



INTERNATIONAL SOCIETY FOR BIOLOGICAL
AND ENVIRONMENTAL REPOSITORIES



Annual Report

2023



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About ISBER

ISBER is the only global forum that addresses the harmonization of scientific, technical, legal, and ethical issues relevant to repositories of biological and environmental specimens.

ISBER fosters collaboration; creates education and training opportunities; provides a forum for the dissemination of state-of-the-art policies, processes, and research findings; and provides an international showcase for innovative technologies, products, and services. Together, these activities promote best practices that cut across the broad range of repositories that ISBER serves.

ISBER is a global organization which creates opportunities for sharing ideas and innovations in biobanking and harmonizes approaches to evolving challenges for biological and environmental repositories.



To be the leading network in the global biobanking and biorepository community.



ISBER advances the expertise and quality of biorepositories and biobanking science worldwide.



Message from the President

Dear ISBER members,

I am pleased to present to you the 2023 annual report. This report provides you, the members, a summary of association activity over the last twelve months, along with the financial statements for 2022 as presented and approved at the 2023 Annual Meeting. The last year has focused on restructuring and strengthening the association. Navigating through change is always challenging and I'd like to thank all members of the Board, those who rotated off the Board at the AGM in May and those new members who joined at that time. The time and dedication shown by Board members is reflected by the resilience of the association and the willingness of many to volunteer time and effort to help further the vision and mission of ISBER.

To pick out a few highlights from the last year's work:

- The Directors-at-Large and the Regional Ambassadors have been instrumental in carrying out activities to inform new regional strategies, as per Strategic aim 8 in the 2021 ISBER Strategic Plan. The recommendations will feed directly into the next round of strategic planning, due to start at the end of 2023.
- The work done over the last year to transition committees to Communities of Practice (CoP) has been considerable and the committee, now CoP, chairs are to be commended on their huge effort to frame and draft the CoP manual which lays the foundation for current and future CoPs. The Communities of Practice were launched at the Seattle Annual Meeting and plans are already underway for outreach and content development to raise awareness with the membership. Townhalls were held to introduce two of the CoPs and some of the Working Groups (WG) and Special Interest Groups (SIGs), with a third in development for Q3 of 2023. Ideas are already brewing for new CoPs!

I would urge everyone to consider putting themselves forward for the huge range of volunteer opportunities available with ISBER. Regular calls for members of

committees, CoP's, task forces, and board positions are distributed throughout the year. Working Groups and Special Interest Groups are always open to new members and you can now also opt-in to join one of the CoPs as an affiliate member.

- We look forward to the publication of the 5th Edition of ISBER Best Practices: Recommendations for Biorepositories, and the subsequent translations. Many people have been involved in undertaking gap analyses and drafting and reviewing content under the watchful eye of Emma Snapes, Editor-in-Chief. Biobanking practice continues to evolve and having contributors with specialist knowledge helps to keep this document current, practical and the 'go to' volume for biobankers worldwide. The world around us continues to develop new and exciting concepts that will either directly or indirectly impact our biobanking lives and having fora to investigate and debate greatly benefits members as individuals and also as a biobanking community.

We have two great ISBER meetings in our calendar for the upcoming months to provide such fora – a two-day biospecimen science symposia in Granada, Spain in October 2023 and the 2024 annual meeting in Melbourne, Australia, in April 2024. I hope to see many of you at one, or both, of these events. The opportunity to network, learn from others and pass on experiences, knowledge and skills makes the ISBER conferences invaluable. New members constantly comment on how friendly and generous ISBER members are in giving time and sharing expertise. Long may this continue!

Sincerely,

Alison Parry-Jones
President-of-the-Board



Listing of Organization Leadership and Staff

BOARD OF DIRECTORS

Alison Parry-Jones, PhD, MA, MRSC
PRESIDENT-OF-THE-BOARD
May 2023 – May 2024
Wales Cancer Bank - Cardiff University
South Glamorgan, United Kingdom

Clare M. Allocca, MS, PMP
PAST PRESIDENT-OF-THE-BOARD
May 2023 – May 2024
National Institute of Standards & Technology
Maryland, United States

Dayong Gao, PhD, BSc
PRESIDENT ELECT-OF-THE-BOARD
May 2023 – May 2024
University of Washington
Seattle, United States

Cathy Seiler, PhD
TREASURER
May 2023 – May 2026
AstraZeneca
Boston, United States

Rebecca Pugh, MS
SECRETARY
May 2023 – May 2026
National Institute of Standards and Technology
Charleston, United States

William Schleif, PhD
DIRECTOR-AT-LARGE - Americas
May 2023 – May 2026
Johns Hopkins All Children's Pediatric Biorepository
Tampa, United States

Xun Xu, PhD
DIRECTOR-AT-LARGE - China
May 2021 – May 2024
China National GeneBank
Guangdong, China

Engela Conradie, PhD, Pr.Sci.Nat
DIRECTOR-AT-LARGE - Europe, Middle East, Africa
May 2022 – May 2025
Centre for Human Metabolics
Potchefstroom, South Africa

Wayne Ng, PhD
DIRECTOR-AT-LARGE - Indo-Pacific Rim
May 2023 – May 2026
Victorian Cancer Biobank
Melbourne, Australia

COMMUNITIES OF PRACTICE (COP) CHAIRS

Science Policy CoP Chair
Helen Morrin, MA
Christchurch, New Zealand

Standards CoP Chair
Annemieke De Wilde, MSc
Belgian Cancer Registry/BBMRI.be
Brussels, Belgium

Education and Training CoP Chair
Tamsin Tarling, BSc, MSc
Post COVID Recovery Clinic
Pemberton, Canada

Science Policy CoP Vice Chair
Rita Lawlor, PhD, CIPP/E, CIPM
ARC - NET Centre for Applied Research on Cancer
Verona, Italy

Standards CoP Vice Chair
Samantha Higgins, MSc
Victorian Cancer Biobank
Melbourne, Australia

2023 SCIENTIFIC PROGRAM ADVISORY COMMITTEE CO-CHAIRS

Dayong Gao, PhD
University of Washington
Seattle, USA

Anusha Hettiaratchi, PhD
University of New South Wales
Sydney, Australia

Birendra Kumar Yadav, PhD
National Liver Disease Biobank
New Delhi, India

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Organization Leadership and Staff

WORKING GROUP AND SPECIAL INTEREST GROUP CHAIRS

Automated Repositories
Special Interest Group
Andy Zaayenga, Jeff Meyer

Biospecimen Science Working Group
Lalita Wadhwa

Enviro-Bio Working Group
Piper Mullins

Informatics Working Group
Cheryl Michels

International Repository Locator
Working Group
Yaffa Rubinstein

Pediatric Special Interest Group
Suzanne Vercauteren

Pharma Working Group
Suenne Orth

Rare Diseases Working Group
Yaffa Rubinstein

ISBER HEAD OFFICE

Executive Director
Ana Torres, BA (Hons), MPub, CAE
(Until February 2023)

Dana Cooper, MBA, CAE
(Current)

Meetings Director
Paul Fogerty, BA

Senior Project Manager
Samantha Wale, BA (Hons), PMP

Senior Association Coordinator
Kimberly Morales

Events Coordinator
Eva-Marie Sweet, BSc

Project Manager
Elizabeth Sun, BSc, MM

Association Administrator
Alison McDonald, BMus

Database Director
Paul Kool, BSc, AIT



ISBER 2023 Membership Mid-Year Report

The membership query was performed on July 19, 2023.

