to become one of the world's largest repositories of microbiome samples from thousands of individual donors, accessible for primary research, as well as make available microbiome analysis and bioinformatic information.

Situated at QUT (and mentioned in the June edition of ABNA Exchange) is the recently launched Australian Human Microbiome Biobank ([AHMB](#)), looking to build a resource of gut (and other) microbial samples, to expedite research in this area. Interestingly, part of the AHMB team is working on improving methods for identification and culturing of microorganisms, vital to the success of banking. Indeed, recognising the need for optimised methodologies and technologies for microorganisms preservation, an EU-funded project launched in 2023, the MICROBE ([MICRObiome Biobanking Enabler](#)) is one initiative addressing this issue; without proven methods, microbiome biobanking may not reach its true potential.

One specific bacterial species has been identified as a direct link between athletic performance and their microbiota. *Veillonella atypica*, metabolises lactic acid produced via exercise, to produce propionate, one of the SCFAs that are utilised by other gut microbes. *V. atypica* is able to metabolise acids other than lactic acid, (potentially enabling its persistence within individuals in the absence of the exercise which may give it a competitive advantage), but it has evolved to thrive in microbiota environments when physical activity levels are high (Ref 5). Again, exploitation of this seems tempting; the idea that artificial enrichment of a sedentary microbiome with 'athletic microbiota' could yield health benefits is appealing. However, it is clear that the gut microbiome is complex ecosystem and is still poorly understood, and manipulation of one component is likely to be an act of folly.

The world of microbiome research in health and disease will continue to evolve, as we will continue to be fascinated by this relatively new area of medical research. Undoubtedly, biobanking will play a key role in enabling aspects of this research, as purpose-built microbiota collections are established and shared with researchers around the globe. And, perhaps when we are watching the Olympic and Paralympic Games over the coming weeks, we might pause to think about the trillions of microbes within each and every competitor and ponder the contribution of the gut microbiome to the remarkable performances of physical and mental strength that we are privileged to witness.

## References

1. <https://www.ais.gov.au/nutrition/supplements> (accessed 11 July 2024)
2. Clark, A. & Mach, N. Exercise-induced stress behavior, gut-microbiota-brain axis and diet: a systematic review for athletes. *J Int Soc Sports Nutr* 13, 43 (2016).
3. Fontana, F. et al. (2023). The human gut microbiome of athletes: metagenomic and metabolic insights. *Microbiome*. 11. 10.1186/s40168-023-01470-9.
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5. Clutter, C. (2022) <https://asm.org/articles/2022/march/microbiology-of-endurance-the-microbiome-s-role-in> (accessed 19 July 2024)

# Call for registration of interest



Australian Research Data Commons

The Health Studies Australian National Data Asset (HeSANDA) program is building national infrastructure to allow researchers to share and access data from health studies, including clinical trials, cohort studies and other data valuable for research. HeSANDA is a foundational component of ARDC's health infrastructure portfolio - the People Research Data Commons which is addressing Australia's core digital health data challenges - and aims to make data from health studies discoverable to the broader research community.

Based on previous workshops with the Australian health cohort research community which identified a range of opportunities to improve research data infrastructure, ARDC is now looking to establish projects to support the discovery, reuse, and collaboration around health cohort data. Beginning on 30 July, a series of co-design workshops will be held to define the scope of these projects and identify partnership opportunities. ARDC is inviting interested parties to register for the workshops [HERE](#).

# 5 Minutes with a Biobanker

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



This month we speak with Dr Gillian Garvey, Senior Cultural Heritage Advisor/Archaeologist at Dja Dja Wurrung Enterprises ([DJANDAK](#)).

ABNA are privileged to have Dr Garvey as one of our keynote speakers at the 2024 Annual Conference in Glenelg, Oct 16 - 18.

## THE QUICK QUESTIONS

**Chilli on food?**

Yes

**What is better the book or the movie?**

Book

**Is it football or soccer?**

Football

**Are you usually 5min early or 5min late?**

5 minutes late (but its not my fault) - I always try to be early but inevitably end up being a little bit late!

