SEIZING BIG OPPORTUNITIES IN BIOBANKING THROUGH DATA, COLLABORATION AND INNOVATION

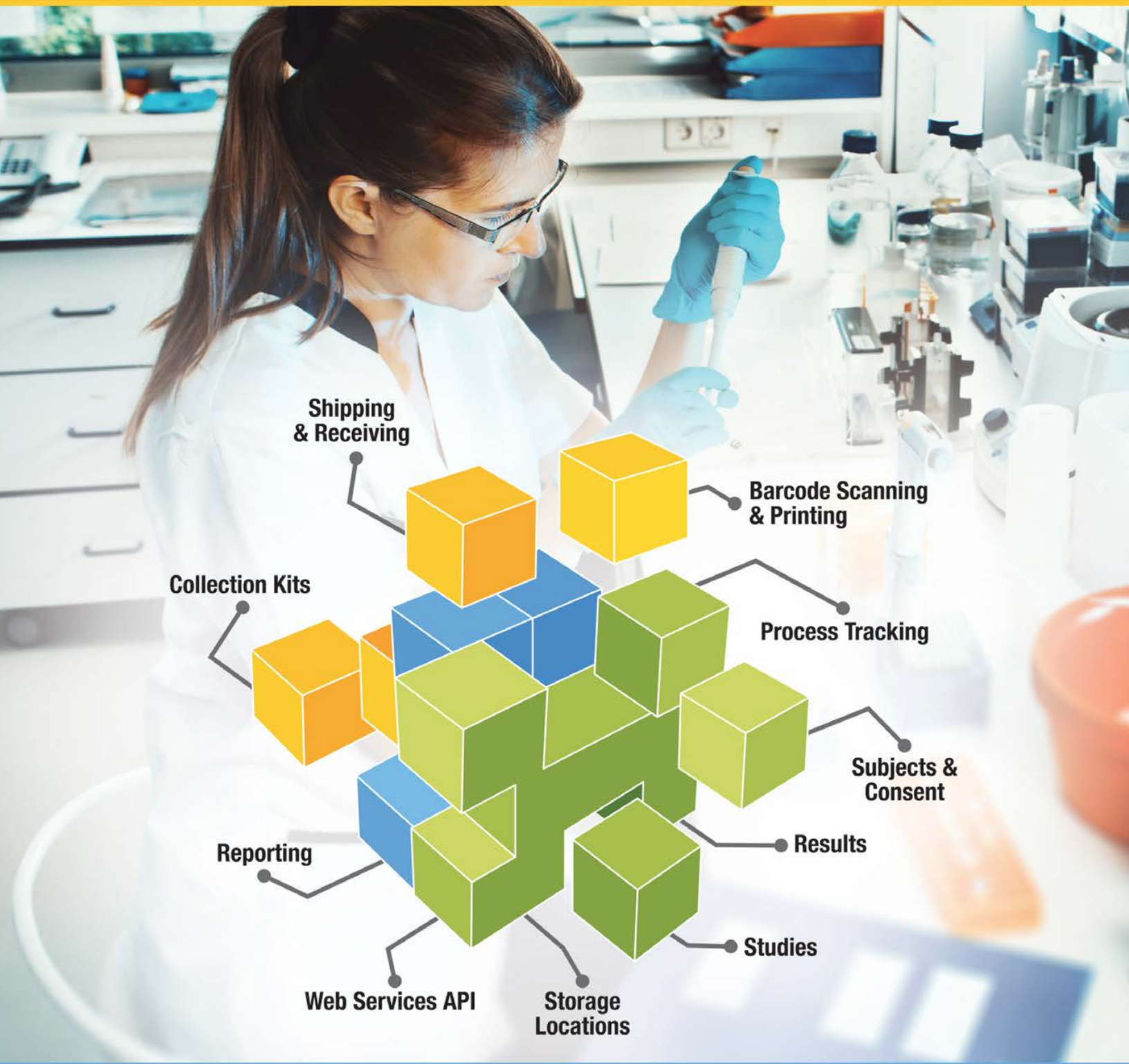
SCIENTIFIC PROGRAM

isber

meetings.isber.org/2018

Connecting Repositories Globally Through Best Practices

CUSTOMIZABLE WEB-BASED
BIOSPECIMEN TRACKING SOLUTION



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INTERNATIONAL SOCIETY FOR BIOLOGICAL AND ENVIRONMENTAL REPOSITORIES

Thinking BIG in TEXAS

ISBER 2018 ANNUAL MEETING & EXHIBITS

May 20 – 24, 2018 • Dallas, USA

ISBER MISSION

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

ISBER VISION

ISBER will be the leading global biobanking forum for promoting harmonized high-quality standards, education, ethical principles, and innovation in the science and management of biorepositories.

International Society for Biological and Environmental Repositories
750 Pender Street, Suite 301, Vancouver, BC V6C 2T7 Canada | T 604.484.5693 | F 604.874.4378

As the leaders in the development of best practices for repositories, ISBER is pleased to announce the release of the

BEST PRACTICES:

Recommendations for Repositories

Fourth Edition

From Collection to Discovery

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INTERNATIONAL SOCIETY FOR BIOLOGICAL AND ENVIRONMENTAL REPOSITORIES

To access the best practices please visit:
www.isber.org/bestpractices

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TABLE OF CONTENTS

MESSAGE FROM THE ISBER SCIENTIFIC PROGRAM COMMITTEE AND PRESIDENT

Dear colleagues and friends,

On behalf of the International Society for Biological and Environmental Repositories (ISBER) Board of Directors and the Co-chairs of the 2018 Annual Meeting and Exhibits, we welcome you to Dallas, Texas, USA.

This year's theme is "Thinking BIG in Texas: Seizing BIG Opportunities in Biobanking Through Data, Collaboration, and Innovation.

Biobanking activity has increased tremendously in the last twenty years and the fruits of the collective labor have started to emerge. Developments in medical, environmental, microbial and veterinary fields have benefitted hugely from the knowledge, experience and activity of biobanks around the world. Biospecimen research and biobanking has been instrumental in facilitating new discoveries, implementing new processes, and creating innovative approaches to problem solving. The challenge now is to keep biobanking current and relevant by learning from successes (and failures), and evolving by updating Best Practices with scientific evidence while creating Standards to harmonize our processes globally. Even in the face of compelling evidence or new innovations, change can be a challenge. To improve, the biobanking community needs to learn from and build on the evidence and experiences presented. When do we 'know better', and how can we 'do better'?

Over the last year, the 2018 Scientific Program Committee has worked hard to ensure that the Annual Meeting delivers interesting, innovative and educational content relevant to all members by catering to each of ISBER's stakeholder groups. Bringing diverse global biobanking communities together in discussion and introducing new biobankers to ISBER will advance not only the Society and the field of biobanking and biospecimen research, but global research capabilities, as well.

PROGRAM HIGHLIGHTS

For the first time, ISBER is hosting pre-conference workshops customized for Repository Technicians while providing topic-driven educational workshops as part of the main conference program. All workshops are designed to inform attendees about specific types of repository activities, and provide great opportunities for learning and knowledge exchange.

Another first for ISBER is the 'Pathway to Discovery'. This is an interactive experience that makes it possible for attendees to observe the biospecimen lifecycle from collection to utilization, while bringing vendors, academic experts, and meeting participants together within the biobanking continuum.

The 2018 Annual Meeting program includes seven Symposia sessions (some with live polling to interact with attendees), four oral Contributed Paper sessions, an Innovative Technologies session, and opportunities to attend special workshops and additional Corporate Partner symposia. Roundtable discussions of hot topics will be held at lunchtime on Thursday, making face-to-face discussion with a small group possible for novices and experts, alike. Additional networking opportunities include: the Welcome Reception on Monday evening, the ISBER Fun Run (or walk) on Tuesday morning, discussions with vendors and interactions with poster presenters in the Exhibition Hall, and a Networking Evening at Eddie Deen's Ranch. ISBER Working Groups and Special Interest Groups (SIG) provide the opportunity for in-person meetings, so please check the schedules and plan to attend. Your participation in ISBER Working Group meetings and SIG discussions is highly encouraged.

SYMPOSIA AND SPECIAL TOPIC SESSIONS

Monday, May 21st

The symposia, which include invited speakers from across biobanking communities, have been developed to provide a foundation for exciting discussions of ideas and innovative solutions in biobanking. Symposium 1, entitled 'Creating Global Impact through Big Ideas and Biobanking: Finding common ground in diversity" showcases four projects from different corners of the biobanking world that have made a global impact by building bridges between stakeholder communities and biobanking sectors. This session will illustrate how big ideas intended for targeted benefit can make an impact across sectors with quality biobanking as an essential element.

Dr. Ignacio Wistuba of MD Anderson Cancer Center is our keynote speaker on Monday morning. He will share his work in the longitudinal profiling of biospecimens, the development of predictive biomarkers for therapies, and MD Anderson's involvement in a national effort to expand the reach of immunotherapy.

Other plenary talks will provide fascinating insight into three important projects including: a review and outlook of giant panda conservation in China, what's been learned, and what the future holds for the effort's stakeholders; an introduction to research being carried out by 23andMe, its work from prediction to prevention, and the cohort that makes it possible; and a look at smartphone science including the implications of consent to app-mediated research.

Symposia 2A and 2B will run concurrently on Monday afternoon. Symposium 2A addresses advocacy in biobanking and Symposium 2B focuses on the importance of building an underlying data structure, governance model, and data sharing policies as critical infrastructure to the growth and evolution of today's biobanks.

Tuesday, May 22nd

On Tuesday morning, Symposium 3A focuses on development of new biobanking capabilities through advances in biopreservation

science and pre-analytics. Concurrently, Symposium 3B will highlight strategic and innovative global approaches to sustainability, by highlighting pharmaceutical, biotechnology, resource-constrained and privately-funded biobanking.

Educational Workshop #2 provides an overview of recent changes made to the ISBER Best Practices. Join us for an expert panel discussion of new inclusions and updates in the Fourth Edition of the ISBER Best Practices for Biological Repositories.

Wednesday, May 23rd

Special Topic Session #1 will highlight the most exciting and popular themes of the highly successful ISBER Biospecimen Science Research Symposium that took place in February 2018 in Luxembourg, Europe.

Thursday, May 24th

On Thursday morning, we open with two concurrent symposia. Symposium 4A takes a fascinating look at how small steps in quality management of any collection type can lead to big results, and provides an update on the progress, future harmonization, and standardization between ISO norms and ISBER Best Practices. Symposium 4B is all about collaboration, with presenters sharing details regarding approaches used in initiating, maintaining and generating collaborations with biobanks in an effort to facilitate sample collection and utilization.

Special Topic Session #2 encourages attendees to consider maximum utilization of biospecimens and the possibility of developing a standard collection set to support future research efforts. Special Topic Session #3 considers the underutilization of specimens in biobanks around the world. The session is a call to action to the biobank community to utilize biospecimens by using a standardized set of "omics" assays, performed on every sample obtained from research participants as a way of "jump-starting" biomarker discovery and predictive medicine through the development of a comprehensive dataset. This "data lake" will strengthen use of novel "in silico" technologies such as artificial intelligence and machine learning which demand larger volumes of data to provide validated inferences on drug success. Special Topic Session #4 provides a review and comparison of ISO, ISBER and CAP standards.

OTHER SESSIONS AND ACTIVITIES

Contributed Papers Sessions and Working Group Meetings

There are four contributed papers sessions during the program. From the 212 submitted abstracts, 28 were selected for oral presentation in two concurrent sessions. An additional 10 abstracts will be presented in the Innovative Technologies session. Two poster sessions will highlight the 164 abstract topics that were accepted as posters, and these will be on display in the Exhibit Hall. The contributed papers sessions and posters demonstrate the diversity of activity across the ISBER membership and provide a sense of the international expertise and breadth of biospecimen research being performed around the world.

Working Group meetings will take place throughout the meeting as indicated in program. All participants are strongly encouraged to participate, contribute and learn through the exchange of experiences and ideas.

5K Fun Run/Walk/Sleep

The 7th Annual Fun Run/Walk/Sleep Event, organized by the ISBER Marketing Committee, is scheduled to begin at 6am on Tuesday, May 22nd. All proceeds will benefit the ISBER Travel Award which provides complimentary registration and travel support for biobankers from emerging countries to attend the ISBER Annual Meeting. Register for the Fun Run/Walk/Sleep at the registration desk on-site and join us for an invigorating Tuesday morning.

ISBER Business Meeting

The ISBER Annual Business Meeting on Wednesday afternoon is your chance to learn about the society's achievements within the last year, and an opportunity to preview exciting new developments. The ISBER President, Zisis Kozlakidis, will announce the results of recent elections for President Elect and Directors-at-Large. He will also present the annual ISBER awards: the ISBER Distinguished Leadership and Service Award, the ISBER Special Service Awards, the ISBER Award for Outstanding Achievement in Biobanking (sponsored by Worthington Industries), the ISBER Founder's Award (sponsored by Chart MVE), the ISBER Travel Award and the 5K Fun Run/Walk/Sleep trophy.

The ISBER Networking Evening

The Networking evening will take place at Eddie Deen's Ranch on Wednesday evening. Dress in your finest evening wear, be casual, or show off your western wear and Go Texan! Enjoy a reception and dinner in your best boots or high heels while you mingle and network with biobanking colleagues from around the world. Make new connections while enjoying a magic show, or learning to rope a steer as we enjoy music, dancing, discussion and fun together. Separate registration is required.

ACKNOWLEDGEMENTS

We would like to thank our invited speakers and workshop presenters for their generous contributions to the program. Additional thanks are due to the many ISBER volunteers whose hands-on involvement in the planning and implementation process made the program possible. Members of the ISBER 2018 Scientific Program Committee and the Organizing Advisory Committee contributed a tremendous amount of time and effort in the last year, resulting in the wonderful program we will soon experience. Additional assistance was provided by the Chairs and members of the Education and Training Advisory Committee and the Member Relations and Marketing Committee who worked so hard to organize the workshops, the 5K Fun Run and the Exhibition.

We greatly appreciate the support received from our vendors, sponsors and Corporate Partners, whose participation also made the meeting possible. Please do visit the Exhibition Hall

to support the vendors and check out the Corporate Partner workshops throughout the meeting schedule.

Finally, we would like to thank the ISBER Head Office staff for their continual support and guidance.

Your feedback is very important to ISBER. The Annual Meeting is developed and produced by the volunteer membership, for the membership, and the success of future Annual Meetings relies on your participation and input. Please complete the electronic survey that will be sent to you at the end of the week as your contribution to future meetings.

On behalf of the ISBER leadership, we welcome you to Dallas, Texas and hope you have an enjoyable, interesting four days filled with thought-provoking presentations, stimulating conversations, networking, and fun!

Marianne Henderson, *MS, CPC*
2018 Program Committee
Co-Chair

Nicole Sieffert, *MBA, CCRC*
2018 Program Committee
Co-Chair

Zisis Kozlakidis, *BSc, PhD, AKC, MBA, FLS*
ISBER President
2017-2018

Join us for an exciting evening at Eddie Deen's Ranch!
Enjoy dinner and network with your colleagues.

Date: Wednesday, May 23, 2018
Time: 7:00 PM – 11:00 PM
Venue: Eddie Deen's Ranch

Tickets available at Registration Desk
Ticket Price: $75 USD

Transportation will be provided from the Hyatt Regency Dallas to Eddie Deen's Ranch.
Please meet in the hotel lobby at 6:30 PM.

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

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Rajeev Singh
Stella Somiari
Tatsuaki Tsuruyama
Amelia Warner
Qing Ye
Lianhai Zhang
Xiaoyan Zhang

ISBER WORKING GROUPS

- Biospecimen Science Working Group
- Rare Diseases Working Group
- Informatics Working Group
- Trans-Omics Working Group
- International Repository Locator Working Group
- Enviro-Bio Working Group
- Pharma Working Group

ISBER SPECIAL INTEREST GROUPS

- Automated Repositories Special Interest Group
- Pediatrics Special Interest Group
- Hospital-Integrated Biorepositories Special Interest Group

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

ISBER AWARD RECIPIENTS

ISBER OUTSTANDING ACHIEVEMENT IN BIOBANKING

The ISBER Award for Outstanding Achievement in Biobanking, sponsored by Worthington Industries, 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.