In 2023, there were a total of 1059 memberships to date. This number includes Individual Memberships, Organizational Sub-Accounts, Student/Technician Memberships, and Emeritus Memberships – the last two categories are new categories ISBER has begun tracking. Organizational Memberships have Sub-Accounts which are allocated with the following specifications:

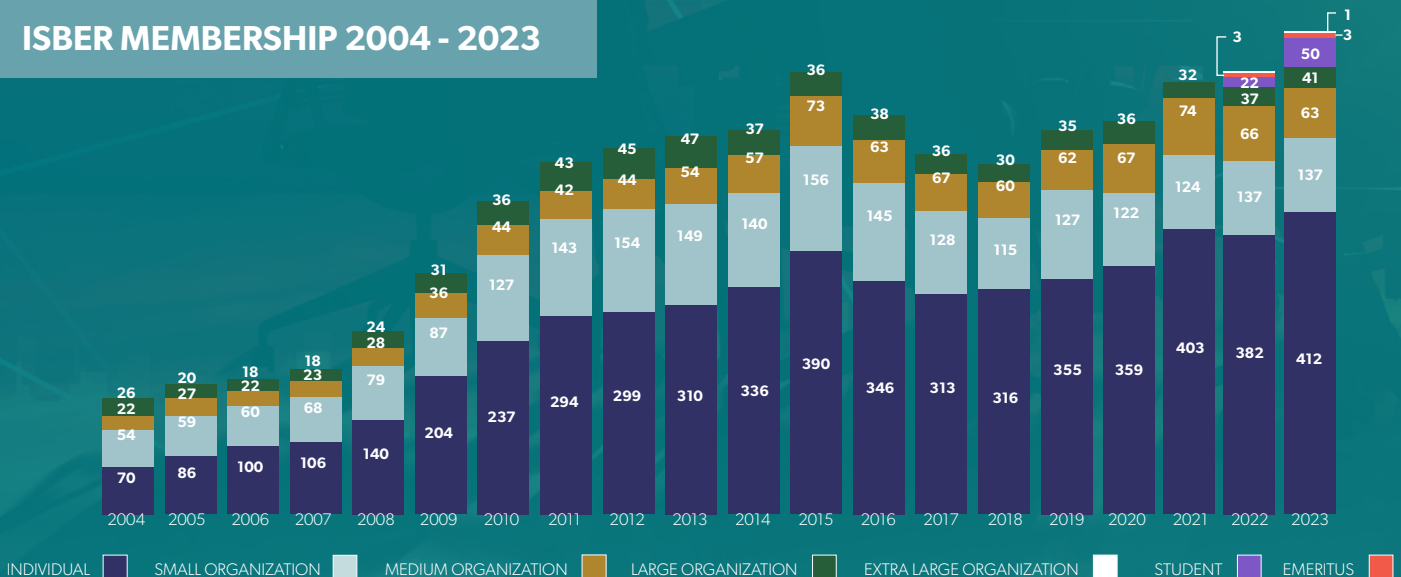
- Small Organizations: 2 Sub-accounts with 1 journal subscription to BIO, 1 without.
- Medium Organizations: 4 Sub-accounts with 2 journal subscriptions to BIO, 2 without.
- Large Organizations: 8 Sub-accounts with 4 journal subscriptions to BIO, 4 without.
- X-Large Organizations: 25 Sub-accounts with 13 journal subscriptions to BIO, 12 without.

TOTAL ISBER MEMBERSHIP

1059 TOTAL MEMBERS, WHICH INCLUDES:

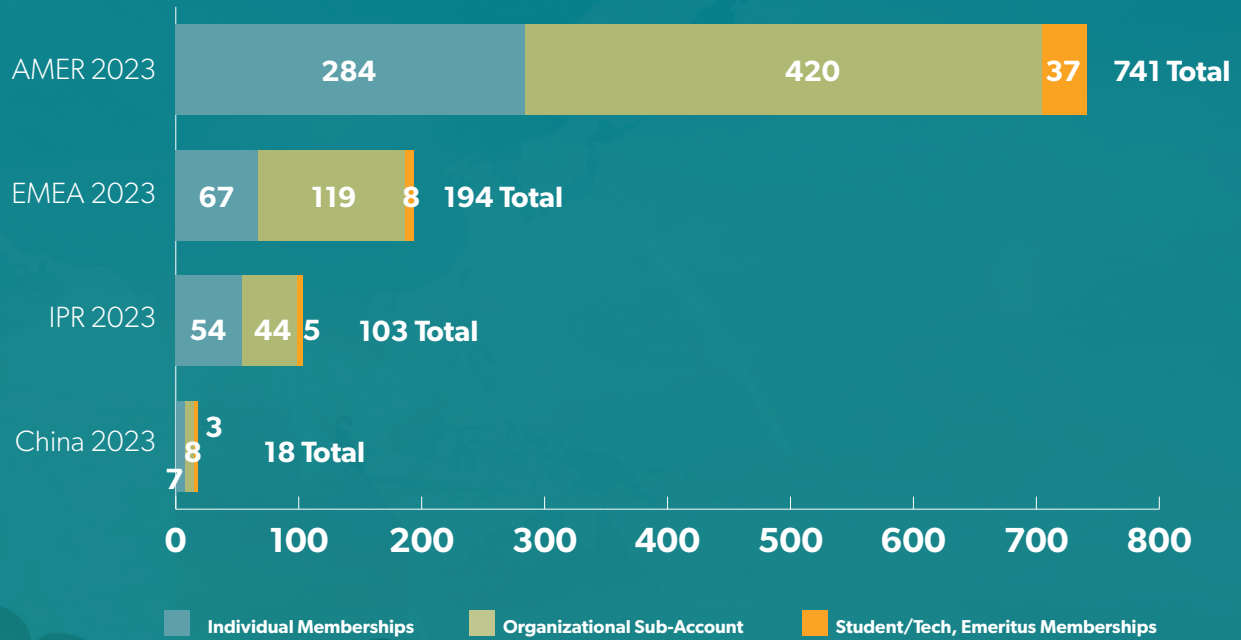


ISBER MEMBERSHIP 2004 - 2023



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2023 MEMBERSHIP BY REGION





2023 DISTRIBUTION BY COUNTRY

In 2023, ISBER's global membership spans 60 countries! The following countries were present in 2022 but are not present in the 2023 country distribution: Cameroon, Georgia, and Kuwait. ISBER gained presence in the following countries: Bolivia, Cote d'Ivoire, Jordan, Kazakhstan, Kenya, Pakistan, Peru, Senegal, Zimbabwe.

