isber 2022
Virtual June 14-15
Meeting Program
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To be the leading network in the global biobanking and biorepository community.

Mission

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

Farrar Scientific

FLUIDIGM

Freezerworks Sample Management Software

HAMILTON STORAGE

iSPECIMEN
## EXHIBITOR LISTING

<table>
<thead>
<tr>
<th>COMPANY NAME</th>
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<tr>
<td>A2LA</td>
<td>Haier Biomedical</td>
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<td>ASKION GmbH</td>
<td>Hamilton Storage</td>
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<td>AutoGen Inc.</td>
<td>IC Biomedical, LLC</td>
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<td>ISENETUSA/DiData</td>
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<td>iSpecimen</td>
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<td>BioLife Solutions</td>
<td>LVL Technologies</td>
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<td>Modul-Bio</td>
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<td>College of American Pathologists</td>
<td>NBS Scientific</td>
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<td>Phasetwo</td>
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<td>Farrar Scientific/Trane Technologies</td>
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<td>Fluidigm</td>
<td>Stellar Scientific and AltemisLab</td>
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<td>GA International</td>
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<td>GenVault</td>
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<td>Greiner Bio-One</td>
<td>Zymo Research Corp</td>
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MESSAGE FROM THE ISBER PRESIDENT, 2021–2022

Dear colleagues and friends,

On behalf of the International Society for Biological and Environmental Repositories (ISBER) Board of Directors, I would like to welcome you to ISBER’s first hybrid annual meeting, in-person in Atlanta, Georgia, USA and virtually from around the world. These last two years have been life altering to us as individuals and to the field of Biobanking worldwide. Yet, throughout this time, we have seen and heard stories of biobankers rising to the occasion, being at the forefront of driving change and scientific discovery.

We hope that you will see that this program reflects the best, cutting-edge elements of Biobanking science worldwide. I would like to take a moment to thank the Scientific Program Co-Chairs, Emma Snapes, Rohit Gupta and Billy Schleif who worked tirelessly to put together this truly international program alongside the talented and diverse program committee. The organization of ISBER’s first hybrid meeting is a substantial challenge that they took up with grace, tenacity and intelligence. Thank you as well to ISBER’s Organizing Advisory Committee, led by Zisis Kozlakidis, Judita Kinkorova, and Billy Schleif, for providing advice and input as well.

I would like to take a moment to thank our local planning task force, led by Andy Pazahanick, for their contributions to the program and organizing. This group was always ready to help and provide local knowledge and experience. We hope that you will see the impact of their influence on the program as well.

I would be remiss if I did not recognize our sponsors without whom our conference would not be as successful. I encourage all members to visit our virtual exhibit hall and watch the corporate sessions as well. Our sponsors helped ISBER weather the storm of the last couple of years. They deserve our appreciation.

Finally, thank you to YOU, our attendees, for joining us either in person or virtually or both. We hope that you will be able to make the most of your time to engage with all that this conference has to offer. We hope you will make new connections and friends. We hope that you return to your biobanks, recharged, full of new ideas and knowledge!

Sincerely,

Piper Mullins
ISBER President 2021-2022
Smithsonian Institution
USA
MESSAGE FROM THE SCIENTIFIC PROGRAM COMMITTEE CO-CHAIRS

Dear colleagues and friends,

On behalf of the International Society for Biological and Environmental Repositories (ISBER), the co-chairs of the 2022 Annual Meeting and Exhibits welcome you. The great city of Atlanta has deep global connections to healthcare, biomedical research, and technological innovation. It is further world renowned for its southern hospitality, cultural significance, and historical civil rights movements. It is home to the U.S. Center for Disease Control (CDC) and hosts Georgia Bio, a massive life sciences partnership representing nearly two thousand Georgian companies. This combination of science and atmosphere makes Atlanta the ideal host for our long anticipated return to an in-person conference after over two years of restrictions that have kept us apart.

The value of community, diversity, and inclusion is at the heart of the Georgian spirit. Storytelling has played a major role in raising awareness related to race, gender, and health disparities. Therefore, it is fitting that this year’s conference is themed “Biobanking: Shaping the Scientific Journey.” Experts across the scientific community will share stories of how biospecimens played a role in developing novel tools and insights, and continue to drive change in the life and environmental sciences.

This meeting represents a space for a convergence of diverse disciplines, people and innovations. An exciting agenda awaits us featuring: inspirational trailblazing actors and collaborative platforms underpinning biobanking and its scientific journey; bridging gaps for the underrepresented; differing global biobanking practices impacting on partnership; building a quality tool chest; and real world data for global research collaboration.

It gives us immense pleasure to welcome you to our first hybrid annual meeting. In-person events are irreplaceable, yet ISBER has kept its prominence in the international biobanking community by hosting many virtual events to keep our community together during these challenging times. These experiences continue to grow and shape our connections, and this year’s conference will be no different, by offering the first hybrid format, staggered at different times to reach as many of our worldwide colleagues as possible. The hybrid format facilitates different participation modes: in person, virtually, or both. We are especially grateful to the ISBER scientific planning committee, the Head Office, and the local planning task force for facilitating the safest possible environment in which to convene, and their incredible planning in this effort.