Jane Carpenter, Australia

WORTHINGTON INDUSTRIES

ISBER FOUNDER'S AWARD

The ISBER Founders Award, sponsored by Chart MVE, recognizes individuals who have provided outstanding leadership to the founding, support, and incorporation of ISBER as an international biobanking society. The recipient of this award is selected by the ISBER Nominating Committee.

Jim Vaught, United States

SECURITY THROUGH MVE SYSTEMS ™

ISBER TRAVEL AWARDS

The ISBER Global Expansion Fund supports efforts to increase ISBER's membership and presence worldwide. The ISBER Travel Award provides travel support for individuals from emerging countries who are planning, or are currently managing a repository to attend the ISBER Annual Meeting.

Amany Abou Elfadel, Egypt

Birendra Yadav, India

Jean Marie Nana, Cameroon

Milcah Dhoro, Zimbabwe

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.

Lori Campbell, United States

ISBER SPECIAL SERVICE AWARDS

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. Awardees are recognized at the ISBER Annual Meetings.

Mark Barnes, United States

Marianna Bledsoe, United States

Andy Brooks, United States

Koh Furuta, Japan

Marianne Henderson, United States

Helen Morrin, New Zealand

Xiaomin Wang, China

Xuexun Zhou, China

GENERAL CONFERENCE INFORMATION

Venue

Hyatt Regency Dallas Hotel
300 Reunion Blvd E, Dallas, TX 75207, USA

Conference App

Download the 2018 Conference App to access to all the conference information and the latest updates. Scan the QR code below to download the app or search "ISBER2018" in your device's app store.

Some sessions will utilize an interactive survey through the ISBER 2018 mobile app – be sure to download the app in advance to participate!

Conference Registration

Trinity A Foyer

Sunday, May 20	12:30 PM – 5:30 PM
Monday, May 21	6:30 AM – 6:30 PM
Tuesday, May 22	7:00 AM – 6:00 PM
Wednesday, May 23	7:00 AM – 5:30 PM
Thursday, May 24	7:00 AM – 4:00 PM

Speaker Services

Trinity A

Sunday, May 20	12:30 PM – 5:30 PM
Monday, May 21	7:00 AM – 5:00 PM
Tuesday, May 22	7:00 AM – 5:00 PM
Wednesday, May 23	7:00 AM – 5:00 PM
Thursday, May 24	7:00 AM – 1:30 PM

Exhibits

Marsalis A/B

EXHIBIT INSTALLATION:

Sunday, May 20	12:00 PM – 5:00 PM
Monday, May 21	9:00 AM – 4:00 PM

EXHIBIT TAKEDOWN:

Wednesday, May 23	4:15 PM – 8:00 PM

EXHIBIT HOURS:

Monday, May 21	4:00 PM – 8:00 PM
Tuesday, May 22	9:30 AM – 7:30 PM
Wednesday, May 23	9:30 AM – 4:00 PM

ANNUAL MEETING REGISTRATION (PRICES IN USD)

	REGULAR RATE	ON-SITE RATE
Member	$930	$1,055
Non-Member	$1,230	$1,355
Technician/Student	$680	$700
One Day Pass	$500	$500
Exhibit Hall Pass	$395	$395

Full Conference Registration:

Includes participation in all scientific sessions, mid-week educational workshops, delegate bag, refreshments and conference meals, welcome reception and the exhibitor and poster networking event.

Exhibit Hall Pass:

Access to the exhibit hall, conference meals served in the exhibit hall, the welcome reception, and the exhibitor and poster networking event.

Pre-Conference Workshops for Technicians

Date: Sunday, May 20, 2018 | 1:00PM – 5:00PM

Fee: $90.00 USD

Please note that registration for the Technician Workshop is available as an add-on item to your conference registration.

The workshop will examine the activities of sample collection, processing, storage, and shipping operations. Several questions will be addressed regarding the successful maintenance of sample supply cold chain, tools available for sample processing and challenges met in biological and environmental repositories. In addition, small groups will hold detailed discussions of how these activities are executed within their respected space and provide practical insight to the challenges faced by technicians.

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

Educational Workshops

TUESDAY, MAY 22, 2018 – 3:00 PM – 4:00 PM

Educational Workshop 1: Returning Individual Genetic Research Results: Challenges and Responsibilities	***Cumberland A/B/C***
Educational Workshop 2: ISBER Best Practices: Recommendations for Repositories 4th Edition Update	***Cumberland F/G/H***
Educational Workshop 3: Accessing Human Samples to Deliver New Medicines for Patients: An Industry Perspective	***Cumberland J/K/L***

WEDNESDAY, MAY 23, 2018 – 11:45 AM – 1:00 PM

Educational Workshop 4: Designing and Maintaining a Human Tissue Repository, Part 1	***Cumberland A/B/C***
Educational Workshop 5: The Revised Common Rule: Practical Implementation Challenges for Biorepositories and Strategies for Addressing Them	***Cumberland F/G/H***

WEDNESDAY, MAY 23, 2018 – 1:45 PM – 3:30 PM

Educational Workshop 6: Designing and Maintaining a Human Tissue Repository, Part 2	***Cumberland A/B/C***
Educational Workshop 7: Animals, Plants, Environments, and Humans – How to Leverage Cross-Sector Collaborations to Increase Your Biobank's Sustainability	***Cumberland F/G/H***
Educational Workshop 8: Guidelines for Choosing a Biobank Informatics System	***Cumberland J/K/L***

THURSDAY, MAY 24, 2018 – 1:15 PM – 2:15 PM

Special Topic Workshop: ISO, ISBER and CAP, Oh My!	***Landmark A/B***

5K Fun Run/Walk/Sleep

(Separate Registration Required)

Date: Tuesday, May 22, 2018
Time: 6:00 AM – 7:30 AM
Location: Meet at 6:00 AM at the Hyatt Regency Dallas Hotel Lobby.
Transportation to and from the location will be provided.
Ticket Price: $40 USD for pre-registration, $50 USD for on-site registration.

ISBER Networking Evening and Dinner

(Separate Registration Required)

Date: Wednesday, May 23, 2018
Time: 7:00 – 11:00 PM
Venue: Eddie Deen's Ranch
Ticket Price: $75 USD

Transportation to and from the venue will be provided. Please meet in the hotel lobby by 6:30 PM.

Tickets are available at the registration desk.

Certificates of Attendance

All attendees will receive a certificate of attendance after completion of the post-conference evaluation which will be distributed via email following the meeting.

WIFI

Hotel guests will have access to complimentary WiFi included with their stay.

Non-hotel guests can access WiFi by connecting to the network "**ISBER2018**". The password is "**ISBER2018**".

Plenary Session Webcast

Please note that the Plenary Session on May 21, 2018 will be broadcasted live and recorded.

The webcast can be viewed at: www.isber.org/webcast on May 21, 2018 from 9:15 AM – 12:15 PM.

Use the hashtag #ISBERLIVE on Twitter and Facebook to participate in the conversation!

Poster Presentation Information

Poster Set-Up: Monday, May 21 from 4:00 PM – 5:00 PM — ***Marsalis A/B***
Poster Tear-Down: Wednesday, May 23 from 3:30 PM – 4:00 PM — ***Marsalis A/B***

SESSION 1: WELCOME RECEPTION, MONDAY, MAY 21, 5:30 PM – 8:00 PM

Poster presenters will be at their posters from 6:30 PM to 7:30 PM — ***Marsalis A/B***

Biospecimen Research
Innovative Technologies (Academic)
Human Specimen Repositories
Biobanking Profiles

SESSION 2: EXHIBITOR & POSTER NETWORKING EVENING, TUESDAY, MAY 22, 5:45 PM – 7:30 PM

Poster presenters will be at their posters from 6:00 PM to 7:00 PM — ***Marsalis A/B***

Information Technologies
Repository Management
Biobanking Tools
Luxembourg Encore: Biospecimen Research and Quality
Biospecimen Quality
Ethical, Legal, and Social
Hot Topics
Repository Automation Technology
Repository Standards

SIGN UP FOR THE 5K FUN RUN AND HELP RAISE FUNDS FOR THE ISBER TRAVEL AWARDS!

NOT A RUNNER? JOIN THE GROUP TO WALK OR SIGN UP TO SLEEP IN!
All proceeds will be used to fund the ISBER Travel Award program.

Date: Tuesday, May 22, 2018
Time: 6:00 AM – 7:30 AM
Location: Hyatt Regency Dallas Hotel Lobby

Ticket Price: $40 USD for pre-registration,
$50 USD for on-site registration
Tickets available at the registration desk

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Please meet at 6:00 AM at the Hyatt Regency Dallas Hotel Lobby to be escorted to the starting point.

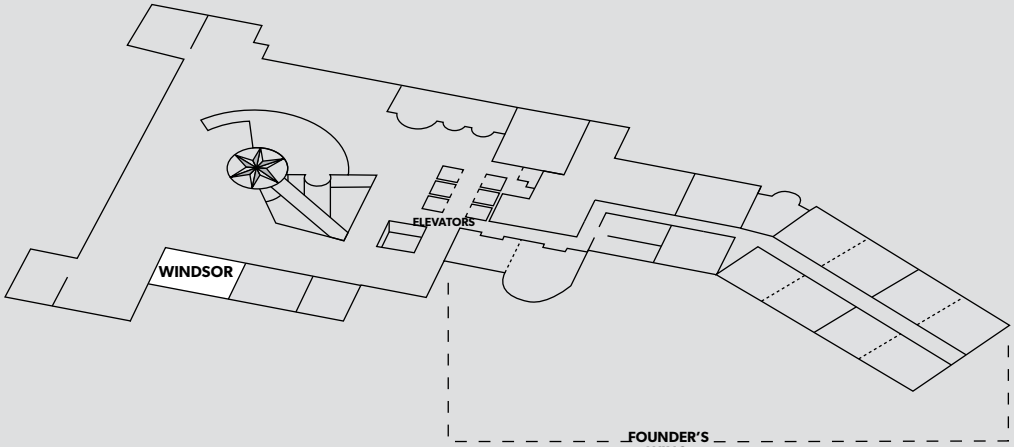
ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

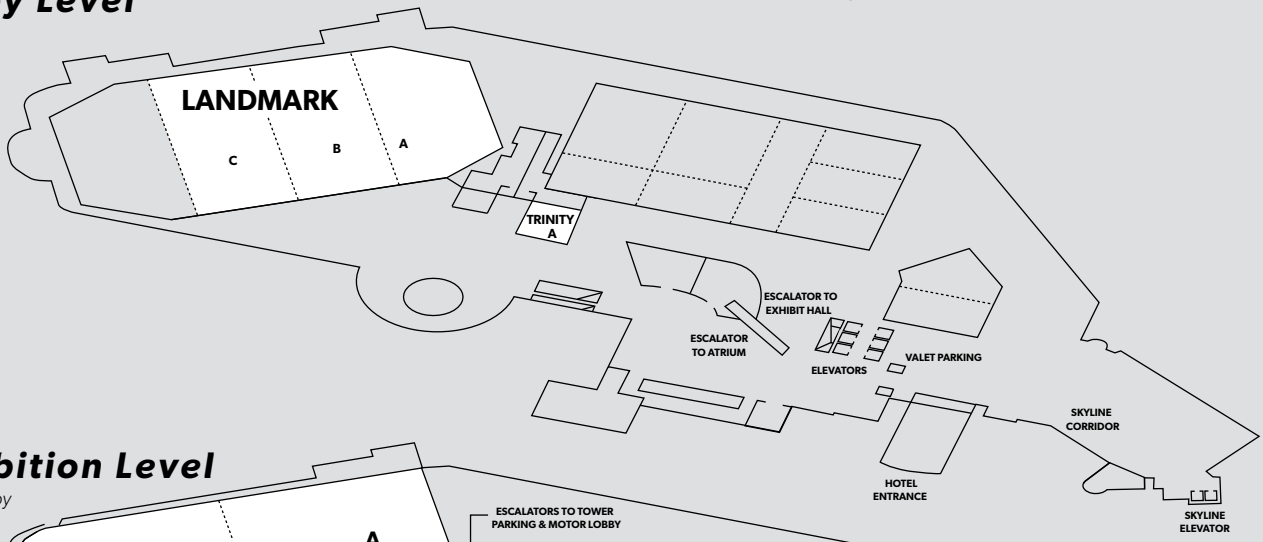
VENUE MAP

Atrium Level

Above Lobby



Lobby Level



Exhibition Level

Below Lobby

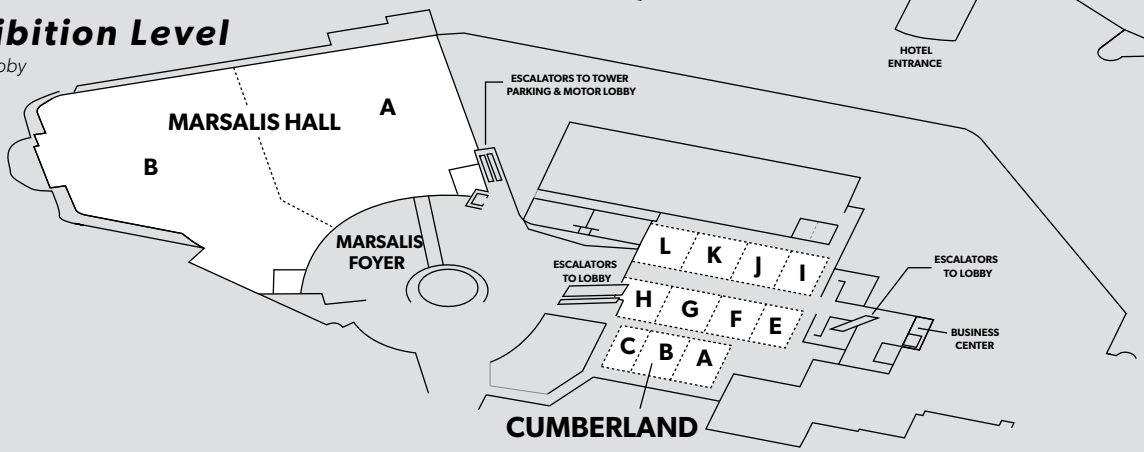


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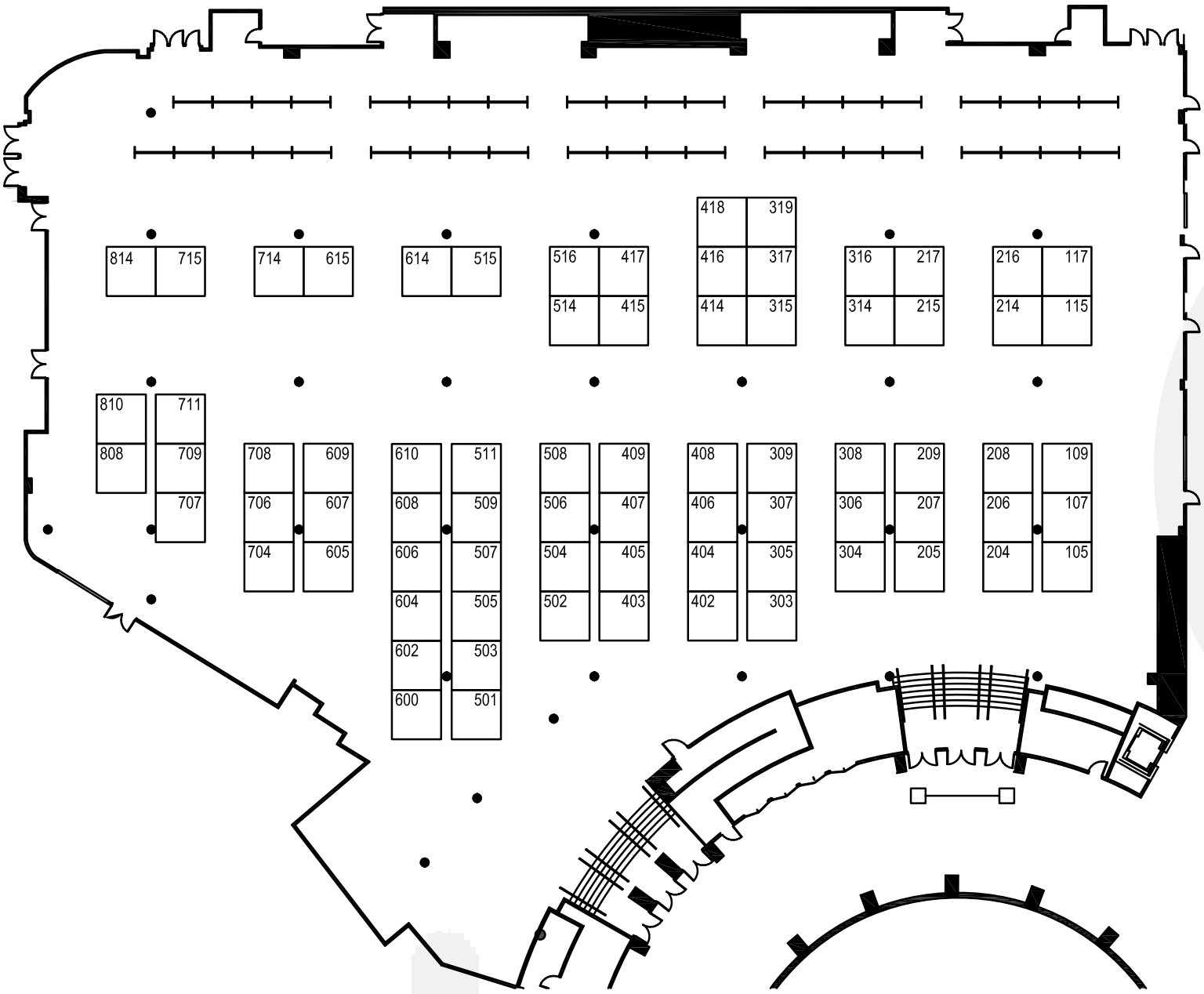
EXHIBIT FLOOR MAP