Country	Individual	Small	Medium	Large	X-Large
Bolivia	1	0	0	0	0
Cote d'Ivoire	1	0	0	0	0
Jordan	0	1	0	0	0
Kazakhstan	0	1	0	0	0
Kenya	2	0	0	0	0
Pakistan	3	0	0	0	0
Peru	1	0	0	0	0
Senegal	1	0	0	0	0
Zimbabwe	1	0	0	0	0
Australia	23	11	1	2	0
Austria	1	1	0	0	0
Belgium	3	2	1	0	0
Brazil	1	0	0	1	0
Cambodia	1	0	0	0	0
Cameroon	0	0	0	0	0
Canada	23	12	5	0	0
China	6	4	0	1	0
Colombia	0	1	0	0	0
Czech Republic	0	0	1	0	0
Denmark	2	1	0	0	0
Egypt	1	0	0	0	0
Finland	0	0	1	0	0
France	4	3	0	0	0
Gambia	1	0	0	1	0
Georgia	0	0	0	0	0
Germany	4	6	1	0	0
Greece	0	1	0	0	0
India	7	5	0	0	0
Indonesia	0	0	1	0	0
Iran	0	0	0	1	0
Ireland	3	1	0	0	0
Israel	0	1	0	0	0

Country	Individual	Small	Medium	Large	X-Large
Italy	0	2	0	0	0
Japan	11	2	0	0	0
Kuwait	0	0	0	0	0
Luxembourg	0	0	1	0	0
Malaysia	1	2	0	0	0
Mexico	0	1	0	0	0
Netherlands	2	0	0	0	0
New Zealand	1	0	0	0	0
Nigeria	4	0	0	0	0
Norway	1	1	0	1	0
Philippines	2	0	0	0	0
Poland	0	1	0	0	0
Puerto Rico	0	0	1	0	0
Qatar	2	0	0	0	0
Russia	0	1	0	0	0
Saudi Arabia	1	0	0	0	0
Singapore	3	1	1	0	0
Slovak Republic	1	1	0	0	0
South Africa	1	2	2	1	0
South Korea	1	1	1	0	0
Spain	2	2	0	0	0
Sri Lanka	0	1	0	0	0
Sweden	3	0	0	0	0
Switzerland	9	2	0	1	0
Thailand	0	1	0	0	0
Uganda	4	0	0	1	0
Ukraine	1	1	0	0	0
United Arab Emirates	3	0	0	1	0
United Kingdom	8	5	2	0	0
United States	260	59	44	30	1
Vietnam	1	0	0	0	0

Activity Report

CONFERENCE REPORT

ISBER 2023 ANNUAL MEETING

704 DELEGATES



614
IN PERSON DELEGATES, SEATTLE, USA



90+
VIRTUAL DELEGATES



40 COUNTRIES



64
TALKS



146
POSTERS



44
EXHIBIT BOOTHS



6
WORKSHOPS



14
ROUNDTABLES

ISBER hosted its second hybrid annual meeting in 2023, featuring both an in-person portion in Seattle, USA from May 3-6 and a virtual portion from June 6-7. The Scientific Program Task Force was co-chaired by Anusha Hettiaratchi, Birendra Kumar Yadav, and Dayong Gao. The meeting theme was “Come as you are: Building Biobanking Bridges”.

A number of networking activities took place on-site in Seattle, USA, including a speed networking event hosted by the ISBER Leadership Alumni, and 5km fun run sponsored by Azenta Life Sciences.

The virtual meeting consisted of session recordings from the in-person meeting in Seattle, USA. In particular, the virtual

meeting featured recordings of all symposium sessions, corporate workshops, and contributed paper sessions. Educational workshop presenters were given the option to record a version of their workshop for the virtual audience and 3 chose to take advantage of this opportunity. Furthermore, 2 live and interactive round table discussion sessions took place during the virtual meeting featuring 8 discussion topics. All exhibitors from the in-person meeting prepared a virtual booth space for the virtual meeting.

[To view the meeting program, click here.](#)

BEST PRACTICES FOR REPOSITORIES

ISBER has been developing the 5th Edition of the *Best Practices: Recommendations for Repositories*. The 4th Edition, which has been available on the ISBER website since 2018, presents effective practices for the management of biological and environmental specimen collections and repositories, covering either evidence-based or consensus-based practices for collection, long-term storage, retrieval and distribution of specimens. In 2019, the ISBER Best Practices Addendum: Liquid Nitrogen-Based Cryogenic Storage of Specimens became available.

The 5th Edition, expected to be available in September/October 2023, has been significantly revised in content and structure, based on ideas emanating from users' feedback on the previous edition. Additionally, the 2019 Addendum has been incorporated throughout the document. Collated feedback provided valuable insights detailed in a resultant gap analysis report that was used to direct the scope of work for the development of the revised 5th Edition.

ISBER would like to thank the many individuals who have volunteered for the ISBER Best Practices, 5th Edition!

Editor-in-Chief: Emma Snapes

Best Practice Steering Committee: Annemieke De Wilde (Chair), Jane Carpenter, Brent Schacter, Daniel Simeon-Dubach, Emma Snapes, Tamsin Tarling

Gap Analysis Task Force: Clare Allocca (Co-Chair), Emma Snapes (Co-Chair), Cory Arant, Marianna Bledsoe, Annemieke De Wilde, Sheila O'Donoghue, Elisabeth Standard, Peter Watson

Associate Editors: Jonas Astrin (Special Advisor), Gregory Grossman (Section Leader), Nina Bertheussen Krüger (Section Leader), Ellen Hendrickson (Section Leader), Nicola Miller (Section Leader), Cathy Seiler (Section Leader)



Contributors: Ahmed Samir Abdelhafiz, Rocio Aguilar Quesada, Christopher Battiston, Marianna Bledsoe, Marta Castelhana, Dianne Chadwick, Nilay Chakraborty, Michael Edler, Helena Ellis, Sarah Furlong, Nicola Gabancho, Debra Leiolani Garcia, Lyn Healy, Marianne Henderson, Samantha Higgins, Paulo Holanda, Charles Hunt, Raquel Hurtado-Ortiz, Eric James, Peter Kilbride, Manisha Kulkarni, Carl Lessard, Kirsty Lloyd, Mantombi Maseme, Anna Michalska-Falkowska, Cheryl Michels, Amanda Moors, Hellen Nansumba, Trinh Nguyen, Adelina Ovcharenko, Shonali Paul, Jae Pil Jeon, Ian Pope, Rebecca Pugh, Dean Rainbolt, Nilsa Ramirez, Billy Schlieff, Ole Seberg, Purnima Singh, Glyn Stacey, Tatsuaki Tsuruyama, Rose Upton, Rainer Vollmer, Craig Willers, Erik Woods, Andy Zaayenga

Reviewers: Jason Acker, Clare Allocca, Fay Betsou, Jennifer Byrne, Dan Catchpoole, Jennifer Cvitanovic, Annemieke de Wilde, Koh Furuta, Aaron Goldenberg, Cassandra Griffin, Kim Labuschagne, Rita Lawlor, David Levandowski, Elizabeth Mayne, Ellen Nordgren, Brent Schacter, Weiping Shao, Tamsin Tarling, Peter Watson

QUALIFICATION IN BIOREPOSITORY SCIENCE (QBRs)



**QUALIFICATION in
BIOREPOSITORY SCIENCE**
a partnership between ISBER and ASCP



In partnership with the American Society for Clinical Pathology Board of Certification (ASCP BOC), ISBER has developed and provides the Qualification in Biorepository Science (QBRs) on-line examination for biobanking professionals. The importance of quality parameters in biobanking of biological materials, such as human tissues, has been proven and is an important value and objective of ISBER as an organization. The QBRs exam addresses the question of quality performance by biobanking professionals and provides a unique measure to help enable the future for reproducible and sustainable quality biobanking. Highly trained and skilled staff are essential to ensure high quality biospecimens for reproducible results in precision medicine, biomarker development and biomedical research as a whole.