Join us in sharing your hopes and ideas with our ISBER friends and community as we together embrace our theme of biobanking: shaping the scientific journey.

Sincerely,

Emma Snapes
BioConsulting, Ireland

Billy Schleif
Johns Hopkins All Children’s Pediatric Biorepository, USA

Rohit Gupta
Spectrum Solutions, USA
**ISBER BOARD OF DIRECTORS AND COMMITTEE CHAIRS**

### ISBER Board Members

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Institution/Location</th>
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<tbody>
<tr>
<td><strong>PRESIDENT</strong> May 2021 – May 2022</td>
<td>Piper Mullins, MS</td>
<td>Smithsonian Institution, Washington DC, United States</td>
</tr>
<tr>
<td><strong>PAST-PRESIDENT</strong> May 2021 – May 2022</td>
<td>Daniel Catchpoole, PhD, FFSc</td>
<td>Tumor Bank, The Children’s Hospital at Westmead, New South Wales, Australia</td>
</tr>
<tr>
<td><strong>PRESIDENT-ELECT</strong> May 2021 – May 2022</td>
<td>Clare M. Allocca, MS, PMP</td>
<td>National Institute of Standards &amp; Technology, Maryland, United States</td>
</tr>
<tr>
<td><strong>TREASURER</strong> May 2020 – May 2023</td>
<td>Jane Carpenter, MAppSci</td>
<td>NSW Health Pathology, New South Wales, Australia</td>
</tr>
<tr>
<td><strong>SECRETARY</strong> May 2020 – May 2023</td>
<td>Monique Albert, MS, PMP</td>
<td>Centre for Biodiversity Genomics, University of Guelph, Ontario, Canada</td>
</tr>
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### ISBER Board Members Directors-at-Large

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<tr>
<th>Position</th>
<th>Name</th>
<th>Institution/Location</th>
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<tr>
<td><strong>DIRECTOR-AT-LARGE – Americas</strong></td>
<td>Diane McGarvey, QBRScm</td>
<td>CHTN Eastern Division, Pennsylvania, United States</td>
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<tr>
<td></td>
<td>Xun Xu, PhD</td>
<td>China National GeneBank, Guangdong, China</td>
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<tr>
<td><strong>DIRECTOR-AT-LARGE – Europe, Middle East, and Africa</strong></td>
<td>Alison Parry-jones, PhD, MA, MRSC</td>
<td>Wales Cancer Bank - Cardiff University, South Glamorgan, United Kingdom</td>
</tr>
<tr>
<td><strong>DIRECTOR-AT-LARGE – Indo-Pacific Rim</strong></td>
<td>Koh Furuta, MD, PhD</td>
<td>Urayasu Warakuen Clinic, Urayasu, Japan</td>
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### Committee Chairs

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<thead>
<tr>
<th>Committee Chair</th>
<th>Name</th>
<th>Institution/Location</th>
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<tbody>
<tr>
<td><strong>COMMUNICATIONS COMMITTEE CHAIR</strong></td>
<td>Catherine Seiler, PhD</td>
<td>Kaleido Biosciences, Massachusetts, United States</td>
</tr>
<tr>
<td><strong>EDUCATION AND TRAINING COMMITTEE CHAIR</strong></td>
<td>Tamsin Tarling, BSc, Msc</td>
<td>Post COVID Recovery Clinic, British Columbia, Canada</td>
</tr>
<tr>
<td><strong>MEMBER RELATIONS COMMITTEE CHAIR</strong></td>
<td>Shonali Paul, BE, MBA</td>
<td>CloudLIMS.com, Madhya Pradesh, India</td>
</tr>
<tr>
<td><strong>ORGANIZING ADVISORY COMMITTEE CHAIR</strong></td>
<td>Zisis Kozlakidis, PhD, MBA, FLS</td>
<td>IARC/WHO, Auvergne-Rhône-Alpes, France</td>
</tr>
<tr>
<td><strong>SCIENCE POLICY COMMITTEE CHAIR</strong></td>
<td>Helen Morrin</td>
<td>University of Otago Christchurch, Christchurch, New Zealand</td>
</tr>
<tr>
<td><strong>STANDARDS COMMITTEE CHAIR</strong></td>
<td>Daniel Simeon-Dubach, MD, MHA</td>
<td>Medservice, Walchwil, Switzerland</td>
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### Executive Director

<table>
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<tr>
<th>Name</th>
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<tr>
<td>Ana Torres, BA (Hon), MPub, CAE</td>
<td>British Columbia, Canada</td>
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</table>
ISBER COMMITTEE MEMBERS

Finance Committee
Chair: Jane Carpenter
Monique Albert
Clare Allocca
Dan Catchpoole
Jesus Monico
Piper Mullins
Rajeev Singh

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Ahmed Abdelhafiz Samir
Jennifer Byrne
Marta Castelhano
Randy Mandt
Mantombie Maseme
Birendra Kumar Yadav
Advisor: Diane McGarvey

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Koh Furuta
Diane McGarvey
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Billy Schleif
Stella Somiari
Heidi Wagner
Advisor: Morten Øien
Advisor: Nicole Sieffert