### 1. How long have you been working in biobanking?

20 years

### 2. What has shaped your views on biobanking?

Walking and working alongside First Nations communities has shaped how I view and approach my work. The tangible and intangible ongoing connections that Indigenous people have to Country has taught me that we should be approaching our work with a holistic view, and learning that there are other ways of knowing and doing. It has taught me that Traditional Knowledges are as valid and important as western methodologies, and that we need to decolonise current approaches so that research is co-designed and co-led.

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

Roadkill! I have spent many hours traversing the roads of lutruwita (Tasmania) and Victoria searching for 'fresh' roadkill armed with an electric drill (for collecting brain tissue) and modified wire cutters (to break animal bone). I was collecting meat, marrow and brain tissue from native animals to test their economic anatomy (how much meat, fur, fat and marrow was available) and their nutritional quality (how good they are to eat). These results were compared to patterns present/absent in the zooarchaeological record to better understand why certain prey species might have been targeted, and specific body parts selected. The results can also be used to influence and guide the modern Australian diet.

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

There have been many highlights, but the most rewarding has been being invited to walk and work alongside First Nations communities to help tell the story of how their Old People lived on Country prior to invasion.

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

The 2024 Australian Institute for Aboriginal and Torres Strait Islander Studies (AIATSIS) Summit in Naarm (Melbourne)



# ABNA 2024 Seminar Series

## Seminar 3: Harmonised Biobanking: Ensuring Consistency Across Biospecimen Research

Join us for the third in this year's seminar series on August 13, 12pm (AEST). Seminar 3 will look at Harmonised Biobanking – different ways biobanking can work to ensure consistency across biospecimen research. Our Seminar 3 speakers will discuss each of their models that achieve a harmonised outcome for their activity.

The last seminar of this series, Seminar 4, will be held in-person as part of ABNA's Annual Conference Oct 16 -18 in Glenelg.



### **Peter Watson**

Peter is a Professor of Pathology at University of British Columbia and Staff Pathologist and Senior Scientist at BC Cancer – Victoria, and an adjunct professor in the Department of Biochemistry & Microbiology University of Victoria. He is the Director of Biobanking and Biospecimen Research Services that encompasses an active biobank and a biobanking support unit. He also leads the Canadian Tissue Repository Network (CTRNet) that maintains and operates biobank quality platforms including the CTRNet biobank certification program that is accessible nationally and internationally with over 600 biobanks and clinical trial sites enrolled.



### **Elena Shklovskaya**

Elena is a senior lecturer in the Macquarie Medical School and a team leader in translational cancer immunology at the Macquarie University in Sydney, Australia. She graduated in medicine and completed her PhD studies in Russia. Since joining the Macquarie University in 2017, she has established preclinical animal models to gain insights into immunotherapy resistance in melanoma, and advanced flow cytometry-based applications to study human cancer.

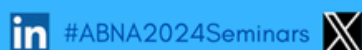


### **Chris Gorman**

Chris manages BioSpecs at Telethon Kids Institute in Perth, overseeing a state-of-the-art laboratory platform that provides essential pre-analytical services. BioSpecs supports over 20 clinical studies spanning infectious diseases, paediatrics, cancer, vaccine trials, youth mental health, and autoimmune disorders, both nationally and internationally.

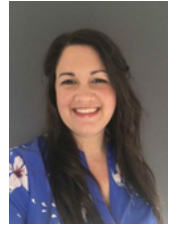
## ABNA 2024 SEMINAR SERIES

Revolutionising Biobanking Models:  
Centralised, Distributed, Harmonised



# NSW Health Statewide Biobank Seminar

The NSW Health Statewide Biobank August seminar will feature Brodie Quinn (NATA Lead Assessor) and Samantha Higgins (Chair, ABNA Quality & Improvement Special Interest Group/Victorian Cancer Biobank). Brodie and Sam will discuss the journey towards NATA Accreditation against ISO 20387, along with the role NATA plays in standard development and the current systematic review of this standard. The seminar will cover topics including the accreditation process/timeline, where to find relevant information and guidance documents, our goal to seek feedback on the standard under review, along with Sam's own experiences working in ISO-accredited laboratories and the potential value-add adopting ISO 202387 and Accreditation can bring to biobanks and research organisations.



Join them for this online presentation Wednesday August 28th, 12 - 1pm (AEST).