The QBRs Steering Committee, led by Brent Schacter, has worked diligently to communicate the value of QBRs certification to the biobanking field worldwide. In the past year this has included a presentation at the ISBER 2023 Annual Meeting, multiple round table discussions, and webinars. Webinars continue to be scheduled worldwide with groups interested in learning more about the exam.

As of June 30, 2023, 61 individuals have attained the QBRs qualification. While most of these biobankers reside in the United States, the qualification has also been achieved by biobanking professionals in Australia, Hong Kong, Singapore, Canada, Puerto Rico, United Kingdom (Wales), United Arab Emirates, Saudi Arabia and Nigeria.

In addition, ISBER sponsored a bursary program for potential QBRs candidates from LMIC/UMIC countries (World Bank definition) this past year. In a highly successful competition, there were 38 applications, and six biobanking professionals from Pakistan (2), Uganda (2), Gambia and Peru were selected to have their examination costs covered so that they may take the QBRs examination. Other initiatives to increase participation are currently underway.

Questions about the QBRs can be directed to info@isber.org. For information on requirements, topic outline, reading list, the application process and more visit www.isber.org/qualification.

ISBER BIOBANKING ASSESSMENT TOOL



WHAT IS THE ISBER BIOBANK ASSESSMENT TOOL?

The ISBER Biobank Assessment Tool was developed to assist repositories in evaluating how well they follow ISBER's Best Practices including the LN₂ Addendum and, on a higher level,

the ISO 20387 Standards. It is a questionnaire that consists of nearly three hundred questions, with a "risk-balanced assessment score" attached to each question. The questions cover general quality management for biobanking and corresponds to areas including:

- Facility planning and design
- Installation and maintenance
- Safety
- Quality Control and Auditing
- Disaster Planning/Risk Mitigation



WHAT IS IN IT FOR USERS OF THE BAT?

Upon completion of the BAT survey, the participants receive a certificate of completion with a score showing a level of how well the repository's current practices conform to the ISBER Best Practices and the LN₂ Addendum. The score can be shared with the end users of the biobank to give them an indicator of the current level of quality of the biobank. Participants will also receive a personalized report that includes:

- Areas of improvement
- References to sections in the ISBER Best Practices and the LN₂ Addendum
- Where applicable, references to ISO 20387

The report can be downloaded as a CSV file which can be imported into a database of the user's choice. The user can set their own filters depending on areas of interest (for eg. areas of improvement).

The BAT can be used repeatedly and allows for follow ups every year, giving it a natural place in any quality management system were implementation and follow up of qualitative indicators are required.

RECENT UPDATES:

ISBER updated its Biobank Assessment Tool in 2022. From June 1, 2022 - May 31, 2023, it has been downloaded ~80 times.

ISBER COMMUNITY OF PRACTICE (COP) INITIATIVES

EDUCATION AND TRAINING COP INITIATIVES

The Education and Training Community of Practice (E&T) was very active from 2022 to 2023. Projects included:

BIOBANKING 101 AND 201 WORKSHOP

The Biobanking 101 series has been supported by E&T since its inception. This year's workshop focused on quality in biobanking with presenters from Van Andel Institute and China National Genebank.

New this year, the E&T CoP will host a Biobanking 201 workshop in November focused on cell processing, preservation, and storage, with a focus on quality management of this process. The 201 workshop will be more detailed and specific than the 101 workshop. Registration will open soon.

WEBINAR SERIES

The E&T CoP has created a task force to plan an annual webinar series. This series was launched in August 2023 and is free for all ISBER members. The E&T CoP hopes to continue hosting a webinar series on an annual basis.

ISBER ANNUAL MEETING GRANTS

The E&T CoP awarded one in-person travel grant to an individual from and LMIC to attend the ISBER annual meeting in Seattle. Unfortunately, the recipient of the grant was unable to receive a Visa in time to attend the meeting.

In addition to the in-person travel grant, the E&T CoP awarded 10 virtual registration grants for individuals in LMICs to attend the virtual portion of the meeting.

QBRS STUDY GUIDE

The E&T CoP is collaborating with the Standards CoP to create a study guide to assist individuals in preparing for the Qualification in BioRepository Science (QBRS) certification exam. The first step of this process is to evaluate if the Essentials of Biobanking Course can be updated and used as a study guide for the exam.

AFFILIATE MEMBER COMMUNICATION PLAN

Moving forward, the E&T CoP will distribute a quarterly

newsletter to affiliate members regarding the activities of the CoP. If you are interested in following along with the progress

of this CoP, please join as an affiliate member here: <https://www.isber.org/page/COPAaffiliate>.

SCIENCE POLICY COP INITIATIVES

The purpose of the ISBER Science Policy (SciPol) CoP is to be a voice for the perspectives of the ISBER membership and the Society on regulatory and policy issues globally related to biological and environmental repositories. The CoP also provides educational opportunities and develops resources and tools for the biobanking community on a variety of legal, ethical and policy issues.

During the past year, the CoP continued to monitor the regulatory and policy landscape to identify emerging issues relevant to biobanking and comment on draft changes to policies and regulations. Comments were submitted on the following documents:

- Proposed Changes to 21 CFR Parts 50, 56, and 812, "Protection of Human Subjects and Institutional Review Boards" Docket FDA-2021-N-0286.
- OHRP Guidance "Frequently asked Questions: Limited Institutional Review Board and Related Exemptions" Docket No-HHS-OASH-2022-0014.

SciPol continued to provide educational opportunities on the ethical, legal and societal issues associated with biobanking and human specimen research including:

- Jointly hosted the Asia-Pacific Biospecimen Open Forum 'Discussing the International Use of Biospecimens and Associated Data' with R3, Global Science Policy Thinktank, The Multi-Regional Clinical Trials Center of Brigham and Women's Hospital and Harvard (MRCT) and Ropes & Gray Law.
- Participated and presented in conference sessions and round tables at the ISBER Annual Meeting. This included organizing and presenting an interactive workshop 'Building Bridges: Towards an International Framework for Specimen Sharing' at the in-person annual meeting. In addition, as a follow-on to this workshop, the CoP

presented draft international ethical principles for banking and secondary research use of biospecimens ('The Seattle Principles') at a revised virtual session of workshop, held as part of the ISBER Annual Meeting virtual conference.

- Presented at the Public Responsibility in Medicine and Research (PRIM&R) Annual Meeting to educate the research ethics community about biobanking issues in a session entitled "Navigating Data and Specimen Sharing for Transnational Research". In addition, CoP leadership staffed an ISBER virtual booth at the PRIM&R Annual Meeting.
- Participated in a panel session at the Multi-Regional Clinical Trials Center of Brigham and Women's Hospital and Harvard annual meeting related to establishing practical ethical standards for the collection, retention, and research uses of biospecimens for Secondary Research.
- Presented a virtual ISBER Town Hall on the Science Policy CoP.
- Participated in the development of the ISBER CoP Manual.

The steering committee leadership have been participating in important policy discussions of the R3 Regulatory Roundtable. The R3 strives to foster a broader understanding of the laws and regulations that influence therapeutic innovation, product approval, and the protection of human research participants on the global stage by gathering stakeholders from academia, industry, and regulatory agencies in a non-partisan environment. During the past year, R3 held several meetings on important issues relevant to biobanking including the impact of international privacy laws on research and data privacy. ISBER CoP leadership, as sponsors, were invited to present and participate in discussions and production of reports to help inform the research community on these important issues.