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Marianne Henderson
Judita Kinkorova
Benjamin Otto
Yunice Shao
Rosy Singh
Xueyun Zhou
Avashoni Zwane

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Nahla Afifi
Buzz Bies
Eng Chon Boon
Rongxing Gan
Allison Hubel
Judita Kinkorova
Diane McGarvey
Alison Parry-Jones
Brent Schacter
Kathi Shea
Non-Voting: Piper Mullins

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Co-Chair: Emma Snapes

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Advisor: Jackie
Mackenzie-Dodds
Advisor: Tohru Masui
Advisor: Helen Moore
Advisor: Nicole Sieffert
Advisor: Madeleine Williams

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Co-Chair: Emma Snapes
Co-Chair: Billy Schleif
Ahmed Abdelhafiz Samir
Monique Albert
Clare Allocca
Jane Carpenter
Lourdes Chacon Albert
Deb Leiolani Garcia
Greg Grossman
Zisis Kozlakidis
Wilfredo Marin
Andy Pazahanick
YanRu Su
Tatsuaki Tsuruyama
Vanessa Tumilasci
Hanh Vu
Advisor: Hadi Erfani
Advisor: Aminu Yakubu

ISBER Working Groups
- Biospecimen Science
- Enviro-Bio
- Informatics
- International Repository Locator
- Pharma
- Rare Diseases

ISBER Special Interest Groups
- Automated Repositories
- Next Generation Living Biobank
- Pediatric
ISBER AWARD RECIPIENTS

ISBER DISTINGUISHED LEADERSHIP AND SERVICE AWARD
This award is designed to honor ISBER members who have demonstrated exceptional leadership to further the mission and goals of the society and/or significant, long-standing contributions to the society.

Brent Schacter, Canada

ISBER OUTSTANDING ACHIEVEMENT IN BIOBANKING AWARD
The ISBER Award for Outstanding Achievement in Biobanking is designed to recognize individuals who have made outstanding contributions to the field of biobanking. The award can be given for a single outstanding achievement or a lifetime body of outstanding work in the field.

Nahla M. Afifi, Qatar

ISBER PIONEER’S AWARD
The ISBER Pioneer’s Award, sponsored by MVE Biological Solutions, recognizes individuals who have provided outstanding leadership in developing and executing ISBER’s vision and mission.

Marianne Henderson, USA

ISBER SPECIAL SERVICE AWARD
The ISBER Special Service Awards recognize individuals who have made exceptional contributions towards the goals of the Society through the performance of a special service or act on behalf of the organization.

David Lewandowski, USA
Amanda Moors, USA
Benjamin Otto, Germany
Tamsin Tarling, Canada
GENERAL CONFERENCE INFORMATION

Virtual Event Platform
Access the 2022 virtual app at the following link:
https://pheedloop.com/ISBER2022Annual/
Username: your email address
Password: Use “forgot password” button to reset your password

Registration Rates (Prices in USD)
All delegates are encouraged to register before the first day of the virtual meeting (June 14) to ensure you do not miss any live sessions.

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<tr>
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<th>Regular Rate</th>
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<td>ISBER Member</td>
<td>$515</td>
<td>$615</td>
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<tr>
<td>Non-ISBER Member</td>
<td>$640</td>
<td>$740</td>
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<tr>
<td>Technician/Student Member</td>
<td>$330</td>
<td>$400</td>
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<tr>
<td>Technician/Student Non-Member</td>
<td>$430</td>
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Please note that all delegates who registered for the in-person portion of the ISBER Annual Meeting in Atlanta are automatically registered for the virtual portion of the meeting.

Exhibit Hours:
Tuesday, June 14
- 9:00am – 10:00am NA Pacific Time
- 12:00pm – 1:00pm NA Eastern Time
- 6:00pm – 7:00pm Central Europe Time
- 12:00am next day China Standard Time
- 2:00am next day Australian Eastern Time

Certificates of Attendance
All attendees will receive a certificate of attendance electronically upon completing the post-conference delegate evaluation. This will be distributed via email following the event.
A biorepository partner that offers a deeper level of security and support

On the surface, most biorepositories might look similar. But look deeper, and you’ll find that GenVault goes above and beyond to meet your needs—with the most adaptable space, advanced securities, and comprehensive support.

Visit us at Booth 400 to learn more and enter a drawing for a chance to win a YETI® Cooler!
Connect Globally to Leading Professionals in Biobanking

ISBER’s vision is to be the leading network in the global biobanking and biorepository community. ISBER advances the expertise and quality of biorepositories and biobanking science worldwide.

BENEFITS OF MEMBERSHIP INCLUDE:

- Free access to the ISBER Best Practices for Repositories and ISBER Biobank Assessment Tool (BAT)
- Opportunity to connect with a global group of professionals in biobanking through the ISBER Members-only Forum
- Access to Biopreservation and Biobanking (BIO), ISBER’s official journal
- Reduced registration rates to ISBER meetings
- Stay informed with the latest biorepository news through the online ISBER News

NEW ISBER MEMBERS RECEIVE 15% OFF THEIR FIRST-YEAR OF MEMBERSHIP!