EXHIBITOR LISTING

COMPANY NAME	STAND NUMBER
Abbott Informatics	615
Advanced Analytical Technologies, Inc.	600
Agilent Technologies	403
Autoscribe Informatics Inc.	405
Bahnson Environmental Specialties	609
BBMRI-ERIC	117
Biologix Group Limited	416/418
BioMicroLab	319
Biosero/ Ziath Ltd.	715
BioTillion	605
Bluechiip	515
Brooks Life Sciences	402/303
BSI Systems	514/415
Chart MVE	304/205
CloudLIMS.com	105
College of American Pathologists	407
Coriell Institute for Medical Research	408
Cryo Bio System	502
Cryotherm	508
Custom Biogenic Systems	505/507/509
Data + Research	608
Ellab, Inc.	614
Freezerworks	711
Frontier Science	316
GA International	516
Genepoint Biological Technology (China) Co., Ltd.	704/706
Genohm Inc.	506
Gold Sim Group	305/307
Greiner Bio-One North America, Inc.	215
Hamilton Storage	204

COMPANY NAME	STAND NUMBER
ISBER	217
ISBER Tool Booth	216
iSpecimen	309
KAYE	314
Klatu Networks, Inc.	808
Labcon	707
LabConnect	810
LabVantage Solutions, Inc.	501
Liconic Instruments	406
LVL Technologies/Phenix Research	414/315
Micronic	107
MODUL-BIO	417
National Disease Research Interchange	504
OpenSpecimen	409
Perkin Elmer	714
PHC Corporation of North America (PHCNA)	206/207
PRIM&R	115
Rees Scientific	317
RUCDR Infinite Biologics	404
Scinomix	214
So-Low Environmental Equipment Co.	602
Stirling Ultracold	814
SuprTecBox Ltd.	604
Thermo Fisher Scientific	308/209
Titian Software US Inc.	709
TTP Labtech	708
TubeWriter	607
TWD Tradewinds, Inc.	503
Unchained Labs	306
Worthington Industries	208/109

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

CONFERENCE AT A GLANCE

SUNDAY, MAY 20, 2018

8:30 AM – 5:30 PM	ISBER Board Meeting *(Invitation Only)*	***Windsor***
12:00 PM – 5:00 PM	Exhibit Installation	***Marsalis A/B***
1:00 PM – 5:30 PM	Marble Arch Meeting *(Invitation Only)*	***Cumberland I***
1:00 PM – 5:00 PM	Technician Workshop	***Cumberland J/K/L***
12:30 PM – 5:30 PM	Registration Open	***Trinity A Foyer***
12:30 PM – 5:30 PM	Speaker Services Open	***Trinity A***
5:30 PM – 7:00 PM	BIO Editorial Meeting *(Invitation Only)*	***Cumberland E***

MONDAY, MAY 21, 2018

6:30 AM – 6:30 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
7:00 AM – 8:00 AM	Committee Meetings	***Cumberland H/G/F***
8:00 AM – 9:00 AM	Getting to Know ISBER	***Landmark A/B***
8:30 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer***
9:00 AM – 4:00 PM	Exhibitor Installation	***Marsalis A/B***
9:15 AM – 12:15 PM	Symposium 1 (Plenary)	***Landmark A/B***
10:15 AM – 10:45 AM	Coffee Break	***Landmark Foyer***
12:15 PM – 1:30 PM	Corporate Lunch Symposium	***Landmark C***
12:15 PM – 1:30 PM	General Lunch	***Landmark C Foyer***
1:30 PM – 4:00 PM	Symposium 2A/2B *(Concurrent)*	***Landmark A/B • Cumberland J/K/L***
2:45 PM – 3:05 PM	Coffee Break	***Landmark Foyer***
4:00 PM – 5:00 PM	Poster Installation	***Marsalis A/B***
4:00 PM – 8:00 PM	Exhibit Hall Open	***Marsalis A/B***
4:00 PM – 5:00 PM	Working Group Meetings	***Cumberland E/F/G/H***
5:30 PM – 8:00 PM	Welcome Reception	***Marsalis A/B***

TUESDAY, MAY 22, 2018

6:00 AM – 7:30 AM	5K Fun Run/Walk/Sleep	***Meet at Hyatt Regency Hotel Lobby***
7:00 AM – 6:00 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
7:45 AM – 8:45 AM	Corporate Workshops	***Cumberland A/B/C • Cumberland F/G/H***
8:30 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer & Cumberland Foyer***
9:00 AM – 12:00 PM	Symposium 3A/3B *(Concurrent)*	***Landmark A/B • Cumberland J/K/L***
9:30 AM – 7:30 PM	Exhibit Hall Open	***Marsalis A/B***
10:30 AM – 11:00 AM	Coffee Break	***Marsalis A/B***
12:15 PM – 1:30 PM	Corporate Lunch Symposium	***Landmark C***
12:15 PM – 1:30 PM	General Lunch	***Marsalis A/B***
1:30 PM – 2:30 PM	Innovative Technologies	***Landmark A/B***
2:30 PM – 3:00 PM	Coffee Break	***Marsalis A/B***
3:00 PM – 4:00 PM	Workshop 1/2/3 *(Concurrent)*	***Cumberland A/B/C, F/G/H, J/K/L***

TUESDAY, MAY 22, 2018

4:15 PM – 5:45 PM	Contributed Paper Sessions 1 & 2 *(Concurrent)*	***Landmark A/B • Landmark C***
5:45 PM – 7:30 PM	Exhibitor and Poster Networking Evening	***Marsalis A/B***

WEDNESDAY, MAY 23, 2018

7:00 AM – 5:30 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
7:15 AM – 8:15 AM	Shanghai Focus Group	***Landmark C***
8:15 AM – 9:15 AM	Corporate Workshops	***Cumberland A/B/C, F/G/H, J/K/L***
9:00 AM – 10:00 AM	Coffee & Pastries	***Landmark Foyer & Cumberland Foyer***
9:30 AM – 11:45 AM	Contributed Papers Sessions 3 & 4	***Landmark A/B • Landmark C***
9:30 AM – 4:00 PM	Exhibit Hall Open	***Marsalis A/B***
10:00 AM – 10:30 AM	Coffee Break	***Marsalis A/B***
11:45 AM – 1:00 PM	Workshop 4/5 *(Concurrent)*	***Cumberland A/B/C • Cumberland F/G/H***
11:45 AM – 1:00 PM	Spotlight on the ISBER Biospecimen Research Symposium: Quality Matters	***Cumberland J/K/L***
12:45 PM – 1:45 PM	General Lunch in Exhibit Hall	***Marsalis A/B***
1:45 PM – 3:30 PM	Workshop 6/7/8 *(Concurrent)*	***Cumberland A/B/C, F/G/H, J/K/L***
3:30 PM – 4:00 PM	Poster Takedown	***Marsalis A/B***
3:30 PM – 4:00 PM	Coffee Break	***Marsalis A/B***
4:00 PM – 5:00 PM	ISBER Annual Business Meeting	***Landmark A/B***
4:15 PM – 8:00 PM	Exhibitor Takedown	***Marsalis A/B***
5:15 PM – 6:00 PM	Platinum Partner Meeting with the BOD	***Cumberland A/B/C***
7:00 PM – 11:00 PM	ISBER Networking Evening	***Offsite: Eddie Deens Ranch***

THURSDAY, MAY 24, 2018

7:00 AM – 4:00 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 8:00 AM	Working Group Meetings	***Cumberland E, Cumberland I***
7:00 AM – 1:30 PM	Speaker Services Open	***Trinity A***
7:00 AM – 8:00 AM	Vendor Meeting	***Windsor***
8:45 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer & Cumberland Foyer***
8:00 AM – 9:00 AM	Corporate Workshops	***Cumberland A/B/C, F/G/H, J/K/L***
9:15 AM – 12:15 PM	Symposium 4A/4B *(Concurrent)*	***Landmark A/B • Cumberland J/K/L***
10:15 AM – 10:45 AM	Coffee Break	***Landmark Foyer & Cumberland Foyer***
12:15 PM – 1:15 PM	Roundtable Discussions	***Cumberland F/G/H***
12:15 PM – 1:15 PM	Special Topic Roundtable: Catalyzing Biobanks for Deeper Molecular Phenotyping	***Cumberland J/K/L***
12:15 PM – 1:15 PM	General Foyer	***Cumberland Foyer***
1:15 PM – 2:15 PM	Special Topic Workshop: ISO and ISBER and CAP, Oh my!	***Landmark A/B***
2:15 PM – 2:30 PM	Coffee Break	***Landmark Foyer***
2:30 PM – 3:30 PM	Working Group Meetings	***Cumberland E/F/G/H/I***
3:30 PM – 4:30 PM	Committee Meetings	***Cumberland A/B/E/F/G/I***
5:30 PM – 7:00 PM	ISBER Board Meeting *(Invitation Only)*	***Windsor***

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

CONFERENCE PROGRAM

SUNDAY, MAY 20, 2018

8:30 AM – 5:30 PM	**ISBER BOARD MEETING** *(Invitation only)*	***Windsor***
12:00 PM – 5:00 PM	Exhibit Installation	***Marsalis A/B***
1:00 PM – 5:30 PM	**MARBLE ARCH MEETING** *(Invitation only)*	***Cumberland I***
1:00 PM – 5:00 PM	**TECHNICIAN WORKSHOP** *(Pre-registration required)* ***Chairs: Diane McGarvey*** *(USA)****, Balwir Matharoo-Ball*** *(UK)* Part 1: Sample Collection ***Lead Presenter: Amanda Moors*** *(USA)* • ***Lead Technician: Susan Garrison*** *(USA)* Part 2: Storage Environment ***Lead Presenter: Alex Esmon*** *(USA)* • ***Lead Technician: Lauren Brehm*** *(USA)*	***Cumberland J/K/L***
12:30 PM – 5:30 PM	Registration Open	***Trinity A Foyer***
12:30 PM – 5:30 PM	Speaker Services Open	***Trinity A***
5:30 PM – 7:00 PM	**BIO EDITORIAL MEETING** *(Invitation only)*	***Cumberland E***

MONDAY, MAY 21, 2018

6:30 AM – 6:30 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
7:00 AM – 8:00 AM	**COMMITTEE MEETINGS** Science Policy ***Cumberland H*** · Education and Training ***Cumberland G*** · Program 2018/2019 and OAC ***Cumberland F***	
7:30 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer***
8:00 AM – 9:00 AM	**GETTING TO KNOW ISBER**	***Landmark A/B***
9:00 AM – 4:00 PM	Exhibit Installation	***Marsalis A/B***
9:15 AM – 12:15 PM	**SYMPOSIUM 1 (PLENARY): CREATING GLOBAL IMPACT THROUGH BIG IDEAS AND BIOBANKING: FINDING COMMON GROUND IN DIVERSITY**	***Landmark A/B***

Chairs: Marianne Henderson *(USA)****, Weiping Shao*** *(USA)****, Nicole Sieffert*** *(USA)*

Big ideas can have global impact by building bridges between stakeholder communities and biobanking sectors. The most successful big ideas leverage knowledge and resources for broad benefit rather than a single scientific discovery or a specific application. This session will illustrate how big ideas intended for targeted benefit can create global impact across sectors with quality biobanking as an essential element.

9:15 AM – 9:30 AM	ISBER Welcome and Opening Remarks Zisis Kozlakidis, *ISBER President*
9:30 AM – 10:15 AM	Keynote Lecture: Longitudinal Profiling of Biospecimens and Development of Predictive Biomarkers for Therapies – MD Anderson APOLLO Program Ignacio I. Wistuba, *UT MD Anderson Cancer Center, USA*
10:15 AM – 10:45 AM	Coffee Break
10:45 AM – 11:15 AM	Establishment and Application of Genome Resource Bank (GRB) for Endangered Wildlife Endemic to China at Chengdu Research Base of Giant Panda Breeding James Ayala, *Chengdu Research Base of Giant Panda Breeding, China*
11:15 AM – 11:45 AM	From Prediction to Prevention with the 23andMe Cohort Sarah Laskey, *23andMe, USA*
11:45 AM – 12:15 PM	Smartphone Science: Consent to App-Mediated Research Michael Lang, *McGill University, Canada*

CORPORATE LUNCH SYMPOSIUM 1: TAKE YOUR QUANTS TO THE NEXT LEVEL WITH LUNATIC — ***Landmark C***

**Lunch will be provided for all symposium attendees*

Presenter: Dina Finan, *PhD Marketing Manager Analytics, Unchained Labs*

12:15 PM – 1:30 PM

Lunatic makes batch quantification of protein, DNA, and RNA easier and more accurate than ever, with just 2 µL and 5 minutes required for measuring up to 96 samples at a time. Even better, samples can be run straight up, without any dilutions. Material from sources like whole blood or plasma, which are increasingly important for research and diagnostics, can be messy and susceptible to degradation. It is critically important to be able to qualify and quantify before moving on with your analysis. Lunatic goes beyond the capabilities of standard UV/Vis instruments, by helping you correct for impurities and giving you more robust tools to assess the quality of precious samples.

UNCHAINED LABS

12:15 PM – 1:30 PM — General Lunch — ***Landmark C Foyer***

SYMPOSIUM 2A: ADVOCACY IN BIOBANKING — ***Landmark A/B***

Chairs: Daniel Catchpoole *(Australia)****, Billy Schleif*** *(USA)*

Advocates for specific diseases, population groups or environmental causes are entering the biobank-driven research domain. As research shifts from specific hypothesis-driven, investigator-initiated studies to broad data-driven collaborations, there is increasing reliance on systematic biobanking to interact with individual donors to enable the supply of biospecimens required for these big studies. The goal of advocates is to ensure that the voices of individual donors are heard and their concerns are addressed. This session will explore the role of advocacy within biobanking in both the human (biomedical) and animal/environmental domains. Key questions to be addressed include the role advocates have in guiding biobank establishment and operations, directing research and ensuring its impact, and determining governance policies involving biospecimens. How should biobanks partner with advocates and what is the key to strengthening these relationships – empowerment or education?