During the past year, the CoP continued to work on priority issues for policy engagement in addition to supporting SciPol taskforce initiatives. The Community Engagement for



Biobanking Task Force, led by Dr. Carol Weil, has been meeting monthly to explore effective approaches for community engagement and to create lasting resources within ISBER. This task force is in the final stages of reviewing and analyzing literature in this field to identify important issues and themes for successful community approaches. Recently a new Artificial Intelligence (AI) SciPol Task Force has been initiated and led by Marianne Henderson. Their aim is to explore ethical guardrails for AI in biobanking and biospecimen research.

Next year, the CoP will continue to explore community engagement for biobanking, as well as ethical issues related to AI

in biobanking. In addition, the CoP will continue to collaborate with R3 to shape regulations and policies globally, and promote the ethical conduct of research and protection of research participants. As part of that effort, a consensus document will be developed on ethical principles for biobanking and the use of biospecimens and associated data for secondary research. Collaboration with R3 will also be important as emerging regulations and policies related to AI will affect how artificial intelligence will impact biobank development and research globally.

STANDARDS COP INITIATIVES

The ISBER Standards CoP Steering Committee serves as a conduit between ISBER and the biobanking standardization community and its stakeholders.

The CoP has been working on a number of activities, initiatives, and tools, including:

- Engagement and communication with Standards CoP affiliate members
- ISBER Best Practices for Repositories, 5th Edition upgrade and translations
- Facilitate ISBER input into ISO 20387:2018 Biobanking – General requirements for biobanks
- Development of an internal audit tool
- Development of a Qualification in Biorepository Science (QBRS) program for biobank technicians: update of educational tools, promotion of the program
- Update of the ISBER Biobank Assessment Tool
- Creation of a Biobank Resilience Task Force
- Communication and engagement with ISBER members
- Development of a glossary of biobanking-related terminology

Regional Report

Director-at-Large: Diane McGarvey (2020-2023),
Billy Schleif (2023-2026)

Regional Ambassadors: Hugo Barrera (Mexico),
Ana Bolanos (Canada), Antonio Hugo Campos (Brazil),
William Schleif (United States)



AMERICAS REGION

The past year was a busy and exciting year for the ISBER Americas Region. This region was honored to host the ISBER Annual Meeting at the Westin Seattle in May, 2023. Along with showcasing the beauty of the Northwest Americas, this meeting welcomed ISBER members from 40 countries to network, learn and build our own biobank bridges.

This year also ushered in a few changes for the ISBER Americas team as Dee McGarvey ended her term as the Director-at-Large and William Schlieff, PhD of the Pediatric Biorepository & Tissue Based Diagnosis and Research Core at Johns Hopkins All Children's Hospital in Florida assumed the role. Regional Ambassador, Ayat Salman also stepped down as she was elected Vice-President of the ESBB – European, Middle Eastern & African Society for Biopreservation and Biobanking. She has been on the ESBB Council since October, 2018 and we wish her the best in her new role. Continuing in their roles as Americas Regional Ambassadors are Hugo Barrera of Mexico, Antonio Hugo Campos of Brazil and Ana Bolanos of Canada.

The following are a few highlights of the Americas regional team and their activities in support of the ISBER mission:

- Dee McGarvey participated as the ISBER representative in a Tweetchat hosted by Salud America! at UT Health San Antonio in August, 2022. This social media engagement titled "What Is Biospecimen Donation, and Should You Donate?", provided the opportunity to tweet about the need for biospecimen donations, how researchers use the donations, and how donations can improve health for all people. This Tweetchat generated over 3 million

impressions and had 156 retweets during the program.

- The Americas regional team had an active presence at the ISBER 2023 Annual Meeting including the following presentations: William Schleif joined Daniel Catchpoole in presenting "Getting to Know ISBER". Dr. Schleif also co-chaired a round table on "Children's Health, Research and biobanking – How Do We Juggle it all with less?". Another round table was co-chaired by Dee McGarvey, Marianne Henderson and Deb Garcia on "Biobanking 101: a Debrief."
- The Biobanking 101 session, co-chaired by Dee McGarvey, was held as a virtual workshop prior to the Annual Meeting. The topic was "Quality in Biobanking and featured experts from the Van Andel Research Institute (USA) and China Genebank (China) along with a introduction to the ISBER Biorepository Assessment tool by Karolin Bergenstrahle (Sweden).

Other highlights from the year include:

- 17 individuals in the Americas received their QBRS credential
- 55 biobanks in the Americas utilized the Biobank Assessment Tool
- 47 individuals in the Americas registered for the Essentials of Biobanking Course

To assist ISBER's mission to be responsive to members throughout the Americas Region, ISBER launched an initiative to develop a strategic plan to focus on the biobanking community in Latin America. This project consisted of multiple interviews with biobankers in six different countries representing both human

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and non-human biospecimen collections. The interviewees and their respective biorepositories spanned across varying degrees of establishment from start-up to well-established banks. Information from these interviews were combined with the responses from the recent survey of Latin American bio-bankers. Several common themes emerged including: Lack of both national-level and international networking among bio-banks; Challenges coordinating activities across borders; and the need for education to support sustainability, operations, etc. ISBER is currently evaluating what biobanking resources are currently available throughout the region and what actions ISBER can take to provide support and resources to this region.



Regional Report

Director-at-Large: Xun Xu

Regional Ambassadors: Jufang Huang, Weihua Jia, Liangliang Ruan, Weiye Charles Wang, Lianhai Zhang, Xuexun Zhou



CHINA

In the past year, Chinese ISBER members have actively contributed to various ISBER committees, participated in the ISBER 2023 Annual Meeting & Exhibits, and contributed to the exhibit booths and poster sessions. The collaborative efforts of the China Regional Director, Regional Ambassadors, ISBER, and local biobankers have enhanced knowledge sharing and raised public awareness regarding the critical importance of biobanking.

Other activities carried out within the region over the past year include, in chronological order:

- Release of the first DNA Bluebook in China

On July 23rd, 2022, the first domestic DNA Storage Blue Book was released. The Blue Book focuses on the feasibility of DNA storage and is expected to facilitate the academic exchanges and contribute to the industrial development in life sciences.

- The launch of 15th China Integrated Biobanking Conference and the 10th Biobank Director Summit

From April 21 to April 23, 2023, the 15th China Integrated Biobanking Conference and Biobank Director Summit was held in Shanghai. Over 1,200 representatives from hospitals, universities, research institutes, and biotech companies participated in the event. 120 guest speakers, including 5 academics, shared their views on the regulations, standardization, technology application, quality control, and information sharing on biobanking in China.

- Release of Implementing Rules on the Administrative Regulations on Human Genetic Resources

On June 1st, 2023, China's Ministry of Science and Technology (the "MOST") issued the long-awaited Implementing Rules on the Administrative Regulations on Human Genetic Resources, which became effective on July 1st, 2023. The Implementing Rules clarify operational questions that have emerged since the Administrative Regulations on Human Genetic Resources (the "HGRs Regulation") became effective, and has been updated on data sharing and protection, national security, the scope of foreign entities, intellectual property ownership, activity supervision, and law enforcement concerning human genetic resources.