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leading since 1999
ISBER is pleased to launch the new edition of the ISBER Biobank Assessment Tool!

The ISBER Biobank Assessment Tool (BAT) assists repositories in evaluating how well their repository follows ISBER’s Best Practices including the Cryo Addendum, and on a higher level also the ISO 20387 biobanking standard.

The BAT questionnaire consists of close to 200 questions corresponding to many areas of biobanking, such as repository planning, storage, and general quality management. The BAT can be used repeatedly, which allows follow up every year, giving it a natural place in any quality management system (QMS), where implementation and follow-up of quantitative indicators are required.

To access the tool, please visit: www.isber.org/bat
# CONFERENCE PROGRAM

**TUESDAY, JUNE 14, 2022**

<table>
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<tr>
<th>Time Zone</th>
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| 6:00am – 7:00am NA Pacific  
9:00am – 10:00am NA Eastern  
3:00pm – 4:00pm Central Europe  
9:00pm – 10:00pm China Standard  
11:00pm – 12:00am Australian Eastern | **Cohort Biobanks and Quality Assessment**  
*Simona Rossi*, *Swiss Transplant Cohort Study Biobank, Switzerland* |
|  | **International Strategies to Enable Research with and Sharing of Biospecimens and Associated Data**  
*Annette Schmid*, *Takeda, USA* |
|  | **Raising the ISO 20387 Biobanking Standard to the Next Level**  
*Clare Allocca*, *National Institute of Standards & Technology, USA* |
|  | **Microbiome Banking Collaborations: Needs, Barriers, and Hopes**  
*Darya Chernikhova*, *University of Iceland, Iceland* |

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<th>Time Zone</th>
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| 7:15am – 7:30am NA Pacific  
10:15am – 10:30am NA Eastern  
4:15pm – 4:30pm Central Europe  
10:15pm – 10:30pm China Standard  
Next day 12:15am – 12:30am  
Australian Eastern | **Welcome Remarks**  
*Clare Allocca*, *ISBER President 2022-2023* |
|  | **Meeting Brief**  
*Emma Snapes, Billy Schleif, Rohit Gupta*, *Program Committee Co-Chairs* |

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<th>Time Zone</th>
<th>VISIT WITH EXHIBITORS</th>
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| 9:00am – 10:00am NA Pacific  
12:00pm – 1:00pm NA Eastern  
6:00pm – 7:00pm Central Europe  
12:00am – 1:00am China Standard  
2:00am – 3:00am Australian Eastern | Exhibit staff will be available live in their booth space to connect with you. |

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<th>Time Zone</th>
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| 3:00pm – 4:00pm NA Pacific  
6:00pm – 7:00pm NA Eastern  
12:00am – 1:00am Central Europe  
6:00am – 7:00am China Standard  
8:00am – 9:00am Australian Eastern | **Decarbonization in Biobanking: Do We Have a Chance to Contribute?**  
*Facilitator: Koh Furuta, Urayasu Warakuen, Japan* |
|  | **Research Priorities in Biobanking 2**  
*Facilitator: Jennifer Byrne*, *NSA Health Pathology; The University of Sydney, Australia* |
|  | **Learn About the Qualification in Biorepository Science (QBRS) Exam**  
*Facilitator: Brent Schacter, CancerCare Manitoba, Canada* |
ON-DEMAND SESSIONS

The following sessions are available for on-demand viewing at your leisure. You will have access to all on-demand session recordings for 6 months.

SYMPOSIUMS

### INSPIRING INNOVATIVE TRAILS

**Chairs:** Emma Snapes, Billy Schleif, Rohit Gupta

Science is a continuously evolving journey. From historical academic silos of specialist studies through to the emergence of biotechnology, and now on the cusp of biodigital convergence, innovation continues to inspire new direction. Biobanking stimulates innovation. Straddling different disciplines, the development and use of biobanks serve as catalysts accelerating novel discoveries across critical applications. In the opening plenary, scientists and technologists will discuss how they have leveraged biospecimens and data to pioneer transformative platforms, which are changing the way biobanking can and should be utilized. This will be followed up by a linked but distinct plenary 2 which gives voice to the trailblazers who pave the way for others to follow.

Attendees will be able to take back to their organizations new platforms and perspectives with interdisciplinary potential for their own biobanking practices.

- **ISBER Welcome and Opening Remarks**
  Piper Mullins, ISBER President 2021–2022

- **KEYNOTE: Reflections From An Unconventional Scientific Journey**
  David Vigerust, Spectrum Solutions, USA

- **The Rhino Fertility Project and Beyond**
  Suzannah A. Williams, Nature Safe, UK

- **Innovative Strategies for Protecting Sample Integrity with an Eye Towards the Future**
  Robin Grimwood, Sampled, USA

- **People as Research Partners: A Community-Based Model of Study Participant Engagement and Data Stewardship**
  Dawn Barry, Luna, USA

- **Doing More With Less: A Journey to Rare Diseases Genomics in LMIC’s**
  Aimé Lumaka, University of Kinshasa, Congo

- **Panel Discussion**
### SYMPOSIMS

#### THE TRAILBLAZERS PRIMING OUR FUTURE

**Chairs:** Dan Catchpoole, Andy Pazahanick

Biobanking has come a long way over the past several decades and now serves as the cornerstone of multiple scientific disciplines. Yet, times of extreme global challenges call for a re-imagining of how old restrictive structures can be overcome to forge the future.