Symposium 2A/2B (Concurrent)
1:30 PM – 4:00 PM

1:30 PM – 1:55 PM	Advocacy in Biobanking James O'Leary, *Genetic Alliance, USA*
1:55 PM – 2:20 PM	Advocacy in Biobanking: A Pediatric Cancer Perspective Vickie Buenger, *Texas A&M, Coalition Against Childhood Cancer, USA*
2:20 PM – 2:45 PM	A Framework for Indigenous Biobanking Ngaire Brown, *NGAOARA, Australia*
2:45 PM – 3:05 PM	Coffee Break
3:05 PM – 3:30 PM	Coral Cryopreservation – Can Biobanks Help Save Coral Reefs? Mary Hagedorn, *Smithsonian Institution, USA*
3:30 PM – 4:00 PM	Panel Discussion

SYMPOSIUM 2B: DATA TODAY AND TOMORROW: HOW BIOBANKS CAN PREPARE FOR TRANSLATIONAL MEDICINE — ***Cumberland J/K/L***

Chairs: Cheryl Michels *(USA)****, Amelia Warner*** *(USA)*

Biorepositories are important sources for building large datasets that fundamentally escalate understanding of disease mechanism and treatment efficacy. Building the underlying data structure, governance model, and data sharing policies are critical to allow growth and evolution for today's biorepositories. This session aims to target items for consideration to make biorepositories of 2018 part of the Big Data Analytics of the future. Session organized by Amelia Warner.

1:30 PM – 1:55 PM	Data Influences on Specimen Utility EJ Kulbokas, *Bristol-Myers Squibb, USA*
1:55P M – 2:20 PM	Data-Driven Research and Decision-Making in Agribusiness Hans van Leeuwen, *Bayer CropScience, Belgium*
2:20PM – 2:45 PM	Building Biorepositories to Fit into Big Data Structures of the Future Peter Tearle, *Global Specimen Solutions, USA*
2:45 PM – 3:05 PM	Coffee Break
3:05 PM – 3:30 PM	Alopecia Areata Registry, Biobanking & Clinical Trials Network Brigitte Sallee, *Columbia University, USA*
3:30 PM – 4:00 PM	Panel Discussion

COMMITTEE MEETINGS

4:00 PM – 5:00 PM

Pediatric SIG ***Cumberland H***	Rare Diseases WG ***Cumberland G***	Informatics WG ***Cumberland F***	Automated Repositories SIG ***Cumberland E***

4:00 PM – 5:00 PM — Poster Installation — ***Marsalis A/B***

5:30 PM – 8:00 PM — **WELCOME RECEPTION** — ***Marsalis A/B***

Join us for light refreshments and a chance to meet your colleagues

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

TUESDAY, MAY 22, 2018

6:00 AM – 7:30 AM	**5K FUN RUN/WALK/SLEEP** *(Pre-registration Required)* Meet at the lobby of the Hyatt Regency Dallas hotel to be escorted to the starting point for a beautiful run/walk through the Dallas area.	***Meet at Hyatt Regency Dallas Hotel Lobby***
7:00 AM – 6:00 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
(Concurrent) 7:45 AM – 8:45 AM	**CORPORATE WORKSHOP 1: BIOBANKING SAMPLES AND THE NEED TO RAISE THE STANDARD – ARE YOUR SAMPLES FIT FOR PURPOSE?** ***Presenter: Yves-Edouard Herpe,*** *PhD, MBA, Biobank de Picardie and* ***Nahid Turan,*** *PhD, Coriell Institute for Medical Research* Whether you store samples for academia, industry partners or clinical researchers, the characterization of your samples is extremely important to your customers and their downstream applications.The first talk will yield insight into how using automated electrophoresis can provide your customers and partners with information on integrity and concentration of their nucleic acids. Also learn how to ensure that scientists have access to standard reference material, meaning laboratories can be secure in their methodologies and confident with their results.	***Cumberland A/B/C***
	CORPORATE WORKSHOP 2: INDUSTRY ACCELERATORS AND COMPONENTS ASSIST IN IMPLEMENTING CLIA DIAGNOSTIC LABS BEST PRACTICES INTO PRODUCTION FASTER ***Presenter: Jeramy Webb,*** *Technical Solution Specialist, Labvantage Solutions* Whether you operate a clinical or molecular diagnostics, hospital core facility or are a contract diagnostic provider LV will describe how to get into production faster. We will review best practices in informatics functionality, documentation and workflows through preconfigured components. Turning your paper SOPs and 'traveler sheets' into electronic forms that provide better control and oversight into the data and sample handling especially in a CLIA validated environment.	***Cumberland F/G/H***
8:30 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer & Cumberland Foyer***
Symposium 3A/3B (Concurrent) 9:00 AM – 12:00 PM	**SYMPOSIUM 3A: BIG INNOVATIONS IN BIOSPECIMEN SCIENCE: UNLOCKING A NEW WORLD OF BIOBANKING CAPABILITIES THROUGH ADVANCES IN BIOPRESERVATION SCIENCES AND BIOSPECIMEN PRE-ANALYTICS** ***Chairs: Stella Somiari*** *(USA)****, Jason Acker*** *(Canada)* Collaborative efforts are underway between public, private, and industry partners to advance biospecimen research in a variety of fields. These efforts include data exchange, data harmonization and improvement of research protocols. Current advances in biomedical science, conservation, biodiversity, cryobiology and the systematic investigation into the impacts of pre-analytical variables will guide research and set new standards for future sample collection, processing, and storage.	***Landmark A/B***

9:00 AM – 9:30 AM	BloodPAC: Establishing Standards to Accelerate Development and Approval of Liquid Biopsy Technology Tony Dickherber, *National Cancer Insitute, USA and* Lauren Leiman, *Blood Profiling Atlas in Cancer, USA*	
9:30 AM – 10:00 AM	Urine Preservation for the Next Generation Biomarker Discovery Youhe Gao, *Beijing Normal University, China*	
10:00 AM – 10:30 AM	Ice Recrystallization Inhibitors for Cryopreservation – A Modern Solution to an "Old" Problem Robert Ben, *University of Ottawa, Canada*	
10:30 AM – 11:00 AM	Coffee Break	***Marsalis A/B***
11:00 AM – 11:30 AM	Conservation of Aquatic Resources: The Long Road to Fish Embryo Cryopreservation Using Infrared Laser Warming Mary Hagedorn, *Smithsonian Institution, USA*	
11:30 AM – 12:00 PM	Panel Discussion	

SYMPOSIUM 3B: SUSTAINABILITY IN MOTION: BIOBANKING TAKES STRATEGIC DIALOGUE AND INNOVATION

Cumberland J/K/L

Chairs: Marianne Henderson *(USA)****, Daniel Simeon-Dubach*** *(Switzerland)****, Kirstin Goldring*** *(UK)*

Sustainability in biobanking requires innovative business strategies for organizations of all sizes. A successful sustainability plan is a living, breathing framework that needs to be discussed, reviewed, perhaps revised and re-envisioned to meet the goals for growth and scientific direction of the organization and all of its stakeholders (biobank staff, researchers, leadership, funders, industry, community, and others). This session will highlight innovative ways that the biobanks being presented have met the challenges to their biobank's sustainability.

Symposium 3A/3B (Concurrent)
9:00 AM – 12:00 PM

9:00 AM – 9:10 AM	Introduction to Sustainability in Motion – Partnerships/Collaborations/Innovations
9:10 AM – 9:35 AM	Technology Drives Operational Efficiency and Stewardship at Bayer Laura Lampa, *Bayer, USA*
9:35 AM – 10:00 AM	Academic-Pharma Collaboration and Sustainability Hiroyuki Kobayashi, *Takeda, Japan*
10:00 AM – 10:25 AM	Development of a Biobank for Research in an Academic Institution in Indonesia: How to Keep on Going Jajah Fachiroh, *Faculty of Medicine Universitas Gadjah Mada, Indonesia*
10:25 AM – 10:30 AM	Opening of Interactive Survey on Sustainability
10:30 AM – 11:00 AM	Coffee Break ***Marsalis A/B***
11:00 AM – 11:25 AM	Venture Capital Perspective: Biobanks as a Starting Point for Business Ecosystems Tanja Dowe, *Debiopharm Innovation Fund, Switzerland*
11:25 AM – 12:00 PM	Panel Discussion

9:30 AM – 7:30 PM — Exhibit Hall Open ***Marsalis A/B***

CORPORATE LUNCH SYMPOSIUM 2: IMPLEMENTATION OF GENETIC ANALYSIS IN COMPREHENSIVE BIOBANKING WORKFLOWS FOR BASIC SCIENCE, CLINICAL RESEARCH AND PRECISION MEDICINE APPLICATIONS

Landmark C

**Lunch will be provided for all symposium attendees*

Presenter: Andrew Brooks, *COO, RUCDR Infinite Biologics, Professor of Genetics, Rutgers University*

12:15 PM – 1:30 PM

The importance of genetics as a function of biosample classification across many different scientific disciplines has led to a growing number of strategies for genetic characterization. The increased number of samples being collected in conjunction with new technologies for genetic analysis has created new opportunities for assessing sample identity, subject qualification for clinical trials and real-time genetic analysis for research and discovery programs. This symposium will describe the technical, operational and scientific impact of these new opportunities.

ThermoFisher SCIENTIFIC

12:15 PM – 1:30 PM — General Lunch ***Marsalis A/B***

TUESDAY, MAY 22, 2018

INNOVATIVE TECHNOLOGIES — ***Landmark A/B***

Chairs: Weiping Shao *(USA)****, David Lewandowski*** *(USA)****, Andy Zaayenga*** *(USA)*

1:30 PM – 2:30 PM	1:30 PM – 1:35 PM	Introduction
	1:35 PM – 1:40 PM	Next Generation Living BioBanks--Cryopreserved Human Specimens for Long-Term Expansion for Precision Medicine and Drug Discovery Xuefeng Liu *(USA)*
	1:40 PM – 1:45 PM	Development and Implementation of Biopsy Tissue Print Technologies for Molecular Biomarker Studies Sandra Gaston *(USA)*
	1:45 PM – 1:50 PM	IntelliXmark™: A Solution for Reliable, Durable, and Long-Lasting Tracking Information Directly on Sample Tubes Mike Thurogood *(USA)*
	1:50 PM – 1:55 PM	Facilitating Influence and Marketing of an Biobank Through an Established Social Media-WeChat Public Platform Manli Wu *(China)*
	1:55 PM – 2:00 PM	The "mouse PAD": A Device to Enhance Rodent Tissue Biobanking 2931341 Virtual Biorepository (VBR): a Web-Based Service for Sharing Biosamples Zachary Brown *(USA)*
	2:00 PM – 2:05 PM	Virtual Biorepository (VBR): a Web-Based Service for Sharing Biosamples Matthew Roth *(USA)*
	2:05 PM – 2:10 PM	BRoTHER a Bavarian-Czech Cooperation to Combine Biobanks via Digitalisation Christoph Brochhausen *(Germany)*
	2:10 PM – 2:15 PM	Novel Room Temperature Preservation and Storage System: A Five-Year, Multicenter Retrospective Analysis Examining Common Veterinary Diagnostic Specimens up to One Year Theodore Sadler *(USA)*
	2:15 PM – 2:20 PM	Controlled Rate Freezing – The Bottleneck in Lab Automation Lutz Doms *(Germany)*
	2:20 PM – 2:25 PM	Pointlab, an EU Program Engaging Biobanks and Industry on Innovation through Public Private Partnerships Bart Scheerder *(Netherlands)*
	2:25 PM – 2:30 PM	Conclusion and Wrap Up
2:30 PM – 3:00 PM	Coffee Break	***Marsalis A/B***

WORKSHOPS 1/2/3 *(Concurrent)*

3:00 PM – 4:00 PM	Workshop 1: Returning Individual Genetic Research Results: Challenges and Responsibilities ***Cumberland A/B/C***	Workshop 2: ISBER Best Practices: Recommendations for Repositories 4th Edition Update ***Cumberland F/G/H***	Workshop 3: Accessing Human Samples to Deliver New Medicines for Patients: An Industry Perspective ***Cumberland J/K/L***
	Presenters: Helena Ellis *(USA)****, Sarah Dry*** *(USA)****, Audrey Fan*** *(USA)*	***Presenter: Sheila O'Donoghue*** *(Canada)****, Cathy Seiler*** *(USA)****, Daniel Simeon-Dubach*** *(Switzerland)*	***Presenter: Clive Greene*** *(UK)*

	CONTRIBUTED PAPER SESSION 1: RESEARCH INTO PRACTICES ***Chairs: Diane McGarvey*** *(USA)****, Lianhai Zhang*** *(China)*		***Landmark A/B***
	4:15 PM – 4:27 PM	Paucity of the RIN Score William Schleif *(USA)*	
	4:27 PM – 4:39 PM	The NIST Marine Environmental Specimen Bank: Tissue Access Policies and Implementation Amanda Moors *(USA)*	
	4:39 PM – 4:51 PM	The Case for Real-Time On-Site Evaluation (ROSE) of Needle Core Biospecimens Shannon McCall *(USA)*	
	4:51 PM – 5:03 PM	Qatar Biobank: Translating Biobank Science into Evidence Based Healthcare Interventions Nahla Afifi *(Qatar)*	
	5:03 PM – 5:15 PM	Review of Quality Control Metrics Impacting Same Day Shipments of Biospecimens Vincent Quintiliani *(USA)*	
	5:15 PM – 5:27 PM	The Effect of Biospecimen Transportation Temperature on RNA: The Egyptian National Cancer Institute (ENCI) Biobank Experience Nahla Elzefzafy *(Egypt)*	
	5:10 PM – 5:27 PM	PBMC Score: Gene Expression Ratio Indicates Peripheral Blood Mononuclear Cell (PBMC) Quality Olga Kofanova *(Luxembourg)*	
	5:39 PM – 5:45 PM	Q&A	
Contributed Paper Sessions 1 & 2 (Concurrent) 4:15 PM – 5:45 PM	**CONTRIBUTED PAPER SESSION 2: BIOBANKING: BIG OPPORTUNITIES, BIG ELSI** ***Chairs: Marianna Bledsoe*** *(USA)****, Helen Morrin*** *(New Zealand)*		***Landmark C***
	4:15 PM – 4:27 PM	Towards a GDPR Code of Conduct for Health Research Michaela Mayrhofer *(Austria)*	
	4:27 PM – 4:39 PM	Strategies to Overcome Disparities in Biobanking Participation Veena Gopalakrishnan *(USA)*	
	4:39 PM – 4:51 PM	National Liver Disease Biobank in India: Fostering Research Collaboration across India and Abroad Birenda Yadav *(India)*	
	4:51 PM – 5:03 PM	Leveraging Clinical Consent Procedures to Obtain Research Consent of Remnant Sample Donations in a University-Based Practice Stephanie Soares *(South Africa)*	
	5:03 PM – 5:15 PM	A Survey to Address the Effect of a Biobank Education Session on the Opinions of Adolescent Students and their Parents about Biobank Participation Tamsin Tarling *(Canada)*	
	5:15 PM – 5:27 PM	Research Meets Community: Parent perspectives on biobanking childhood cancer specimens in the age of personalised medicine Daniel Catchpoole *(Australia)*	
	5:10 PM – 5:27 PM	Challenges of Ethical Reviews in China's Biobanks Kaiyu Qian *(China)*	
	5:39 PM – 5:45 PM	Q&A	
5:45 PM – 7:30 PM	**EXHIBITOR AND POSTER NETWORKING EVENING** Visit the ISBER exhibits and posters and join us for drinks and hors d'oeuvres.		***Marsalis A/B***

WEDNESDAY, MAY 23, 2018

7:00 AM – 5:30 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 5:00 PM	Speaker Services Open	***Trinity A***
7:15 AM – 8:15 AM	**SHANGHAI FOCUS GROUP** *(Open to all Attendees)* This session will focus on discussing potential topics of interest and relevant content for ISBER2019 in Shanghai.	***Landmark C***

WEDNESDAY, MAY 23, 2018

CORPORATE WORKSHOP 3: CLEVELAND CLINIC BIOREPOSITORY AND NEW QC TECHNOLOGY AND METHODS

Cumberland A/B/C

Presenters: Jennifer Ko, *Staff, Dermatopathology, Medical Director, Central Biorepository Cleveland Clinic,* ***Andrew Brooks,*** *PhD, CSO Brooks Life Sciences*

During this symposium Dr. Ko will share details of planning and strategy for the new Cleveland Clinic Biorepository. This presentation will be followed by Dr. Andy Brooks who will share how QC technology and methods are enabling global collaboration and sample analysis.