Chinese biobankers continued to push forward the development of the standards on collection, processing, transportation and storage requirements for biological resources and related data:

- Chinese experts have participated as project leaders for published international and regional standards in biological material and biobank area over the past year: the "ISO 24603:2022 Biotechnology — Biobanking — Requirements for human and mouse pluripotent stem cells", "ISO/TS 24420:2023 Biotechnology — Massively parallel DNA sequencing — General Requirements for Data Processing of Shotgun Metagenomics", as well as the "LSEA 0006-2022 Guidance for the transportation of biological material" Belt and Road Regional standard.
- A national standard "GB/T 41908-2022 Collection and processing of human feces biomaterial" was published.
- The group standard for institutions conducting spatio-temporal research "T/LTIA 18-2022 Spatiotemporal omics-standardized biological material preparation for spatiotemporal transcriptomics" was released.

Regional Report

Director-at-Large: *Elné (Engela Helena) Conradie*

Regional Ambassadors: *Ahmed Abdelhafiz (Egypt), Nahla Afifi (Qatar), Sergey Anisimov (Russia), Phillis Babirye (Uganda), Judita Kinkorova (Czech Republic), Elizabeth Mayne (South Africa), Rocio Aguilar Quesada (Spain), Sureyah Nassimbwa (Uganda)*



EUROPE / MIDDLE EAST / AFRICA (EMEA)

The following report provides a very brief summary of biobanking activities within the Europe, Middle East and Africa (EMEA) region from May 2022 until the end of July 2023. Biobanking plays a crucial role in advancing medical research, personalised medicine, and drug development, making it essential to monitor and assess the progress in this field.

In the time frame of this report, the EMEA region has witnessed significant growth in the establishment of new biobanks, as well as the expansion of existing biobanks. Awareness of biobanking is increasing within the region, with governments, research institutions and private organizations beginning to realise the importance of biobanking in various fields of expertise.

ETHICAL AND REGULATORY CONSIDERATIONS:

As biobanking activities continue to expand, ethical and regulatory considerations have become more prominent. Stakeholders have worked closely with regulatory authorities to ensure compliance with ethical standards and data protection laws. Efforts have been made to strengthen informed consent processes and ensure that participants' privacy is respected.

Three biobanks within the EMEA region have received their ISO 20387 accreditation in the time frame of this report, namely the Fundación Instituto Valenciano de Oncología (IVO Biobank) in Spain, the Biobanca Multispecialista (BMS) in Italy, and the Qatar Biobank in Qatar. We are extremely proud of our biobanking colleagues and hope to learn about their journey soon.

Publications on stakeholder perspectives were published in Biopreservation and Biobanking journal from South Africa and the Arab region.

ADVANCEMENTS IN NETWORKS IN THE REGION

Numerous EMEA biobanks have actively engaged in cross-border collaborations and consortia initiatives, bringing a variety of researchers and institutes together to share resources, expertise, and data to foster groundbreaking research projects with global impact. The global interest into the African genome is increasing and projects in collaboration with African biobanks and researchers are increasing.

South Africa has launched a central biobanking network for biodiversity samples called the BBSA, to conserve and manage biodiversity samples (which includes seed banks, DNA banks, frozen animal tissues and microbes, amongst others). The BBSA will facilitate collaboration, bringing the staff of participating biobanks together to work on issues of quality assurance for the samples and materials, to promote the value of the biobanks, and increase access to materials for innovative research and development.

Other initiatives that will most likely become standard practice for many others in the years coming, include the concept of the national information platform of biobanks of the Russian Federation; It is assumed that the creation of the NIBB RF will improve the interaction between biobanks and end users of their services and will contribute to the development of biomedical science in Russia.

ISBER REGIONAL MEETING

We are extremely excited about the upcoming regional meeting in Granada, Spain, 24-25 October 2023. The symposium will be dedicated towards biospecimen science across all biobanking disciplines.

OTHER UPCOMING REGIONAL MEETINGS

BBMRI-ERIC and ESBB will host the Europe Biobank Week Roadshow 2023 – IT: Data integration in biobanking, in Innsbruck, Austria, 27-28 September 2023.

BIOBANKING NEWS FROM OTHER NETWORKS IN THE REGION

BBMRI-ERIC and ESBB have hosted a biobanking roadshow in the region, the first of which was held in Regensburg (Germany), 19-20 September 2022, and the second in Rome (Italy), 13-14 October.

BBMRI-ERIC and ESBB organize this EBW22 Roadshow stage in partnership with the BBMRI ERIC Stakeholder Forum Patient Pillar, BBMRI.it, the Research Translational (IRCCS) Paediatric Bambino Gesù Hospital, and the paediatric network IDEA.

Regional Report

Director-at-Large: Koh Furuta (2019-2023), Wayne Ng (2023-2026)

Regional Ambassadors: Anusha Hettiaratchi (Australia), Bushra Rakha (Pakistan), Tatsuaki Tsuruyama (Japan), Birendra Yadav (India), Jajah Fachiroh (Indonesia), Hanh Vu (Vietnam)



INDO-PACIFIC RIM (IPR)

Since July 2019, the IPR DAL and Regional Ambassadors have met monthly to share updates and discuss key projects and goals.

ACTIVITIES INCLUDE:

- Distribution of QBRS-related information: Based on Dr. Brent Schacter's presentation at the IPR DAL-RAL meeting in January 2023.
- Regional strategy-related preparation: Interviews (Australia, India, Indonesia), Survey (Japan)
- ISBER 2023 Seattle Annual Meeting: All RAs and DAL actively participated in this meeting, including Wayne (Program Planning Task Force), Birendra (meeting co-chair), and Bushra (symposium speaker), Jajah (poster presentation), and Hanh (co-organized the Rising Star virtual session).
- Article: DECARBONIZATION IN BIOBANKING: A potential new scientific area. Volume 20, Number 5, 2022, DOI: 10.1089/bio.2022.0146

The IPR DAL and RAs are working to contribute to the following areas in the IPR region:

- Cooperation and Collaboration: To facilitate setting up better environment for citizens, private sectors, and academics. Public private partnership is a keyword.
- Embracing Diversity: To facilitate setting up a better environment not only for the non-human biobanking field, but also for various countries and regions of different economical stages.

- Education and Training: To facilitate setting up a better environment for dissemination of basic knowledge and skills in biobanking, such as preparing infrastructure of biobanking, education, training, certification, etc. Dissemination of knowledge and skills by non-English language media is also a focus.








Possible areas of focus for the future include:

1. Marine biology group meeting.
2. QBRS certification uptake not only in the IPR biobanking groups, but also in academia. There may be interest from academic institutions to incorporate the QBRS certification into their curriculum.
3. Increased efforts towards de-carbonization. The IPR region, consisting of both HICs and LMICs, have diverse environmental needs to take into consideration.



Strategic Plan Update

ISBER is happy to report that it has made significant progress in the implementation of its 2021 Strategic Plan.