Trailblazers are undefined by existing parameters; they serve as instruments of change, pushing the boundaries of what is possible so we may advance. Listen to the most inspiring of today’s biobanking thought leaders share insights and model transparency on open source, formative alliances with competitors, policy makers and regulators, as they continue to break down barriers to effect systems change. From leading global partnerships between academia and industry stakeholders to driving entrepreneurship across multiple sectors, we will bring together trailblazers who continue to accelerate scientific progress and promote sustainable infrastructure.

This session is intended to inspire attendees to think differently and learn from disruptors and new thought leaders’ vision to advance their own biobanks within their local environment.

- **African Genomic Variations: The Next Frontier of Global Genetic Medicine**
  - Ambroise Wonkam, Johns Hopkins University School of Medicine, USA

- **BIOBANK NETWORKING FOR UNDERREPRESENTED SPECIMEN COLLECTIONS: INCLUSION, DIVERSITY AND RARE DISEASES**

  **Chairs:** Vanessa Tumilasci, Gregory Grossman

  High quality and well-annotated biospecimens are a necessary resource for the development of new biomarkers and therapeutics. To date, the vast majority of biospecimens collected are from participants of European ancestries whereas biospecimen collections from those of African, Latin American, Hispanic, and Native/Indigenous ancestries are severely under-represented.

  Specimen collections from participants with disease also suffer inclusion challenges. There are nearly 300 million people worldwide affected by rare diseases and the cause and mechanisms of these diseases are largely unknown. More than 90% of these rare diseases have no therapies.

  This session will discuss how to overcome the challenges of under-represented collections. The hope is that by improving diversity, it will enhance the impact that specimen collections will have in personalized medicine.

- **Cancer Biobanking in Puerto Rico: Challenges and Opportunities**
  - Idhaliz Flores-Caldera, Ponce Health Sciences University, Puerto Rico

- **Centralized Biobanking to Reduce the Rarity of Rare Disease Tissue Samples**
  - Daniel Perrien, Emory University, USA

- **African Genomics Program: Catalyzing Partnerships Towards Increasing Diversity in Genomic Research**
  - Nicholas Mangeya, Roche, South Africa

- **Increasing Diversity of Participants and Donors Through Innovation**
  - Gregory Grossman, Advancing Sight Network, USA

- **Technologies for Increasing Diversity of Donors for Biosamples**
  - Tiffany Whitlow, Acclinate, USA

- **Q&A + Panel Discussion**
# SYMPOSIA

## DIFFERING INTERNATIONAL BIOBANKING PRACTICES AND IMPACT FOR PARTNERSHIPS

**Chairs:** Birendra Kumar Yadav, Deb Leiolani Garcia  
Biobanking practices vary widely between regions and countries, and depend on numerous factors, such as legislation, local and national regulations, means of support, social perception, and availability of resources. This session will examine how improved awareness of such differences could facilitate the understanding of the diverse perspectives of biobanking practices, which could ultimately pave paths for international collaborations by providing examples of challenges faced and how they were overcome. The presentations will demonstrate the geo-diversity of biobanking practices for particular countries, share different approaches and identify common elements to enable future networking and collaborative research opportunities. The speakers will address regulations of biobanking in their country, means of support, social perception of biobanking, national scale of collaboration, education, and resources. The session will also include a panel of international experts who will provide further discussion on the key points introduced by the presenters and raised by the audience and provide their viewpoint on the challenges that might affect international research.  
The goal of this session is for attendees to be able to consider what changes may be required within their own operations and practices in order to make partnerships more effective.

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QUALITY IN CONTEXT: A TOOL CHEST TO SHAPE THE BIOBANKING JOURNEY

**Chairs:** Clare Allocca, Deb Leiolani Garcia, Emma Snapes
A treasury of tools and resources is available for use in biobanking. This symposium will present a compendium of stories to explore these tools, their interconnectivities, and their impact. Many tools are relatively new or undergoing revisions to ensure continued relevance. These serve as a holistic foundation for robust biobanking that can be strengthened by complementary tools, education, and other resources.

Standardization is a hallmark of sound biobanking that provides assurance for all stakeholders. It enhances recognition and, along with education, can promote professionalism, thus reinforcing biobanking as a full partner in biotechnology. Best practice guidelines aim to be accessible, comprehensive, and contemporary—as such, they represent an excellent starting point for many biobanking processes.

This session will provide quick briefings for six tools, and from the perspective of four individual repositories, will explore the impact of tool implementation. In-depth scenarios will examine ISBER Best Practices: Recommendations for Repositories, ISO 20387 Biotechnology – General requirements for biobanking, Canadian Tissue Repository Network (CTRNet), and Qualification in Biorepository Science (QBRS).