CORPORATE WORKSHOP 4: ALTERNATIVE STORAGE OPTIONS FOR CRYOPRESERVATION

Cumberland F/G/H

Corporate Workshops 3, 4 & 5 (Concurrent)
8:15 AM – 9:15 AM

Presenter: Buzz Bies, *Vice President & GM, Chart Inc. – BioMedical*

We explore the use and impact of utilizing Vario Variable Temperature Freezers as well as the Fusion self-sustaining freezer in the laboratory and repository setting.

CORPORATE WORKSHOP 5: SHOULD WE AUTOMATE? OVERCOMING THE CHALLENGES AND RISKS OF MANUAL STORAGE

Cumberland J/K/L

Presenter: Jim Doherty, *Product Manager, Hamilton Storage, USA*

This workshop will review the main drivers to evaluate when considering automation for your organization. The management of manual ultra-low temperature sample storage results in many challenges and risks for today's biobanking scientists and technicians. Life science samples increasingly require stricter control of sample integrity, sample traceability and sample cost. As higher quality and higher quantities of samples are required, many organizations are investing in automation to help improve sample tracking and sample temperature stability while lowering their labor and operating costs.

9:00 AM – 10:00 AM — Coffee & Pastries — ***Landmark Foyer & Cumberland Foyer***

CONTRIBUTED PAPER SESSION 3: PROFESSIONAL REPOSITORY MANAGEMENT

Landmark A/B

Abstracts for these session are published in Biopreservation and Biobanking.

Chairs: Rajeev Singh *(USA)****, Cathy Seiler*** *(USA)*

Contributed Paper Sessions 3 & 4 (Concurrent)
9:30 AM – 11:45 AM

9:30 AM – 9:45 AM	The Prospective Biorepository – A Model of Efficient Human Tissue Distribution to Support Biomedical Research William Grizzle *(USA)*
9:45 AM – 10:00 AM	Worldwide Survey: Business Planning and Growing Professionalism in Biobanking Marianne Henderson *(USA),* Daniel Simeon-Dubach *(Switzerland),* Kirstin Goldring *(UK)*
10:00 AM – 10:30 AM	Coffee Break — ***Marsalis A/B***
10:30 AM – 10:45 AM	Professionalization of the Biobanking Sector Balwir Matharoo-Ball *(UK)*
10:45 AM – 11:00 AM	BBMRI, a European Research Infra… What? - Rethinking BBMRI-ERIC's Communication Strategy Francesco Florinidi *(Belgium)*
11:00 AM – 11:15 AM	Quality Promotes Sustainable Development: FUSCC and NCI's Cooperation on Clinical Proteomic Tumor Analysis Consortium Midie Xu *(China)*
11:15 AM – 11:30 AM	A Comparison of Biospecimen Handling Practices Across Biobanks using the National Cancer Institute's Biospecimen Research Database Lori Campbell *(USA)*
11:30 AM – 11:45 AM	Pathway to Biobank CAP Accreditation: How to Get Started and Streamline the Process in a Large Academic Cancer Center Emily Hernandez *(USA)*

CONTRIBUTED PAPER SESSION 4: ADVANCING THE NORMS: HUMAN REPOSITORIES — ***Landmark C***

Chairs: Billy Schleif *(USA)****, Qing Ye*** *(China)*

Contributed Paper Sessions 3 & 4 (Concurrent)
9:30 AM – 11:45 AM

9:30 AM – 9:45 AM	Precision Pathology Biobanking Center: Evaluation of Research Sample Capture Rates in a Large Hospital-Integrated Biobank at MSKCC Emily Lin *(USA)*
9:45 AM – 10:00 AM	Hospital Biobank with Automated Information Extraction from Electronic Health Record for Integrated Genomic and Phenotypic Characterization Haixin Li *(China)*
10:00 AM – 10:30 AM	Coffee Break — ***Marsalis A/B***
10:30 AM – 10:45 AM	Integrating Genomic Medicine into the Routine Cancer Diagnostic Pathway – Role of the Manchester Cancer Research Centre Biobank and the 100k Genomes Project in Manchester, UK Jane Rogan *(UK)*
10:45 AM – 11:00 AM	Biobank Sweden's National Harmonization for Sample Access through Healthcare Integrated Biobanking Karolin Bergenstråhle *(Sweden)*
11:00 AM – 11:15 AM	Systematic Sample Collecting Can Help with the Individualization of Therapy (An Example of Improvement of Prostate Cancer Management) Judita Kinkorova *(Czech Republic)*
11:15 AM – 11:30 AM	Defining Best Practice In Allogeneic Cell Therapy And Autologous Process Development Rely On Donor Supply and Management Kimberly Negrin *(USA)*
11:30 AM – 11:45 AM	The Nucleic Acid Quality Control Strategy of Frozen Tissues from a Biobank of High-risk Pregnancy Hong Gao *(China)*

9:30 AM – 4:00 PM — Exhibit Hall Open

WORKSHOPS 4/5 *(Concurrent)*

Workshop 4: Designing and Maintaining a Human Tissue Repository, Part 1
Cumberland A/B/C
Presenters: Kathy Sexton *(USA)****, William Grizzle*** *(USA)*

Workshop 5: The Revised Common Rule: Practical Implementation Challenges for Biorepositories and Strategies for Addressing Them
Cumberland F/G/H
Presenters: Mark Barnes *(USA)****, Marianna Bledsoe*** *(USA)*

11:45 AM – 1:00 PM

SPECIAL TOPIC: SPOTLIGHT ON THE ISBER BIOSPECIMEN RESEARCH SYMPOSIUM – QUALITY MATTERS — ***Cumberland J/K/L***

Biospecimen Research in Clinical Fluid Specimens; A Summary from the 2018 ISBER Biospecimen Research Symposium
Fay Betsou *(Luxembourg)*

Biospecimen Research on Formalin-Fixed Paraffin Embedded Clinical Tissue Biospecimens: The Best from Luxembourg
Geraldine Thomas *(UK)*

Biospecimen Research on Plant Specimens: The Best from Luxembourg
Marcos Castellanos *(UK)*

12:45 PM – 1:45 PM — General Lunch in Exhibit Hall — ***Marsalis A/B***

WORKSHOPS 6/7/8 *(Concurrent)*

1:45 PM – 3:30 PM

Workshop 6: Designing and Maintaining a Human Tissue Repository, Part 2
Cumberland A/B/C
Presenters: Kathy Sexton *(USA)****, William Grizzle*** *(USA)*

Workshop 7: Animals, Plants, Environments, and Humans: Brainstorming Models for Cross-Sector and Interdisciplinary Collaboration and Utilization
Cumberland F/G/H
Presenters: Piper Mullins *(USA)****, Mariel Campbell*** *(USA)****, Marianne Henderson*** *(USA)****, Judith Giri*** *(USA)****, Dr. Xu*** *(China)****, Susan Garrison*** *(USA)****, Geoff Wood*** *(Canada)*

Workshop 8: Guidelines for Choosing a Biobank Informatics System
Cumberland J/K/L
Presenters: Kevin Meagher *(USA)****, Cheryl Michels*** *(USA)****, Mark Cada*** *(USA)****, Ashokkumar Patel*** *(USA)*

3:30 PM – 4:00 PM — Poster Takedown — ***Marsalis A/B***

3:30 PM – 4:00 PM — Coffee Break — ***Marsalis A/B***

4:00 PM – 5:00 PM

ISBER ANNUAL BUSINESS MEETING — ***Landmark A/B***
Members – join us to learn more about ISBER's activities, financials, strategic plan and leadership!
Please note ISBER will also present awards at the Annual Business Meeting

4:15 PM – 8:00 PM	Exhibitor Takedown	***Marsalis A/B***
5:15 PM – 6:00 PM	**PLATINUM PARTNERS MEETING WITH THE BOARD OF DIRECTORS** *(Invitation Only)*	***Cumberland A/B/C***
7:00 PM – 11:00 PM	**ISBER NETWORKING EVENING** *(Pre-registration Required)* Join us for drinks and dinner.	***Meet at Hyatt Regency Dallas Hotel Lobby*** ***Offsite: Eddie Deen's Ranch***

THURSDAY, MAY 24, 2018

7:00 AM – 4:00 PM	Registration Open	***Trinity A Foyer***
7:00 AM – 8:00 AM	**COMMITTEE AND WORKING GROUP MEETINGS** Pharma WG ***Cumberland E*** — Biospecimen Science WG ***Cumberland I***	
7:00 AM – 1:30 PM	Speaker Services Open	***Trinity A***
7:00 AM – 8:00 AM	**VENDOR MEETING** Vendors – join us to provide feedback about the conference and future opportunities!	***Windsor***
Corporate Workshops 6, 7, & 8 (Concurrent) 8:00 AM – 9:00 AM	**CORPORATE WORKSHOP 6: THE EVOLVING ROLE OF BIOBANKS AND IMPORTANCE OF QUALITY CONTROL** ***Presenters: Nahid Turan, Alissa Resch*** Biobanks play a pivotal role in increasing our understanding of genetics and genomics, paving the way for precision medicine. Access to well characterized, high quality biospecimens is not only critical for enabling basic research, therapeutic development, and for use in clinical sequencing laboratories, but for development of new technologies. In order to meet the current and future needs of the scientific community, biospecimen quality considerations are crucial for ensuring accuracy and reliability. This workshop will review the different QC parameters impacting biospecimen quality.	***Cumberland A/B/C*** CORIELL INSTITUTE FOR MEDICAL RESEARCH
	CORPORATE WORKSHOP 7: A GLOBAL PERSPECTIVE: OPEN SOURCE BIOBANKING INFORMATICS PLATFORM ***Presenters: Stefano Ongarello*** *(Find Diagnostics)****, David Mulvihill*** *(Washington University)****, Manish Asiani*** *(University of Leicester)****, Srikanth Adiga*** *(Krishagni LLC)* OpenSpecimen is adopted in 65+ biobanks across 16 countries in centers like John Hopkins, Emory University, University of Pittsburg, University of Pennsylvania, UC Davis, UT Southwestern, University of Leicester, Cambridge University, Singapore General Hospital, FIND Diagnostics, Washington University, University of New South Wales, etc. This talk will give a high-level overview of OpenSpecimen's features, benefits, how it is used in different biobanks, and integration with REDCap, OpenClinica, EPIC, automated freezers, etc. You will also get a chance to meet biobankers using OpenSpecimen.	***Cumberland F/G/H*** OPENSPECIMEN a krishagni product
	CORPORATE WORKSHOP 8: THE EUROPEAN UNION GENERAL DATA PROTECTION REGULATION (EU-GDPR): IMPLICATIONS FOR GLOBAL COLLABORATIONS AND BIOBANKING RESEARCH OUTSIDE THE EU ***Co-Chairs: Marianna Bledsoe,*** *M.A., Independent Science Policy and Biobanking Consultant, USA****, Helen Morrin,*** *BSc, Curator, Cancer Society Tissue Bank, University of Otago Christchurch, New Zealand* ***Presenters: Mark Barnes,*** *JD, LLM, Partner, Ropes & Gray LLP, USA,* ***Rita Lawlor,*** *PhD, CIPP/E, CIPM Director Biobank and Model Bank ARC-Net Centre for Applied Research on Cancer, Italy,* ***Michaela Mayrhofer,*** *PhD, Chief Policy Officer CS ELSI/Chief Coordination Officer, BBMRI-ERIC, Austria* When the EU-GDPR takes effect 5/25/18, it will impose strict data protection requirements for the processing of "personal data" in countries in the European Economic Area (EEA). The EU-GDPR may also directly regulate the use and processing of personal data outside the EU under certain circumstances. The EU-GDPR's broad jurisdictional reach threatens to hinder important multi-site, trans-national research that includes sites located in the EEA, as well as certain biobanks and industry-sponsored trials outside the EEA. This workshop will describe the challenges for EU-US and other global collaborations and provide recommendations for addressing them.	***Cumberland J/K/L*** WORTHINGTON INDUSTRIES
8:45 AM – 9:30 AM	Coffee & Pastries	***Landmark Foyer and Cumberland Foyer***

SYMPOSIUM 4A: SMALL STEPS IN QUALITY MANAGEMENT LEAD TO BIG RESULTS — ***Landmark A/B***

Chairs: Piper Mullins *(USA)****, Tatsuaki Tsuruyama*** *(Japan)*

This session is designed for all participants interested in sample quality, including why quality measures are important, how to implement them, and the current trends. Biobankers from all collection types (human, animal, plant, etc) will learn why it is important to have high-quality samples, why it is important to maintain compatible sample quality across collaborations, and how organizations have created their quality management systems. In addition, this session will update participants on the current progress, future harmonization, and standardization between ISO norms and ISBER Best Practices.

Symposium 4A/4B (Concurrent)
9:15 AM – 12:15 PM

9:15AM – 9:45AM	Biospecimens as Observational Data: How Does What You Collect and Who You Collect it from Impact the Validity of the Downstream Research Results? Joseph Roberts, *Alberta's Tomorrow Project, Canada*
9:45AM – 10:15AM	What We Have Learned from the Studies of Tuna Meat Preservation Tomoaki Hagiwara, *Tokyo University of Marine, Japan*
10:15AM – 10:45AM	Coffee Break
10:45AM – 11:15AM	Standardized and Improved Pre-analytical Workflows: Crucial for Reliable Diagnostics, Research and Biobanking Uwe Oelmüller, *QIAGEN, Germany*
11:15AM – 11:45AM	Standards and Best Practice for Quality Daniel Simeon-Dubach, *Medservice, Switzerland &* Koh Furuta, *Kanagawa Cancer Center, Japan*
11:45AM – 12:15PM	Panel Discussion

SYMPOSIUM 4B: COLLABORATION: GETTING SET UP IN THE LAND OF BIG OPPORTUNITY — ***Cumberland J/K/L***

Chairs: Zisis Kozlakidis *(UK)****, Jajah Fachiroh*** *(Indonesia)*

Significant scientific advances and consortia supporting large-scale projects are now well-established as an approach to provide solutions to complex problems. These collaborations are formed by a constellation of different stakeholders sharing their outputs, experiences and resources: from established institutions with integrated facilities to start-up biotechnology companies, from multi-national pharmaceutical companies to highly specialized operators. In this session the participants will provide details on the type of approaches they have used in initiating, maintaining and generating further collaborations with biobanks in their efforts to facilitate sample collection and utilization. They will also identify the biobanking parameters that they consider when looking for future or sustainable, long-term collaborations.

Symposium 4A/4B (Concurrent)
9:15 AM – 12:15 PM

9:15 AM-9:45 AM	Total Cancer Care®: Biobanking on the Future of Oncology Research Adrie Van Bokhoven, *ORIEN Network, USA*
9:45 AM-10:15 AM	A Novel Cervical Cancer and Oropharyngeal Cancer Screening Technology Youxiang Wang, *Atila Biosystems, USA*
10:15 AM – 10:45 AM	Coffee Break
10:45 AM-11:20 AM	Excellent Science at the Service of Stakeholders: BBMRI-ERIC's Relationship with Industry, Academia, Patients and Consumers Francesco Florindi, *BBMRI-ERIC, Belgium*
11:20 AM – 11:55 AM	Collaborations in China: The Experience of the China National Gene Bank Xun Xu, *Chinese National Gene Bank, China*

SPECIAL TOPIC: CATALYZING BIOBANKS FOR DEEPER MOLECULAR PHENOTYPING

Chairs: Andy Pazahanick *(USA)****, Andy Zaayenga*** *(USA)*

Grab your lunch and come listen.