Click [HERE](#) to join the seminar on the day using MS Teams or get in touch directly to be sent a calendar invitation: [NSWPATH-Biobanking@health.nsw.gov.au](mailto:NSWPATH-Biobanking@health.nsw.gov.au)

## ISBER 2024 Regional Meeting

ISBER is excited to announce its 2024 Regional Conference in St. Petersburg, Florida. With the theme of "Biobanking for a Brighter Tomorrow", this meeting will address topics that showcase the benefits of biobanking networks for sample procurement, usage and sharing. Biobanking networks will impact collaborations in human, environmental and microbial collections and enhance diversity, public good and precision medicine. Early applications of AI technologies to increase security and traceability of biobank samples will be discussed, together with quality and sustainability matters. Join ISBER in sunny Florida and promote discussions for a brighter future for biobanking.

Register early and save! Abstract and workshop submissions are now open.

For more information, please visit the ISBER website: [www.isber.org/2024Regional](http://www.isber.org/2024Regional)

**ISBER 2024  
REGIONAL MEETING**  
*St. Petersburg, Florida | November 5-6, 2024*

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AND SAVE!**  
**ABSTRACT SUBMISSIONS OPEN!**

[www.isber.org/2024Regional](http://www.isber.org/2024Regional)

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AND ENVIRONMENTAL REPOSITORIES

# 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 had 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 support the 2024 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, 'Exchange' (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, Exchange Newsletter and official mail outs.





# Biobanking in the News

## Cell Gene Biobank

 Pangyo Techno Valley, Pangyo, Seongnam, Gyeonggi Province, South Korea

In May this year the [Cambridge Innovation Centre](#) and the CHA Bio Group signed a memorandum of understanding to establish an open innovation center focused on research and innovation around the CGB (Cell Gene Biobank).

The CGB, with a total floor area of 66,115 square meters across 10 floors above ground and 4 below, is set to be the world's largest facility dedicated to cell and gene manufacturing. It is scheduled for completion in December 2025. CGB will house CDMO production facilities, cGMP manufacturing facilities, and a stem cell biobank.

Companies residing in the CGB will have access to all the infrastructure and capabilities of CHA Bio Group, including Matica Biotechnology's specialised cell and gene therapy CDMO services covering global regions including the USA and Japan, Seoul, CRO's clinical trial services, and CHA Comprehensive Research Institute's basic research, animal testing, and analytical services. They will also freely use the facilities and network of CIC's Innovation Campuses in 10 cities worldwide, including locations in the US, Europe, and Japan.

## ANRRC Meeting


 Seoul, Korea

The Asian Network of Research Resource Centers (ANRRC) has announced that their 15th Annual Meeting will be held in Seoul, Korea. The meeting will take place on September 4th, at the Science and Technology Convention Center.

For more information please check their website via the logo:



## Finlands iCAN national program

 University of Helsinki and HUS Helsinki University Hospital, Finland

The iCAN Flagship Project is an extraordinary biobank study, globally unique in its scale and scope, that integrates deep molecular profiling data from tumours with comprehensive and dynamic longitudinal health data, exclusively accessible in Finland. Data analysis is enabled on the unique iCAN Discovery Platform.

The iCAN Flagship Project operates as dynamic subprojects in three thematic areas

- Translational
- Trials
- Data

The project aims to profile 10,000 patient samples across tumour types (pan-cancer) nationally together with the five regional centers of the [Finnish Cancer Center FICAN](#) and six biobanks ([Helsinki Biobank](#), [Finnish Hematology Registry and Clinical Biobank](#), [Auria Biobank](#), [Biobank Borealis of Northern Finland](#), [Finnish Clinical Biobank Tampere](#), and [Biobank of Eastern Finland](#)).

The study already involves in excess of 3000 participants all of whom have consented to the biobank. The ongoing studies cover a wide range of cancers, including colorectal, gastric, pancreatic, breast, lung, ovarian, renal, prostate, bladder, melanoma, paediatric solid cancers, myeloid leukemias, lymphomas, and multiple myeloma.

Collaboration between universities, hospitals, and biobanks boosts personalised treatment research for these cancers across Finland.

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

Content deadline for August edition: 23.08.24



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