**A Business Perspective on Tools**
Wilfredo Marin, Thermo Fisher Scientific, USA

**Lightning Talk: Best Practices**
Lori Campbell, NexGen BioBanking, USA

**Biobank-Driven Approach to Precision Medicine in Under-Represented African Populations**
Jumi Popoola, 54gene, Nigeria

**Lightning Talk: Qualification in BioRepository Science (QBRS)**
Diane McGarvey, University of Pennsylvania, USA

**The Value and the Impact of the QBRS Program: A Biobank’s Perspective**
Alison Parry-Jones, Wales Cancer Biobank, Cardiff University, UK

**Lightning Talk: Biobank Assessment Tool (BAT)**
Karolin Bergenstrahle, Biobank Sweden, Uppsala Biobank, Sweden

**Lightning Talk: CTRNet**
Peter Watson, BC Cancer Agency, Canada

**The Impact of the Modified CTRNet Certification Program in Australia**
Jennifer Byrne, New South Wales Health Pathology, The University of Sydney, Australia

**Lightning Talk: College of American Pathology Accreditation**
Shannon McCall, Duke University School of Medicine, USA

**Lightning Talk: ISO 20387**
Paulo Holanda, Bioquallis Consultoria, Brazil

**Standing on the Shoulders of Giants: The Measurable Impact of ISO 20387 Accreditation**
Marta Castelhano, Cornell Biobank, USA

**Panel Discussion**
# SYMPOSIA

## REAL WORLD DATA FOR GLOBAL RESEARCH COLLABORATION

**Chairs:** Marianne Henderson, Wilfredo Marin, Zisis Kozlakidis

Exponential accumulation, processing, and global accrual of large datasets in healthcare is occurring and is only useful with an equally evolving field of data analytics. Access to big data and accompanying analytics can improve disease detection and control; services modelling; prediction of causality and treatment outcomes; and greater patient and disease stratification. Data analysis, such as artificial intelligence-enabled analyses, of large and varied datasets speed discovery and provide access to better personalized patient care.

Expanding the access to data and collaborations between researchers across high income (HICs) and low and middle-income countries (LMICs) is important for health advances for all and the reduction of disease burden worldwide. This session will aim to highlight different global perspectives and drive the discussion forward from today toward the future of biobanking and big data. The goal of this session is to ensure that attendees understand how their collections contribute to the larger question of big data and what changes they may wish to consider in order to address key challenges faced.

**Transforming Data into Knowledge: A Global Perspective on the Microbiome and Drug Response**

Nikhil Sharma, BioCorteX, United Kingdom

**Challenges and Opportunities of Biospecimens Sustainability and Data Sharing: Lessons Learned from Cancer Prevention Studies**

Ying Wang, American Cancer Society, USA

**A Global Training Program for Building Resources and Capacity for Genomics**

Alice Matimba, Wellcome Connecting Science, UK

**Data and Biospecimens from Large Integrated Healthcare Systems: Biomarkers and AI Applications for Risk Prediction**

Nicolas Wentzensen, National Cancer Institute, USA

**Panel Discussion**

Including Rita Lawlor

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## Rising Stars: Next Generation of Biobankers

**Chairs:** Hanh Vu, Zisis Kozlakidis, Deb Leiolani Garcia

This session aims to promote new stars and/or early-stage biobanks, including start-ups and young biobanks, newbie biobankers, and recent achievements of biobanking. It will showcase their milestones, achievements, advancements, and new techniques.

**Establishment of Biobank: Technical Considerations**

Anuj Kumar, National Institute of Cancer Prevention and Research, India

**Challenges and Opportunities of Biobanking in Southeast Asia**

Plebeian Medina, Research Institute of Tropical Medicine, Philippines

**A Plea From The CHM Biobank: Call for Action Towards Rare Diseases and Associated Health Innovation in South Africa**

Engela Conradie, Centre for Human Metabolomics, South Africa

**Biobanking in Africa: The International Cancer Institute’s Journey**

Chite Asirwa, International Cancer Institute, Kenya
# CORPORATE SESSIONS

## An Innovative Solution For Just-in-Time Biobanking

Chris Ianelli, Emily Hubbard, iSpecimen, USA

Advances in and growing accessibility of emerging technologies are breaking new, fertile ground for attainable, next-generation biobanking solutions that address the changing needs of biobanks and researchers alike. Join this active discussion and learn more about a novel platform that can enable the coupling of smart inventory-based and just-in-time approaches, helping to achieve the promise of an active, sustainable biobank.

## Preserving Sample Integrity and Chain of Custody Through Automation

Chairs: Vanessa Tumilasci, Albert Hidalgo, Azenta Life Sciences, USA
Speakers: Wohaib Hasan, Takeda Pharmaceuticals, USA, Susan Garrison, Cornell Veterinary Biobank, USA, Dean Montano, Azenta Life Sciences, USA

The volatile nature of sample integrity often causes immense challenges for biobanks to optimally preserve biospecimens and maintain chain of custody. This workshop will discuss the challenges biobankers face when choosing and implementing storage systems, and the advantages of automation in sample handling and storage to maintain and improve sample integrity.