Presenter: Rohit Gupta, *Stanford, USA*

12:15 PM – 1:15 PM — ***Cumberland J/K/L***

This session considers the underutilization of specimens in biobanks around the world. The session is a call to action to the biobank community to utilize biospecimens by using a standardized set of "omics" assays, performed on every sample obtained from research participants as a way of "jumpstarting" biomarker discovery and predictive medicine through the development of a comprehensive dataset. This "data lake" will strengthen use of novel "in silico" technologies such as artificial intelligence and machine learning which demand larger volumes of data to provide validated inferences on drug success.

12:15 PM – 1:15 PM — General Lunch — ***Cumberland Foyer***

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

THURSDAY, MAY 24, 2018

12:15 PM – 1:15 PM

ROUNDTABLE DISCUSSIONS *(Pre-registration Required)* — ***Cumberland F/G/H***

Grab your lunch and join a table. Please visit the registration desk for more information.

- Expanding Shared BioSample Attributes Libraries and Building Common Data Elements Registries for Biorepository Collaborations
  Facilitator: James McNally, *University of Michigan, USA*
- Early applications of viable, functional tissue cryobanking
  Facilitators: Jedediah Lewis and Alyssa Ward, *Organ Preservation Alliance, USA*
- Clinical Validation and Biobanks
  Facilitator: Suzanne Vercauteren, *BC Children's Hospital Biobank, Canada*
- Most Common CAP Inspection Deficiencies and How to Avoid Them
  Facilitator: Shannon J. McCall, *Duke University School of Medicine, USA*
- Blood Collection – How much and Why?
  Facilitators: Rajeev Singh, *Houston Methodist Research Institute, USA,* Jeff Rando, *University of Texas System Health Biobank (UTSHB) Consortium*
- Cell Therapy Starting Material-When the Process Becomes the Product, Best Practices are a Must!
  Facilitator: Kimberly Negrin, *HemaCare Corporation, USA*
- The Real Costs of Biobanking – Costs per Sample of Manual vs. Automated Storage
  Facilitator: Jim Dohery, *Hamilton Storage, USA*

1:15 PM – 2:15 PM

SPECIAL TOPIC WORKSHOP: ISO AND ISBER AND CAP, OH MY! — ***Landmark A/B***

Presenters: Clare Allocca *(USA)****, Marianna Bledsoe*** *(USA)****, Helena Ellis*** *(USA)****, Koh Furuta*** *(Japan)****, Shannon McCall*** *(USA)****, Cheryl Michels*** *(USA)****, Nilsa Ramirez*** *(USA)****, Melissa Rawley-Payne*** *(USA)****, Brent Schacter*** *(Canada)****, Daniel Simeon-Dubach*** *(Switzerland)*

One of the largest drivers for biobanking is the goal to efficiently achieve quality specimens that are fit for purpose. The assortment of tools to assist in achieving this goal has been increasing in both type and complexity. These tools will be described and their potential interactions, synergies, and differences will be examined. A panel of experts will compare options for varied mechanisms.

2:30 PM – 3:30 PM

WORKING GROUP MEETINGS

Enviro-Bio WG ***Cumberland E***	Hospital Integrated SIG ***Cumberland I***	Marketing ***Cumberland F/G/H***

3:30 PM – 4:30 PM

COMMITTEE AND WORKING GROUP MEETINGS

IRL WG ***Cumberland A/B***	Communications ***Cumberland E***	Member Relations ***Cumberland I***	Standards ***Cumberland F/G***

5:30 PM – 7:00 PM — **ISBER BOARD MEETING** *(Invitation Only)* — ***Windsor***

ISBER ROUNDTABLE DISCUSSION TOPIC SUMMARIES

CUMBERLAND F/G/H | THURSDAY, MAY 24, 2018 | 12:15PM – 1:15PM

EXPANDING SHARED BIOSAMPLE ATTRIBUTES LIBRARIES AND BUILDING COMMON DATA ELEMENTS REGISTRIES FOR BIOREPOSITORY COLLABORATIONS

Facilitator: James McNally, *University of Michigan, USA*

There is a growing interest in the development of Common Data Elements (CDE) across the biomedical sciences. The National Center for Biotechnology Information, U.S. National Library of Medicine, for example, has released a standardized list of 500+ variables as a tool to describe a BioSample using structured attribute name system.

During this roundtable discussion, we will discuss efforts to develop CDEs for biospecimen's and ways that structured nomenclature can be shared across repositories, offering enhanced opportunities for data discovery, information sharing and collaboration.

EARLY APPLICATIONS OF VIABLE, FUNCTIONAL TISSUE CRYOBANKING

Facilitators: Jedediah Lewis, Alyssa Ward, *Organ Preservation Alliance, USA*

Historically, cryopreservation with post-thaw viability and function has been a process reserved for cells and small tissues. In the last 5 years, it has become a major research priority to scale up cryopreservation in order to bank larger tissues and whole organs, with successes in the recent years across, for example, sheep ovaries, rat limbs, rabbit kidneys, and human fingers, cartilage, and ovarian tissue. Biobanks may be some of earliest end users of these technologies, as the technical barriers are relatively modest compared with whole organs; high-yield use cases identified in consensus meetings so far, e.g. at the second global Organ Banking Summit at Harvard Medical School, include viable tumor samples to drive personalized therapies, functional cadaveric organ strips or slices for drug toxicity testing, and functional studies of diseased vs. control (healthy) donor tissue.

CLINICAL VALIDATION AND BIOBANKS

Facilitator: Suzanne Vercauteren, *BC Children's Hospital Biobank, Canada*

Many biobanks have biobank certification but are not clinically certified as they are considered to be research-based. However, situations arise where findings are uncovered through research and these findings need clinical validation. How do/should biobanks position themselves such that they can support this clinical validation?

MOST COMMON CAP INSPECTION DEFICIENCIES AND HOW TO AVOID THEM

Facilitator: Shannon J. McCall, *Duke University School of Medicine, USA,*
Helena Ellis, *Biobanking Without Borders, USA*

The Vice Chair of the College of American Pathologists' Biorepository Accreditation Program will discuss with participants the most common CAP inspection deficiencies identified during the first five years of the program. Participants will discuss practical approaches to meet the relevant standards and avoid citation.

BLOOD COLLECTION - HOW MUCH AND WHY?

Facilitators: Rajeev Singh, *Houston Methodist Research Institute, USA,*
Jeff Rando, *University of Texas System Health Biobank (UTSHB) Consortium, USA*

This roundtable will discuss the quantity of blood collected for research purposes across the different subjects, studies, analytical platforms and countries/regions, and the reasons behind the same. It will also discuss the roadblocks facing such collections.

CELL THERAPY STARTING MATERIAL-WHEN THE PROCESS BECOMES THE PRODUCT, BEST PRACTICES ARE A MUST!

Facilitator: Kimberly Negrin, *HemaCare Corporation, USA*

Cell and gene therapies are an exciting new branch of medicine. With novel applications being approved for clinical trials on an almost daily basis, the outlook for patients has never been brighter. It's important to remember, however, that cells and tissues are parts of intricate biological systems, prone to variability and often challenging to maintain at their optimal efficacy. Cell and gene therapy products are only as good as the biological starting material used to produce them. Researchers considering an apheresis/tissue product supplier for their cell therapy project need to understand the best practices that are most likely to guarantee top-quality starting material. Join top industry experts with extensive apheresis and process development experience as they examine a number of key topics. Participants are invited to join the discussion on best practices in quality control for apheresis/leukapheresis products, donor facility accreditation, and donor network management. The roundtable will also provide insights on such issues as the importance of recallable donors, the need for validated quality assurance criteria, and the advantages of customized cell processing methods. Our experts will provide insider tips on state-of-the-art instrumentation and protocols, choosing the best stem cell mobilization strategies for your project, and more. Join the conversation and get your cell therapy project off to a great start!

THE REAL COSTS OF BIOBANKING – COSTS PER SAMPLE OF MANUAL VS. AUTOMATED STORAGE

Facilitator: Jim Dohery, *Hamilton Storage, USA*

This roundtable will identify and discuss the leading costs of biobanking storage including:

- How do we measure the costs of manual storage versus automated storage?
  - » Manual freezers—Freezer type (-20°C/-80°C) vs. freezer footprint vs. freezer sample storage capacity
  - » Utilities—power, CO2, LN2, chilled water
  - » Labor
- How do the costs compare?
- How do I identify my return on investment?

ISBER SYMPOSIUM PRESENTATION SUMMARIES

Symposium 1: Creating Global Impact through Big Ideas and Biobanking: Finding common ground in diversity

LANDMARK A/B
MONDAY, MAY 21, 2018 | 9:15AM – 12:15PM

KEYNOTE LECTURE: LONGITUDINAL PROFILING OF BIOSPECIMENS AND DEVELOPMENT OF PREDICTIVE BIOMARKERS FOR THERAPIES – MD ANDERSON APOLLO PROGRAM

Ignacio Wistuba *(USA)*

As new effective cancer-targeted and immune therapy strategies are being developed, there is an urgent need to develop and apply new molecular pathology tools to further investigate the role of signaling pathways and immune response in cancer development and progression, and to develop predictive biomarkers of clinical response. Our current understanding of potential mechanisms of resistance to novel cancer therapies is limited and will require analysis of tumor tissue, blood and other fluids at longitudinal basis of biospecimens collected before, during and after treatments of patients. Biorepositories play an important role in timely collection, processing and distribution of these specimens to ensure yield of high quality analytes for molecular and immune profiling. At MD Anderson Cancer Center, we have developed the Moon Shot Adaptive Patient-Oriented Longitudinal Learning and Optimization (APOLLO) Platform to support this effort in our early phase therapeutic clinical trials.

ESTABLISHMENT AND APPLICATION OF GENOME RESOURCE BANK (GRB) FOR ENDANGERED WILDLIFE ENDEMIC TO CHINA AT CHENGDU RESEARCH BASE OF GIANT PANDA BREEDING

James Ayala *(China)*

The giant panda (Ailuopoda melanoleuca) is a rare species of wildlife endemic to China and a symbol of world conservation. Due to habitat destruction, bamboo flowering and other factors, giant pandas were once on the verge of extinction. The Chinese government has carried out a comprehensive conservation program for giant pandas, including the in-situ conservation, the ex-situ conservation, the creation of genomic resource banks and conservation education projects etc. In terms of the in-situ conservation, since the implementation of the "China Giant Panda and its Habitat Conservation Project" in 1992, a total of 67 nature reserves were included in the management system and a series of conservation regulations were established, such as the Wildlife Protection Law, Nature Reserve Management Regulations and other rules. Since 1998, the Central Committee of the Communist Party of China (CPC) and the State Council have implemented the "Natural Forest Protection Project in the Middle and Upper Reaches of the Yangtze River" to ban the felling of natural forests in general, and the ecological environment has been improved as a result. For the ex-situ conservation, since the 1980s, four major conservation institutions have been established including the Chengdu Research Base of Giant Panda Breeding. In these centers the preliminary set up of the giant panda genome resource bank has occurred, extensive public conservation education has been conducted and an international cooperation network for giant panda conservation has been established.

Through these efforts, significant progress has been made in the conservation of giant pandas. As for the in-situ conservation, currently the habitat of giant pandas has increased from 1.39 million hectares in the late 1980's, to 2.58 million hectares, and the number of wild giant pandas has increased from 1114 to 1864 individuals. Thus, IUCN has downgraded its conservation status from Endangered (EN) to Vulnerable (VN). And for the ex-situ conservation, by conquering a series of technical problems in the field of giant panda breeding, disease prevention, cub rearing, genetic management and other facets, the population of captive giant pandas has increased rapidly since the year 2000. Especially starting in 2006, as the technology has matured, the average annual growth rate of the whole captive population has increased from 1.04 % to 8.70 %, and the genetic diversity has increased from 0.9688 to 0.9759. As of 2017, the captive giant panda population reached 520, which is enough individuals to maintain a self-sustaining ex-situ conservation population. The genome resource bank of giant panda, including frozen semen, somatic cells, stem cells and tissue samples, has been established. Meanwhile, with the implementation of the conservation laws and public education policies, the concept of protecting wildlife from being endangered represented by giant pandas has become deeply rooted in the hearts of the people and begun to transform into the public conscious actions. Giant panda conservation has set a successful model of wildlife conservation in general. Giant panda conservation has made great progress, but for the long-term survival of giant pandas, it still faces threats of habitat fragmentation and the future effects of global warming. Therefore, the Chinese government is establishing a Giant Panda National Park covering 2.71 million hectares, three times the size of Yellowstone National Park in the United States, which focuses on enhancing the connectivity between giant panda habitats. The construction for this national park has recently begun. The process of reintroducing captive giant pandas back into the wild has begun as well. Simultaneously, the model of giant panda conservation will be further extended to the conservation of other species of endangered wildlife in China.

FROM PREDICTION TO PREVENTION WITH THE 23ANDME COHORT

Sarah Laskey *(USA)*

23andMe, the leading personal genetics company, has accumulated a wealth of genotypic and phenotypic information from consented research participants committed to improving human health through advances in genomics. 23andMe's research platform is currently the world's largest consented, re-contactable database for genetic research, with more than 5 million customers and a research consent rate over 80%. To date, these participants have provided over one billion individual survey responses. The 23andMe Research team has leveraged this database to publish over 90 peer-reviewed studies in scientific journals, while the therapeutics division is committed to discovering and developing novel therapies that can offer benefits for patients.

In addition to characterizing and treating disease, researchers at 23andMe are working toward a future of personalized disease prevention. Researchers are building models to estimate disease risk based on genetics, lifestyle, environment, and behavior, and data collection at 23andMe is expanding its focus to longitudinal surveys and interventional studies, allowing researchers to move from association and correlation to causation — what actions can people take to get results?

SMARTPHONE SCIENCE: CONSENT TO APP-MEDIATED RESEARCH

Michael Lang *(Canada)*

This presentation will provide an overview of the emerging field of mHealth research. Smartphones have rapidly become a ubiquitous feature of modern life. As they become both more widespread and increasingly technologically sophisticated, health researchers have begun turning to them as potential tools of research. While still in its infancy, there is growing enthusiasm about the potential of mHealth to revolutionize the way research is conducted. The most obvious advantage of app-mediated research is the scale of data it promises to make available. Understood on this evolving paradigm, millions of consumers around the world are currently carrying powerful research tools in their pockets.

As mHealth research becomes increasingly commonplace, a number of ethical and legal considerations remain largely unexplored. In particular, the manner in which mHealth research might redefine participant consent is not well understood. Research ethics boards, for example, do not appear to be well equipped to work through these concerns. This presentation will attempt to outline some of the legal and ethical challenges raised by mHealth research. In conclusion, the presentation will describe how the informed consent process might be reconceived in light of these emerging trends and identify issues for further consideration.

Symposium 2A: Advocacy in Biobanking

LANDMARK A/B
MONDAY, MAY 21, 2018 | 1:30PM – 4:00PM

ADVOCACY IN BIOBANKING

James O'Leary, *Genetic Alliance, USA*

ADVOCACY IN BIOBANKING: A PEDIATRIC CANCER PERSPECTIVE

Vickie Buenger *(USA)*

The childhood cancer community wants to benefit from the possibilities offered by developments in science and technology to improve outcomes for the hardest to treat cancer diagnoses and to lower the toxicity that creates a heavy, life-long burden for children who survive their cancer. Pursuing those possibilities appears best served by supporting efforts to gather, store, and analyze tumor samples and to track information collected during the course of treatment. Consequently, collecting specimens and the data strings associated with them is not very controversial in our community, particularly for our patient families that face either poor prognoses or the heavy burden of current treatment regimens. This is especially true in settings where samples will be collected as part of standards of care at diagnosis or during treatment. Many parents also support the collection of tissue at death. This leads advocates to call for and work towards: 1) maximizing access for the international scientific community to biological samples stored in biobanks across the globe; 2) promoting networking among biobanks to share and harmonize quality standards and procedures and allowing collaboration with pediatric cancer registries and databases; 3) encouraging investigators to commit to sharing data through existing biobanks and databases; and 4) adopting an efficient management model compliant with legal and ethical issues, ensuring biobank sustainability.