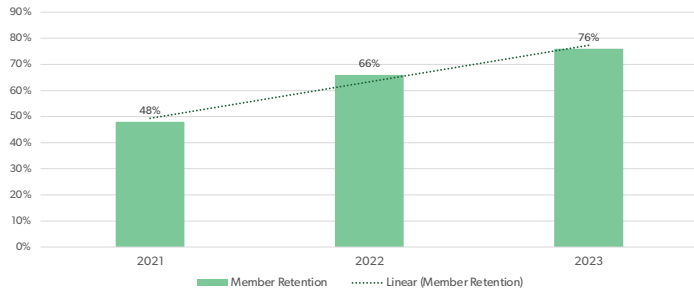
<p>STRATEGY 1:</p> 	<p>The restructuring proposal was passed by the membership in June 2022, and implementation of the restructuring is complete. The Governance Committee continues to work on updating the organization’s policies to reflect the new structure.</p>
<p>STRATEGY 2:</p> 	<p>A product development task force has been initiated to further progress on this strategy.</p>
<p>STRATEGY 3 & 4:</p> 	<p>Implementation of these strategies is complete, resulting in a decision making matrix and internal communication flowchart.</p>
<p>STRATEGY 5:</p> 	<p>The leadership alumni program continues to grow, with the alumni hosting the speed networking event at the ISBER annual meeting in Seattle.</p>
<p>STRATEGY 6:</p> 	<p>An internal communications has been developed. This will be updated in the coming year to ensure it accurately reflects the organization restructuring.</p>
<p>STRATEGY 7:</p> 	<p>The Board has begun the process of renegotiating the management contract beginning in 2024.</p>
<p>STRATEGY 8:</p> 	<p>The EMEA regional needs assessment is complete. The America’s and IPR assessments are in progress and are expected to be complete in Q4.</p>

The next round of strategic planning is set to begin in Q4 2023.

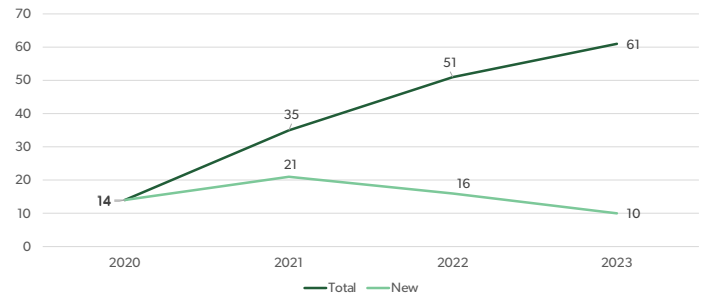
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RESTRUCTURING AND STRATEGIC PLAN KEY PERFORMANCE INDICATOR MONITORING

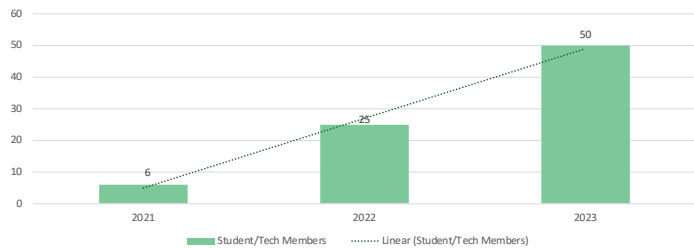
MEMBER RETENTION:



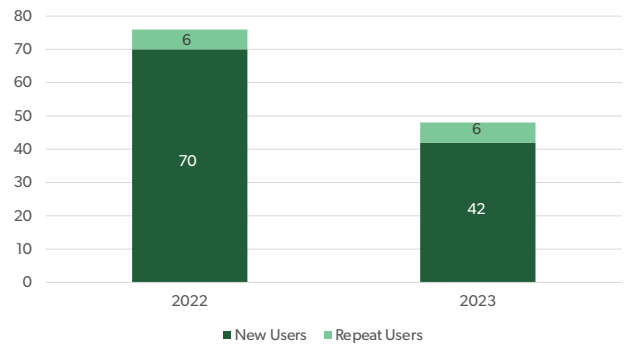
QUALIFICATION IN BIOREPOSITORY SCIENCE (QBR) CERTIFICATIONS:



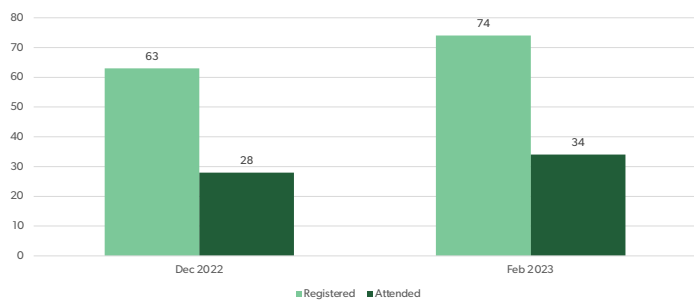
STUDENT/TECHNICIAN MEMBERSHIP GROWTH:



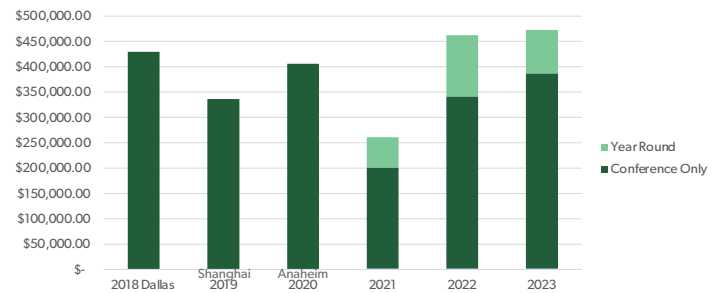
BIOBANK ASSESSMENT TOOL (BAT):



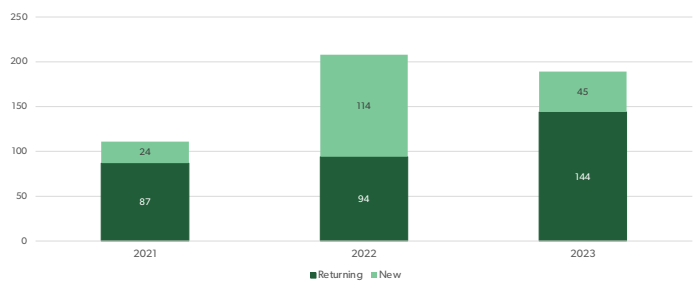
ISBER TOWN HALL ATTENDANCE:



SPONSORSHIP REVENUE 2018-2023:



ISBER VOLUNTEERS:



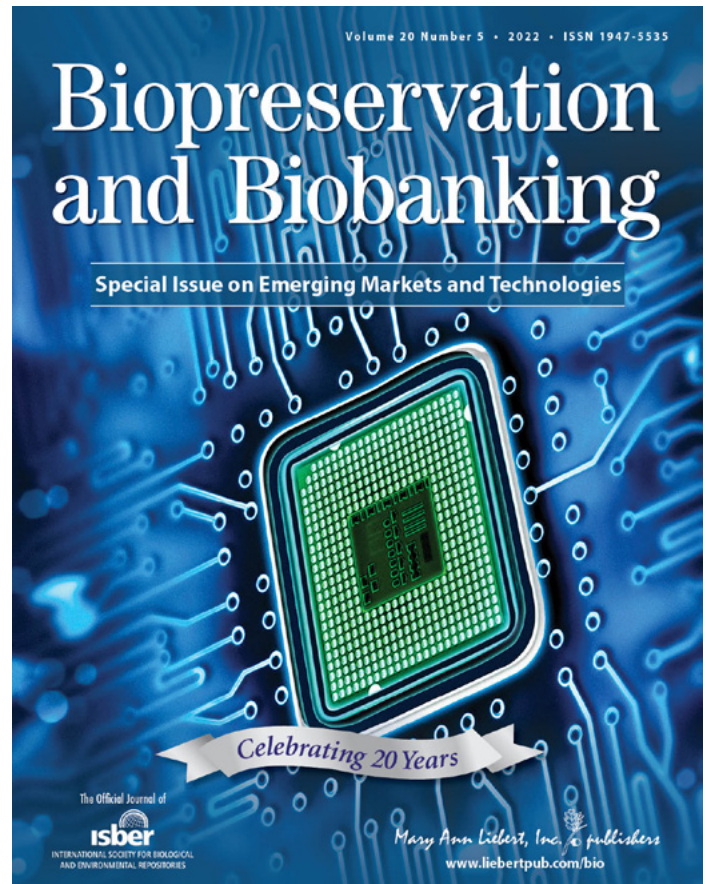
Biopreservation and Biobanking (BIO)