## CASE STUDY: Large Pharmaceutical Manufacturer Partners with SciSafe, Part of BioLife Solutions, to Build Out Vaccine Storage in Amsterdam, a Global Export Hub

Garrie Richardson, General Manager Storage Services Platform, SciSafe Inc., USA
Nahreen Smyth, Sr. Director, Global Quality Assurance and Regulatory Affairs, SciSafe Inc., USA

“To build or to outsource?” – that is always the question. Follow along as we review our process to quickly build biostorage infrastructure and assist with vaccine distribution – from initial challenges to the lessons learned throughout the process.

## Alternative Storage and Shipping Options for Cryopreservation

Kevin Gilliland, VP Life Science, MVE Biological Solutions, USA

The presentation will be centered around alternative options for storage in difficult to supply locations as well as green storage options. The talk will feature how MVE’s Fusion and Vario products can solve these user needs. Additionally, the appropriate selection of shippers will be addressed.

## Build Your Biobanking House on Solid Footing

Chair: Luke Stewart, Fluidigm, USA
Speakers: Michael Sheldon, Sampled, USA, Michael Denton, Indiana University Genetics Biobank, USA

Biobanks and sample repositories accelerate the scientific journey through leveraged insights provided by precious biological samples. The interdependence between researchers and biobanks is significant. Researchers need to feel confident that received samples match the specification and integrity they require to enable their research. Similarly, biobanks need to ensure that precious specimens are preserved and managed in a manner that allows them to fulfill the purpose intended by their trusting donors.

This workshop discusses challenges in meeting quality expectations (such as validation of sample identity, identification of degraded samples, or non-concordance between accession and pre-distribution sample tests) and the continual improvement process involved in verifying sample integrity within day-to-day biobanking operations. Case studies will reveal how incorporating cost-effective, scalable DNA Fingerprinting methodologies stream-lined Biobank Workstream accession and distribution processes, as well as ensured that provided samples meet both the sample requirement specification and the functional integrity needs of requesting researchers before the samples are sent out.
ABRIDGED PROGRAM

CORPORATE SESSIONS

| Biobanking Modernization with Fit-for-Purpose Technologies for Cold-Storage Management |
| Wilfredo Marin, Thermo Fisher Scientific, USA |
| The future of healthcare and research demands that biobanks not only store increased capacities of biomaterial with associated data but also utilize these samples for research discovery translating into treatments. Biobanks are uniquely positioned beyond infrastructure to maintain sample integrity by creating value metrics, meeting standards and accelerating the pace of data science. As innovations in connectivity emerge, they will facilitate the call for collaboration amongst researchers. This workshop by Thermo Fisher Scientific will discuss when and how to employ end-to-end solutions for a successful biobanking workflow. Our enhanced monitoring and compliance features across the reliable cold-storage family help ensure that the return on investment for modern equipment is sustainable for years to come. |

| New Convection Cooling Technology Significantly Reduces Freeze/Thaw Time Helping to Preserve Sample Integrity and Increase Yield |
| Sylvain Rienteau, Farrar Scientific/Trane Technologies, USA |
| Traditionally, pharmaceutical and bio pharma companies have stored small vial samples in cold wall -80 C freezers. As industry needs have evolved, bulk sample storage has become challenging. Current freezers are not designed to remove the energy from larger sized containers. As a result, chamber temperature recovery is lagged, and uniformity due to lack of air exchange is problematic. Without full redundancy and cooling technology purpose-built for -80 C requirements, yield can be reduced, and quality and sample integrity may be at risk. With limited options for bulk sample cold storage, biopharma manufacturers are forced to build massive lab-scale freezer farms or capital-intensive cold rooms. Recent innovations in small to bulk cold storage technology offer solutions to several of these historical limitations. An overview of the science that enables these advancements and can help drive down the cost-per-liter and space will be provided in this workshop, followed by case studies quantifying operational benefits. We’ll share data that supports a paradigm shift away from reliance on cold wall freezers towards more sustainable integrated air flow systems built on overall temperature uniformity and integrated redundancy. Data demonstrates that modular, scalable solutions are more sustainable as smaller footprints consume less energy and significantly improve air temperature uniformity within the storage chamber (as low as +/- 3.0C Vs existing cold wall -80C ULT freezer at +/- 6.0C). |

| Standardized NMR* Technology: A business opportunity for Biobanks? Panel Discussion & Workshop |
| Alexander Funke, Dresden Clinic and Lab Diagnostics, Germany, Roland Leiminger, Bruker BioSpin, Germany, Glen Gregory, Bruker BioSpin, USA |
| Bruker BioSpin has developed a new Clinical Research NMR platform that provides enhanced QC and phenotype analysis to increase the value of biobank samples. We also believe this standardized solution creates an opportunity for a new biobank offering in the form of a “digital phenotype” with several advantages. We would like to host a panel discussion to explore those concepts with experts in the field and engage in active dialog with the audience. |

*Bruker NMR Instruments are for Research Use Only. Not for Use in Clinical Diagnostic Procedures. |

| Managing High Volume Allogeneic Therapies |
| Mark W. Sawicki, PhD, President and Chief Executive Officer, Cryopart Systems |
| Current storage and distribution systems are ill prepared for the first large indication allogeneic therapy which may require management of 1,000,000 doses of cryogenically stored and distributed therapy annually. This workshop will discuss key considerations for enabling the successful management of this volume of cryogenically preserved and transported therapy. |
BRING YOUR SAMPLES INTO Freezerworks
Sample Management Software

Maximize efficiency with software designed to meet your requirements for sample tracking, study management, and freezer inventory.