Our community recognizes that there are thorny questions as we pursue improved outcomes by relying on biobanks and databases. Many in the community are reluctant to pursue re-sampling when it would require invasive procedures beyond what the standard of treatment indicates. Further, it is unclear whether parental permission when a sample is first collected is sufficient to continue to use biological samples and data after the children become adults. This presentation will explore these and other issues important to advocates in the childhood cancer community.

A FRAMEWORK FOR INDIGENOUS BIOBANKING

Ngiare Brown *(Australia)*

There is a growing global interest in genomic research with Indigenous Peoples. However, the pace of scientific progress is well ahead of our ability to ensure ethical, legal and cultural protections. In Australia we have dedicated years to the 'pre-conditions' of genomic research and biobanking - community engagement,

Indigenous cultural leadership, research participation - enabling the establishment of an Indigenous specific biorepository. Together with colleagues across the International Indigenous Genomics Alliance, we have also developed a framework for genetic research with Indigenous Peoples.

CORAL CRYOPRESERVATION: CAN WE HELP SAVE CORAL REEFS?

Mary Hagedorn *(USA)*

Coral reefs around the world are under siege. Our overuse of fossil fuels is generating greenhouse gases that are both warming and acidifying our oceans, creating a crisis for our reef environments. If little is done to change these human threats, then fish will become a delicacy and human hunger will increase throughout the Indo-Pacific region. Banking efforts to secure reef biodiversity are underway. However, because coral reproduction is one of the most restricted in the world (i.e., 2 to 3 days once a year), rapid progress is not feasible. Moreover, because only a few collaborating institutions participate in these critical spawning and banking efforts, the number of species banked each year is small. Finally, support for this critical banking effort is stymied by a lack of forward thinking in critical reef countries either because of lack of funds, lack of belief in cryopreservation as an effective tool for conservation and restoration and/or denial that there is an ongoing and escalating reef crisis. Nevertheless, we have: 1) banked the sperm of over 20 coral species worldwide stored in banks in Australia and the United States; 2) used that frozen and thawed material to create new coral larvae; and 3) are continuing to develop new technologies that can support the preservation of larvae and coral fragments, among others. The ongoing development of new technology that can broaden what we can cryopreserve and how quickly we can cryopreserve that material is critical to generating the data needed to make these processes high-throughput so they can effectively be used as restoration processes. Without a global vision of the banking and restoration processes needed to support reef environments, however, we can never expect to achieve the type of biodiversity security and restoration action that would be possible to truly save our coral reefs.

Symposium 2B: Data Today and Tomorrow: How Biobanks can Prepare for Translational Medicine

CUMBERLAND J/K/L
MONDAY, MAY 21, 2018 | 1:30PM – 4:00PM

DATA-DRIVEN RESEARCH AND DECISION-MAKING IN AGRIBUSINESS

Hans van Leeuwen *(Belgium)*

Bayer Crop Science is active in the fields of seeds, chemical and biological crop protection, as well as non-agricultural pest and weed control. Within research and development, the Computational Life Science organization works together with subject matter experts on organizing diverse types of breeding and research data, and on using these to accelerate innovation. We deal with a variety of datasets, for instance in the domains of breeding (e.g. pedigrees, phenotypes, genetic variations, sensor-based high-throughput measurements), biology (e.g. protein, RNA and DNA sequences, genome annotations), chemistry (structural information), as well as mechanisms to capture domain knowledge and mining of unstructured resources (e.g. reports and literature). We implement state-of-the-art data storage and querying technologies, as well as controlled vocabularies, taxonomies and ontologies to enable intelligent data integration and translation. We follow the FAIR principle, by applying semantic web technologies and public standards (e.g. W3C) to connect data, meta-data, reference data and master data, facilitating interoperability within our platform and with the public domain. The solutions are globally available to our users, flexible and scalable using agile methodologies. Our systems are scalable and set up for optimized breeding and research activities, and allow data stewardship activities to be done in an efficient way. Depending on the user groups, we provide solutions ranging from graphical data querying, exploration, visualization and reporting interfaces to advanced analytics accessible via data science platforms and scripting environments, such as R and Python. We have entered in an era of intensive and fast data-driven hypothesis generation in the research programs, and data-driven decision making in the breeding processes. Through the implementation and use of these solutions we not only connect data in a smart way and facilitate generation of knowledge and insights, but we also enhance the way we collaborate across teams and with external parties.

BUILDING BIOREPOSITORIES TO FIT INTO BIG DATA STRUCTURES OF THE FUTURE

Peter Tearle *(USA)*

Preparing biorepositories with appropriate metadata today will make them relevant for future transnational medicine programs.

HOW MULTI-INSTITUTION SPECIMEN COLLECTIONS FACILITATED TRANSLATIONAL RESEARCH IN ALOPECIA AREATA

Angela Christiano *(USA)*

Dr. Christiano will discuss the role of the National Alopecia Areata Registry (NAAR) in collection and dissemination of epidemiological data and biosamples from patients with Alopecia Areata (AA). The NAAR collection was utilized to perform genomewide association studies that led to the initial breakthroughs in understanding the genetic basis of AA, and subsequently to investigation of critical immunological pathways in the mouse model of AA. These findings set the stage for clinical investigation of a class of drugs known as JAK inhibitors in the treatment of AA. Throughout these studies, the NAAR played a key role in acquisition of biosamples and supporting this research initiative. The interaction between the NAAR and various AA research programs will be discussed.

Symposium 3A: Big Innovations in Biospecimen Science: Unlocking a New World of Biobanking Capabilities Through Advances in Biopreservation Sciences and Biospecimen Pre-Analytics

LANDMARK A/B
TUESDAY, MAY 22, 2018 | 9:00AM – 12:00PM

BLOODPAC: ESTABLISHING STANDARDS TO ACCELERATE DEVELOPMENT AND APPROVAL OF LIQUID BIOPSY TECHNOLOGY

Tony Dickherber *(USA)****, Lauren Leiman*** *(USA)*

Collaborative efforts are underway between public, private and industry partners to advance biospecimen research in a variety of fields. The efforts include data exchange, data harmonization and improvement of research protocols. Current advances in biomedical science, conservation, biodiversity, cryobiology and the systematic investigation into the impacts of pre-analytical variables will guide research and set new standards for future sample collection, processing and storage.

The Blood Profiling Atlas in Cancer (BloodPAC) looks to improve outcomes for patients with cancer through a collaborative infrastructure that enables the sharing of information between stakeholders in industry, academia and regulatory agencies. The goals of BloodPAC are: to aggregate, make freely available, and harmonize for further analysis: i) data from CTC, ctDNA, proteins including tumor associated autoantibodies, and exosome assays, ii) associated clinical data, and iii) sample collection, preparation and handling protocols.

URINE PRESERVATION FOR THE NEXT GENERATION BIOMARKER DISCOVERY

Youhe Gao *(China)*

Biomarker is measurable changes associated with the disease. Without hemeostatic control, urine accumulates many early and sensitive changes associated with the disease. There is much evidence showing urine as a source of early biomarkers for many systematic diseases. Preservation of large numbers of urine samples simply and economically is essential for discovery and validation of biomarker research. With this method, even prospective studies are possible to speed up the biomarker development. Early biomarkers of many systematic diseases give us an opportunity for early intervention and eventually will change the outcome of many diseases in the future.

ICE RECRYSTALLIZATION INHIBITORS FOR CRYOPRESERVATION - A MODERN SOLUTION TO AN "OLD" PROBLEM

Robert Ben *(Canada)*

Cryopreservation is a common strategy for the preservation of various cells, tissues and biomaterials. Unfortunately, even in the presence of cryoprotective agents (CPAs) significant cellular damage occurs. The majority of this cellular damage is a direct result of the uncontrolled growth of ice via the process of ice recrystallization. The Ben laboratory has designed and synthesized several different classes of ice recrystallization inhibitors (IRIs) that control ice growth during cryopreservation and can dramatically increase the post-thaw viability and functionality of many primary cell types including progenitor cells. This presentation will describe the rational design and synthesis of small molecule IRIs, assessment of their ability to function as novel cryoprotectants for many different cell types and preliminary investigations into their mechanism of action including their ability to protect against transient warming events (TWEs).

CONSERVATION OF AQUATIC RESOURCES: THE LONG ROAD TO FISH EMBRYO CRYOPRESERVATION USING INFRARED LASER WARMING

Mary Hagedorn *(USA)*

Wild fish populations around the world are under siege from a burgeoning human population that is over-harvesting their numbers. Cultured fish are filling this need, but these farmed fish are still dependent on feed that is composed mostly of wild fish. Because of these stressors, these groups could benefit enormously from ex situ conservation methods, such as embryo cryopreservation, to stabilize and secure their genetic diversity. However, until recently, fish embryos had never been successfully cryopreserved and reanimated. This successful cryopreservation process took over 20 years to accomplish. During this period, a great deal was discovered about the barriers to successful fish embryo cryopreservation, including: (i) the large size of the embryo, resulting in a low surface-to-volume ratio impeding water and cryoprotectant efflux/influx; (ii) compartments, such as the blastoderm and yolk, with differing permeability properties, specifically the yolk syncytial membrane which was a barrier to most cryoprotectants; (iii) a large yolk, which increased the likelihood of membrane disruption by intracellular ice-formation upon cooling and ice-crystal growth upon warming; and (iv) susceptibility to chilling injury. To address the permeability barriers, microinjection was shown to be a safe and non-toxic method for introducing cryoprotectants into the yolk compartment. Pairing microinjections with infrared laser warming thawed the fish embryo at millions of degrees/min, thus reducing the formation of lethal ice. These studies are ongoing but the concept has already been applied successfully to other difficult wildlife systems, such as coral larvae. These studies indicate that with the right cryoprotectants, rapid cooling and rapid rewarming that many previously intractable embryonic stages or oocytes from vertebrate and invertebrates may be safely banked in the future.

Symposium 3B: Sustainability in Motion: Biobanking Takes Strategic Dialogue and Innovation

CUMBERLAND J/K/L
TUESDAY, MAY 22, 2018 | 9:00AM – 12:00PM

TECHNOLOGY DRIVES OPERATIONAL EFFICIENCY AND STEWARDSHIP AT BAYER

Laura Lampa *(USA)*

The Bayer Microbial Curation Team is responsible for the maintenance and management of an ever expanding and genetically diverse strain collection. Through Bayer's commitment to scientific excellence it is not uncommon for strategy and research focus to shift based upon customer driven needs. However, any shift in strategy can and often does affect operational excellence of the team. With resources always a limiting factor the team had to find innovative ways to address the increasing demand for screening material, data capture, and the heightened focus on stewardship within Bayer. Through extensive collaboration with cross functional teams, Bayer has designed and implemented an integrated state-of-the-art automation platform to enhance operational efficiency and bring stewardship to the next level ensuring long term sustainability of the microbial strain collection.

ACADEMIC-PHARMA COLLABORATION AND SUSTAINABILITY

Hiroyuki Kobayashi *(Japan)*

Though Japan possesses the second largest research and development capability in medicine, the rate of new drug launches has declined in recent years. It is thought that one of the reasons why the pharmaceutical industries themselves are unable to get rid of the conventional self-oriented research, and they have not been able to cause a new drug paradigm shift. There are various public biobanks such as Tohoku Medical Megabank organization (ToMMo), National Center Biobank Network (NCBN), BioBank Japan (BBJ) and so on in Japan. These biobanks have had valuable clinical samples received from healthy subjects and patients. These were gathered based on great effort and experience, high quality, and linked with clinical information. It can be said that these might be diamonds in the rough; it is a precious asset of Japan. However, many of them have been lying in each biobank, and many problems remain for third-party use. On the other hand, pharmaceutical researchers have been working for innovative drug discovery to contribute to the human health, but there are many cases that fail from satisfying the medicinal efficacy required in clinical trials in recent years. One reason might be that their starting materials were not based on clinical samples and its data but still cell lines and model animals. In order to understand human diseases correctly and to improve quality of life through the clinical care, the public and private sectors need to cooperate to clarify the purpose of biobanking and refine their clinical samples to the diamond. We have to return it for not only the current needs but also future patients. It is an urgent issue that we need to construct a new drug discovery scheme such as drug discovery eco-systems that will bridge sprout research found by public research institutes including biobanks and bio-ventures to pharmaceutical industries under a pre-competitive framework.

DEVELOPMENT OF A BIOBANK FOR RESEARCH IN AN ACADEMIC INSTITUTION IN INDONESIA: HOW TO KEEP ON GOING

Jajah Fachiroh *(Indonesia)*

Research for biomedical, clinical, and population-based in Indonesia is on the rise, commonly characterised with individual collection, relatively low number of subjects, and limited budget. At the faculty of medicine, public health and nursing UGM Yogyakarta-Indonesia, we are trying to encompass some of the problems by developing biobank for research, since 2014. We build not only the infrastructure, but also advocate for stakeholders and work to build systems for collaboration with affiliate academic hospitals and one population-based cohort locally. Within the presentation I will discuss milestone goals and challenges that need to be answered.

VENTURE CAPITAL PERSPECTIVE: BIOBANKS AS A STARTING POINT FOR BUSINESS ECOSYSTEMS

Tanja Dowe *(Switzerland)*

Pharmaceutical and healthcare industries are in the middle of a paradigm shift. Precision medicine and digitalization are changing the way we treat patients and changing the way we develop drugs. Biobanks with rich sample collections and patient data present huge potential for research and development, but it is not clear to the industry how to best work with biobanks. Could biobanks actively encourage a development of business ecosystems around them? How to ensure cultural fit with academic/clinical biobanks and industry? An investor's perspective.

Special Topic: Spotlight on the ISBER Biospecimen Research Symposium - Quality Matters

CUMBERLAND J/K/L
WEDNESDAY, MAY 23, 2018 | 11:45AM – 1:00PM

BIOSPECIMEN RESEARCH IN CLINICAL FLUID SPECIMENS: A SUMMARY FROM THE 2018 ISBER BIOSPECIMEN RESEARCH SYMPOSIUM

Fay Betsou *(Luxembourg)*

A summary of the talks and discussions that took place during the ISBER Biospecimen Research Symposium in Luxembourg will be presented. The topics concern serum and plasma, extracellular

vesicles, PBMCs, liquid biopsies, but also the issue of the compatibility between biospecimen research and ISO standards.

BIOSPECIMEN RESEARCH ON FORMALIN-FIXED PARAFFIN EMBEDDED CLINICAL TISSUE BIOSPECIMENS: THE BEST FROM LUXEMBOURG

Geraldine Thomas *(UK)*

Histopathology departments have spent years validating diagnostic tests on FFPE samples, so FFPE will likely remain the primary diagnostic specimen type. Meanwhile, cancer biospecimens are becoming smaller at diagnosis and diagnosis is becoming more centralized. So, biospecimens will increasingly be transported from theatre to laboratory in formalin because this is practical, prevents ongoing cold ischemia and is amenable to the principal diagnostic procedures – morphology and immunocytochemistry. Molecular technologies such as NGS must therefore be amenable to FFPE or they will not translate into the clinic. Consequently, preanalytical variables occurring after paraffin-embedding and during nucleic acid purification, e.g. different extraction kits, laboratories, operators, amplification techniques and NGS chemistry are important.

The Biospecimen Research Symposium in Luxembourg focused primarily on two areas important to clinical translation – the utility of FFPE tissue for proteomic biomarkers and the suitability of FFPE material for NGS. The conclusions were that FFPE material was amenable to both, and key steps in the FF and PE process were likely to affect downstream biomarker analysis.