Biopreservation and Biobanking, the official journal of ISBER, covers a broad range of issues related to biospecimen collection, preservation, biobanking, distribution and use. Articles published in the journal explore emerging issues and challenges in the field, including advances in biopreservation, emerging technologies, and methods development to improve the quality of biospecimens utilized in research and medicine. The journal covers the latest developments in biobanking operation, standardization and best practices, as well as ideas and practical solutions related to biobank sustainability, evaluation and biospecimen utilization. In addition, it explores the wide range of ethical, legal and societal implications of biobanking and biospecimen research.

A wide variety of article types are published including, original articles, brief reports, review articles, meeting reports. Features published in the journal include editorials/guest editorials, best practices guidelines, experts speak columns, isber corner articles, and letters to the editor. ISBER meeting abstracts are also published online in the journal.

One big change in the journal over the last year was the Editor-in-Chief, Jim Vaught, PhD, stepped down after 10 years, with Marianna Bledsoe, MA, taking over in his place. Under Dr. Vaught's outstanding leadership, the journal grew dramatically and published numerous special issues and sections on a wide range of hot topics related to biobanking and biopreservation. In addition, the Editorial Board was expanded to reflect broader geographic representation globally, with the Board now representing 15 countries. We thank Jim for his outstanding dedication and excellent leadership of the journal during his tenure as Editor-in-Chief.

Over the past year, the growth of *BIO* was excellent. In 2022, *BIO* received a total of 197 submissions, representing a 15% increase over 2021. While submissions are currently down for the year in comparison to the same time last year, we are on



track to meet or exceed 2021's total submissions. Submissions in 2022 were received from 30 countries, with the top 5 countries being China, United States, Iran, Brazil, and Turkey. The journal's content has been downloaded roughly 50,000 times this year.

Two special issues were published last year; one on cryobiology with guest editors Dayong Gao, Zhiqian Shu, and Xueming Zhao and the other on emerging technologies with guest editors Rohit Gupta and Zisis Kozlakidis. We thank our guest editors for organizing these issues as well as the authors of

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manuscripts published in these special issues for their efforts and outstanding contributions.

New journal metrics were recently released for *BIO*. The 2022 Impact Factor (IF) for *BIO* is 1.6, a decline compared to the 2021 IF of 2.256. The new Cite Score is 3.7, a decrease from the 2021 value of 3.8. The 2022 impact factor is based on papers published in 2020 and 2021 and cited in 2022. The top cited article from this period was “A Biobank’s Journey: Implementation of a Quality Management System and Accreditation to ISO 20387” by Moutham et. al. The next top-cited articles were “Cryopreservation and Culture of Testicular Tissues: An Essential Tool for Biodiversity Preservation” by da Silva et. al. and “Extending the Minimum Information About Biobank Data Sharing Terminology to Describe Samples, Sample Donors, and Events” by Eklund et. al.

While the IF decreased from the previous year, a difference of only a few citations can have a dramatic effect. Furthermore, the IF reflects current citation activity, but represents only a very small proportion of total citation activity of the journal over time. Finally, several recent changes in the way articles are included in the IF calculation have influenced the published metrics and many journals saw similar IF decreases in 2022.

Over the coming year we are looking at ways to strengthen the IF and Cite Score. We are continuing our efforts to attract high quality papers of significant interest to our readership, especially review articles, and promote special issues and sections. In addition, we are implementing a new initiative to increase the journal’s visibility and impact through a more focused social media effort.

Many thanks to our Deputy Editors Dayong Gao, Peter Watson, and Carol Weil, our European Editor William Mathieson, Asian Editor Junmei Zhou, Emeritus Editor Jim Vaught and Founding Editor, John G. Baust. In addition, we thank the *BIO* Editorial Board for their efforts in identifying reviewers and suggesting changes to streamline journal processing procedures, as well as hot topics and ideas for special issues and sections that are essential to the journal’s success. We encourage ISBER members to submit articles and serve as reviewers for the journal. In addition, the journal always welcomes ideas for special issues and sections, as well as feature articles and guest editorials on timely topics of interest to the readership of the journal.



2023 Award Recipients

ISBER 2023 OUTSTANDING ACHIEVEMENT IN BIOBANKING AWARD



Dr. Peter Watson

sponsored by:



ISBER 2023 DISTINGUISHED LEADERSHIP AND SERVICE AWARD



Monique Albert

sponsored by:



ISBER 2023 SPECIAL SERVICE AWARDS



Annemieke De Wilde



Helen Morrin



Rita Lawlor



Tamsin Tarling



Emma Snapes

ISBER 2023 OUTSTANDING NEW PRODUCT AWARD

PHC CORP'S VIP ECO SMART ULTRA-LOW FREEZER



ISBER 2023 POSTER AWARD

PD-02 "BIOREPOSITORY CAPACITY FOR EMERGING INFECTIOUS DISEASE OUTBREAK RESEARCH"

Co-authored by:

Megan Averill, Thad Gurley, Hilary Bouton-Verville, Jon Parsons, Tony Moody

Author affiliations:

Duke Human Vaccine Institute

ISBER 2023 BEST PAPER AWARD

THE APPLICATION OF LIGHT-ASSISTED DRYING TO THE THERMAL STABILIZATION OF NUCLEIC ACID NANOPARTICLES

Co-authored by:

Phuong Anh Lam, Daniel P. Furr, Allison Tran, Riley Q. McKeough, Damian Beasock, Morgan Chandler, Kirill A. Afonin, and Susan R. Trammell

Author affiliations:

Department Physics and Optical Science and Department of Chemistry, University of North Carolina at Charlotte, Charlotte, North Carolina, USA



Agreements and Partnerships

ISBER has partnerships with the following organizations:

- American Society for Clinical Pathology Board of Certification (ASCP BOC)
- Asian Network of Research Resource Centers (ANRRC)
- Australasian Biospecimen Network Association (ABNA)
- Beijing Genomics Institute - Research (BGI-Research)
- Biobanking India Foundation
- Canadian Tissue Repository Network (CTRNet)
- China Medicinal Biotech Association, Biobanking Branch (BBCMBA)
- China National Gene Bank (CNGB)
- Council for Industrial use of Biological and Environmental Repositories (Japan)
- Entomological Collections Network (ECN)
- Integrated BioBank of Luxembourg (IBBL)
- National BioService (NBS)
- Public Population Project in Genomics Society (P3G)
- Public Responsibility in Medicine and Research (PRIM&R)
- Qatar Biobank
- Society for Cryobiology (CRYO)
- Society for Laboratory Automation and Screening (SLAS)
- Society for Preservation of Natural History Collections (SPNHC)

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