Learn more at Booth 307 or freezerworks.com
ISBER would like to thank the many individuals who have volunteered for the ISBER Best Practices, Fifth Edition so far!

**ISBER Best Practices, Fifth Edition Gap Analysis Task Force**
This group developed a comprehensive analysis of the fourth edition and identified gaps to be addressed in the fifth edition.

Clare Allocca (Co-Chair)  
Emma Snapes (Co-Chair)  
Cory Arant  
Marianna Bledsoe  
Annemieke De Wilde  
Sheila O’Donoghue  
Elisabeth Standard  
Peter Watson

**ISBER Best Practices, Fifth Edition Associate Editors**
We are very pleased to have appointed the following volunteer Associate Editors, who are creating the framework for developing the Best Practices, Fifth Edition:

Nina Bertheussen  
Nicola Miller  
Greg Grossman  
Cathy Seiler  
Joachim Silber  
and Jonas Astrin, Special Advisor

**ISBER Best Practices, Fifth Edition Steering Committee**
This group provides the day-to-day oversight and management advice to the ISBER Best Practices

Jane Carpenter  
Daniel Simeon Dubach  
Tamsin Tarling

**Standards Advisory Committee**
This group provides the vision for the ISBER Best Practices and coordinates other programs/products coming out of the Best Practices.

Daniel Simeon-Dubach (Chair)  
Annemieke De Wilde (Vice Chair)  
Monique Albert  
Clare Allocca  
Sergey Anisimov  
Cory Arant  
Karolin Bergenstrahle  
Marta Castelhano  
Yehudit Cohen  
Bonginkosi Duma  
Helena Ellis  
Koh Furuta  
Samantha Higgins  
Shannon McCall  
Karine Sargsyan  
Brent Schacter  
Weiping Shao  
Timothy Sharp  
Emma Snapes  
Carmen Swanepoel  
Ran Wang  
Peter Watson
ABSTRACT SESSIONS

INNOVATIVE TECHNOLOGIES

Chairs: Billy Schleif, Deb Leiolani Garcia

Novel Dry Storage Approach for DNA Preservation at Room Temperature
Marta Martín Ayuso, 300K Solutions, Spain

SARS-CoV-2 Sequencing, Polygenic Risk Scores, and Precision Medicine: High-throughput Solutions
Christian Bixby, Jessica McDevitt, Sampled, USA

Storage Temperature Monitoring: It Is Not One Size Fits All
Michael Rusnack, AmericanPharma Technologies Inc, USA

Biospecimen Matchmaking: The Data-Driven Journey from Internal Spreadsheets to Online Inventories to Just-in-Time Biobanking
Jill Mullan, iSpecimen, USA

Introducing an Advanced Sample Management System to a Clinical Biobank for the Collection and Storage of Human Colorectal Cancer Clinical Samples
David White, Bluechip, USA

CONTRIBUTED PAPER SESSION 1

Chairs: Emma Snapes, Wilfredo Marin

Improving Efficiency of Blood Procurement with a Real-Time Approach
Ada Golowiejko, Duke University, USA

Strategies for Generating the Highest Quality Isogenic iPSC Lines
Azadeh Jadali, Sampled, USA

Linking the Stability of Clinical Proteins in Blood Plasma to ΔS-Cys-Albumin—a Marker of Plasma Exposure to Thawed Conditions
Chad Borges, Arizona State University, USA

The Utility of College of American Pathologists (CAP) Biospecimen Accreditation for Oncology-Based Research Pathology at MSKCC: Lessons Learned and the Path Forward
Joachim Silber, Memorial Sloan Kettering Cancer Center, USA

NCI’s Cancer Moonshot Biobank: Supporting Diversity Through Local Patient Engagement
Helen Moore, National Cancer Institute, USA

CONTRIBUTED PAPER SESSION 2

Chairs: Gregory Grossman, Birendra Kumar Yadav

How Artificial Intelligence Techniques can be Employed to Increase the Success Rate for Identifying Datamatrix Barcodes
Neil Benn, Ziath Ltd, UK

Biobanking: Strengthening Uganda’s Rapid Response to COVID-19 and Other Epidemics
Rogers Kamulegeya, Makerere University, Uganda

Data Mining Pathology Reports for Crucial Biomarkers for Samples Held in a Biobank
Zachery von Menchhofen, University of Pennsylvania Perelman School of Medicine, USA

Integrating Biospecimen Science Approaches into Clinical Assay Development: A National Cancer Institute (NCI) Funding Opportunity for Tissue and Liquid Biopsies (PAR-22-049)
Helen Moore, National Cancer Institute, USA
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## EXHIBITOR LISTING

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