BIOSPECIMEN RESEARCH ON PLANT SPECIMENS: THE BEST FROM LUXEMBOURG

Marcos Castellanos *(UK)*

The Nottingham Arabidopsis Stock Centre (NASC) and the Millenium Seed Bank (MSB) represent two of the most important germplasm biobanks in the world. The former collects, preserves, reproduces and distributes diverse seed and other stocks of the model plant Arabidopsis thaliana and related species for research and education. NASC's seed collection approaches one million stocks including insertion lines covering 28,937 genes and over 1,400 distinct natural accessions. NASC also offers several advantages over alternative providers: it provides security and stability as seed stocks are preserved under the best possible conditions; it has no interest in or claims to intellectual property, and it maintains and curates large numbers of stocks according to common standards. The number of seed and DNA stocks sent annually is now close to 150,000, a rate that substantially exceeds anything imagined in the beginning. MSB conserves propagules primarily from desiccation-tolerant seed-bearing wild vascular plants. It is the largest ex situ conservation program in the world, currently involving 96 countries and territories. The MSB holdings represent a high quality, rich biological resource. Substantial and unique taxonomic diversity exists amongst the collections, which represent 365 families, 5,813 genera, 36,975 species and 39,669 taxa, and originate from 189 countries. The collections possess significant natural capital and population value: 49% of collections have at least one identified use to humans, while 78% of collections are either endemic, endangered (nationally or globally) and/or have an economic, ecological, social, cultural or scientific value. Together, NASC and MSB, are responsible for the long-term conservation of seeds that underpin research into plant biotechnology and genetic manipulation; habitat restoration and rehabilitation; and for breeding programs for crop wild relatives and other economic species.

Symposium 4A: Small Steps in Quality Management Lead to BIG Results

LANDMARK A/B
THURSDAY, MAY 24, 2018 | 9:15AM – 12:15PM

BIOSPECIMENS AS OBSERVATIONAL DATA: HOW DOES WHAT YOU COLLECT AND WHO YOU COLLECT IT FROM IMPACT THE VALIDITY OF THE DOWNSTREAM RESEARCH RESULTS?

Joseph Roberts *(Canada)*

This presentation will highlight critical differences between observational and experimental data and how the intrinsic observational nature of human biospecimens needs to influence the activities of biobanks. The logistics of biospecimen collection can introduce selection bias into downstream research if unbalanced selection is not addressed. However, few biobanks are equipped to provide source population metrics with distributed biospecimens and few biospecimen recipients request such data. This presentation will also identify potential concerns within existing biobanks, describe how non-random participant selection (and therefore biospecimen collection) can influence downstream research results, and review methods to eliminate or mitigate the impact of non-random participant selection. Population metrics are an essential component of biospecimen quality and a key consideration for the quality management of biobanks. Therefore, biobank operators must be the agents of change who promote the application of population metrics to mitigate the potential impact of selection bias in downstream research.

WHAT WE HAVE LEARNED FROM THE STUDIES OF TUNA MEAT PRESERVATION

Tomoaki Hagiwara *(Japan)*

Frozen storage has been widely used in food, biological and medical industries for preservation of biological samples and materials. Nowadays, superior freezing-related technologies such as quick freezing and ultra-low temperature are also available with low cost. However, it should be noted that frozen storage is not an almighty preservation technique. Sample quality after freezing is not the same as that before freezing. In addition, it deteriorates slowly but gradually during storage. In food refrigeration, these facts are important because the deterioration by freezing and fro-

zen storage directly leads to quality loss and safety issue of products, and many food scientists have been trying to understand and suppress these deterioration processes. We will review the results of frozen food research for efficient utilization of freezing technology. The results about tuna fish, which has been a typical frozen food material worldwide and used in much food freezing research will be mainly described. The following four phenomena will be described as possible deterioration events which occur by freezing and during frozen storage: 1) ice crystal formation; 2) freeze-concentration; (3) recrystallization of ice crystals; (4) various chemical (including biochemical) reactions.

STANDARDIZED AND IMPROVED PRE-ANALYTICAL WORKFLOWS: CRUCIAL FOR RELIABLE DIAGNOSTICS, RESEARCH AND BIOBANKING

Uwe Oelmüller *(Germany)*

Molecular in vitro diagnostics and biomedical research have allowed great progress in medicine. Further progress is expected by new biomarker tests analyzing cellular biomolecule profiles such as nucleic acids, proteins, and metabolites. However, profiles of these molecules can change significantly during specimen collection, transport, storage, archiving and processing, caused by post collection cellular changes such as gene inductions, gene down regulations, biomolecules modifications or degradation. This can make the outcome from diagnostics or research unreliable or even impossible because the subsequent analytical test will not determine the situation in the patient body but an artificial analyte profile in the specimen generated during the pre-analytical workflow. High quality clinical specimens with preserved analyte profiles are therefore crucial to biobanking, research and diagnostics.

The EU FP7 SPIDIA research consortium could achieve significant progress by the development of new pre-analytical workflow technologies (www.spidia.eu). Within pan-European ring trials, SPIDIA could also generate evidence that guidance to laboratories on pre-analytical workflow parameters and their standardization improves molecular test results. Based on this and other evidence, new standard documents were at the European Committee for Standardization, CEN. The CEN/TC 140 "In vitro Diagnostic Medical Devices" released first 9 Technical Specification documents to standardize pre-analytical workflows for different blood, other body fluids and tissue based molecular applications. They are currently under further development to International Standards at the ISO/Technical Committee 212 "Clinical Laboratory Testing and In Vitro Diagnostic Test Systems".

The new EU Horizon2020 SPIDA4P consortium project (2017-2020) aims to broaden this portfolio by generating and implementing finally a comprehensive portfolio of 21 pan-European pre-analytical CEN/Technical Specifications and ISO/International Standards, addressing important pre-analytical workflows applied to personalized medicine. Corresponding External Quality Assurance (EQA) Schemes will be developed and implemented as well, aiming to survey the quality of samples and diagnostic practice.

The SPIDIA project has received funding under the Seventh Research Framework Program of the European Union under grant agreement no. 222916. The SPIDIA4P project receives funding from the European Union's Horizon 2020 research and innovation program under grant agreement no. 733112.

STANDARDS AND BEST PRACTICE FOR QUALITY

Daniel Simeon-Dubach *(Switzerland)****, Koh Furuta*** *(Japan)*

Standards and best practices do not exclude each other but are complimentary under the umbrella of a conformity assessment framework. Standards represent requirements that are often used to pursue accreditation, certification, or other forms of conformity assessment. Best practices do not constitute a mandatory standard. They are techniques, procedures, or methods that are used to maintain quality while enabling the improvement of policies and procedures and by doing so, improve the quality management of specimens. Best Practices can also support the development of new procedures. Since "Best" Practices evolve as new technologies and practices are discovered, there is a need for periodic Best Practice updates.

When thinking about standards for quality, some claim that standardization prevents the progress of technologies. Where standardization has been properly placed however, positive impacts upon innovation have been observed. Standardization could in fact, be a cradle for innovation. Considering this, it is much preferred to express a standard's requirements with references to performance, than to specific device features. This approach fosters innovation and healthy marketplace dynamics. It is important to understand that all standards are not the same.

Symposium 4B: Collaboration: Getting set up in the land of BIG opportunity!

CUMBERLAND J/K/L
THURSDAY, MAY 24, 2018 | 9:15AM – 12:15PM

TOTAL CANCER CARE®: BIOBANKING ON THE FUTURE OF ONCOLOGY RESEARCH

Adrie Van Bokhoven *(USA)*

The Oncology Research Information Exchange Network (ORIEN) is an alliance to integrate "big data" and data sharing for cancer research. ORIEN was founded by the Moffitt Cancer Center and The Ohio State University Comprehensive Cancer Center in May 2014, and now includes 17 members. The foundation of ORIEN is the Total Cancer Care® (TCC) protocol, a longitudinal surveillance study of cancer patients, which allows access to clinical outcomes data, specimen banking, molecular data generation, and recontacting patients. Members agree to the basic principles: 1) Follow the patient throughout their lifetime ; 2) Study the patient's tumor using molecular technology; and, 3) Maintain contact with the patient. As of March 2018, over 208,000 patients consented to TCC. The ORIEN Avatar Research Program was launched in 2016,

which generates prospective molecular (NGS) data and links longitudinal clinical data throughout a patients' lifetime to learn and anticipate patient needs. With ORIEN Avatar, the pace of development can be accelerated by taking a proactive approach to studying the nature of patients' disease and anticipating need for clinical trials. The results: reduced timelines, reduced costs and better outcomes for patients.

Members collect and share approximately 500 clinical data variables, and have access to robust molecular data to foster and enable translational research. Centrally managed by M2Gen, the infrastructure includes the ability to identify potential study participants, to query the data repository, and to engage multiple ORIEN members and manage research projects. Member institutions retain their biospecimens but aggregate data centrally, allowing for consortium-wide queries to facilitate inter-member research.

Discoveries within ORIEN are dependent on high quality data collected and shared by all ORIEN members. The Information goal of ORIEN is to acquire and exchange high quality and comprehensive patient, clinicopathological, biospecimen and molecular data on all TCC consented patients to enable high quality research collaborations.

A NOVEL CERVICAL CANCER AND OROPHARYNGEAL CANCER SCREENING TECHNOLOGY

Youxiang Wang *(USA)*

A unique cervical cancer and oropharyngeal cancer screening technology based on HPV detection with novel Isothermal Amplification Methods (OmegaAmp) will be present. OmegaAmp is the ONLY isothermal amplification technology in the world that can detect all 15 high risk HPV types in a single-tube format while simultaneously genotyping HPV 16 and HPV 18. OmegaAmp is extremely simple and very fast. For cervical sample, the detection will be finished within an hour from sample to answer. The whole process involves in one pipetting steps only. For oropharyngeal FFPE sample, the detection will be finished within two hours from sample to answer without needing any complicated DNA extraction procedures. Both sample types only need to be heated and then are ready for detection. The assay has great sensitivity and specificity. It is the best fit for early HPV screening to prevent cervical cancer and oropharyngeal cancer since early HPV screening and treatment of precancerous lesions is known to be highly effective in drop of death rate due to cervical cancer and also oropharyngeal cancer.

EXCELLENT SCIENCE AT THE SERVICE OF STAKEHOLDERS: BBMRI-ERIC'S RELATIONSHIP WITH INDUSTRY, ACADEMIA, PATIENTS AND CONSUMERS

Francesco Florindi *(Belgium)*

The best biobank is an empty biobank because all the samples are being used for research. This statement might be a bit extreme, but it depicts the growing need for biobanks to open up to collaboration to ensure they fulfill their true potential and fuel the personalized medicine revolution. For this to happen, we need to know with precision who can benefit from our work, who needs access (and how) to the 100 million samples we store, and how we can adapt our services to the needs of our stakeholders. To achieve this knowledge, BBMRI-ERIC defined a new strategy to empower its biobanks to better collaborate with industry, academia and patients/consumers. The Stakeholder Forum is a BBMRI-ERIC permanent platform to involve partners in the governance and functioning of the organization. Since September 2017, the Stakeholder Forum has been undergoing important strategic changes to accommodate the needs of patients, consumers and samples users.

COLLABORATIONS IN CHINA: THE EXPERIENCE OF THE CHINA NATIONAL GENE BANK

Xun Xu *(China)*

The China National GeneBank (CNGB) is the first national genebank integrating a large-scale biorepository and an omics database. It is approved by the Chinese government, with the mission of collecting, preserving and exploiting genomics resources, and to build a network fostering global communication and collaboration on biodiversity conservation and genetic resources utilization. In addition, CNGB will not only provide a repository system for biological collection, but more importantly develop a novel platform to further understand genomic mechanisms of life. The presentation will highlight how the current infrastructure has been used to facilitate multiple high-impact collaborations from the environmental to the personalized medicine fields.

Special Topic: Catalyzing Biobanks for Deeper Molecular Phenotyping

LANDMARK A/B
THURSDAY, MAY 24, 2018 | 12:15PM – 1:15PM

Rohit Gupta *(USA)*

Many collected samples are analyzed for only a few analytes and then "squirreled" away in freezers. The biobanking community must be the catalyst to improve the utilization of samples to produce data. We can identify and utilize a standardized set of "omics" assays that is performed on every sample obtained from research participants. This is a way of "jumpstarting" biomarker discovery and predictive medicine on steroids. We can select specific assays in genetics, transcriptomics, proteomics, metabolomics, and cellular phenotyping with a fixed panel of markers across each platform, and produce one of the world's most comprehensive datasets. This data lake will strengthen use of novel "in silico" technologies such as artificial intelligence and machine learning which demand larger volumes of data to provide validated inferences on drug success. These technologies can then also be leveraged for deeper interrogation of clinical and molecular data to identify additional samples for further phenotyping.

ISBER EDUCATIONAL WORKSHOP SUMMARIES

**Pre-registration required for all workshops.*
***All workshops are free of charge, except the pre-conference technician workshop*

Pre-Conference Technician Workshop

CUMBERLAND J/K/L
SUNDAY, MAY 20, 2018 | 1:00PM – 5:00PM

***Chairs: Diane McGarvey** (USA), **Bal Matharoo-Ball** (UK)*

Biobanking has grown in the last twenty years and the fruits of the collective labor have started to emerge. Standard core activities exist in general (biological and environmental) biorepository operations such as accessioning, storage, processing, and shipping of samples. As the demand for high-quality samples for research, medical, and industrial application become more necessary; the need for standard biobanking techniques becomes critical for success.

This workshop shall examine the activities of sample collection, processing, storage, and shipping operations; while providing information on the use of standard methods to assist in maintaining high-quality samples for downstream application. What are the keys to a quality-focused accessioning system? What are the best methods for inventory organization within cold storage units? What considerations should be taken for successful maintenance of the sample supply cold chain? What tools are available to the technician for processing samples? What are the new technologies and innovations harmonizing approaches to evolving challenges in biological and environmental repositories? These are some of the questions to be addressed within this workshop. In addition, small group discussions, led by industry professionals, shall conduct deep dives of how these activities are executed within their respected space and provide practical insight to the challenges faced by technicians today.

PART 1: SAMPLE COLLECTION

***Lead Presenter: Amanda Moors** (USA)*
***Lead Technician: Susan Garrison** (USA)*

PART 2: STORAGE ENVIRONMENT

***Lead Presenter: Alex Esmon** (USA)*
***Lead Technician: Lauren Brehm** (USA)*

Workshop 1: Returning Individual Genetic Research Results: Challenges and Responsibilities

CUMBERLAND A/B/C
TUESDAY, MAY 22, 2018 | 3:00PM – 4:00PM

***Presenters: Helena Ellis** (USA), **Sarah Dry** (USA), **Audrey Fan** (USA)*

Helena Ellis (Managing Director of Biobanking Without Borders, LLC) will discuss the key legal, ethical and social issues that must be considered when returning individual genetic results to a participant in a biobank. Issues include clinical validity, clinical utility, actionability, responsibility of the researcher, timing of enrollment in the biobank vs. timing of testing, whether the researcher is required to return results to the biobank, maintaining relationships with participants, and objective and subjective factors that influence a participant's choice and the notion of return of results vs. return of value.

Sarah Dry, MD (Pathologist and biobank director at UCLA) will present the feedback from UCLA's community advisory board regarding returning individual genetic results, and present data from a survey of UCLA patients as well as provide insight from her unique perspective as a clinical pathologist as well as the director of a research biobank. Dr. Dry will discuss how these important and complex issues are foremost in the activities and goals for UCLA's Precision Medicine program.

Audrey Fan, Genetic Counselor, will discuss genetic results. Genetic results are complicated, and may affect both the individual and their family. It may influence a person's decision to have kids, additional family members may need testing, and participants may lack health insurance. This presentation will describe the services that a genetic counselor provides to patients and their families, such as the influence of family history, identification of risk factors, the risk and benefits of receiving genetic results, GINA, the effect on life insurance, applicable state laws, family member involvement, etc. This presentation will address the potential benefits and challenges in providing counseling in the context of different clinical situations (e.g. patients who present with a chronic illness may have a different reaction than a healthy individual discovering new, disturbing information). This presentation will compare the differences between the thoroughness of education and consent about genetic findings in the clinical setting vs. the research setting, and discuss the ethics and practicality of such issues as which healthcare provider is in the best position to have the first discussion with the patient.

Workshop 2: ISBER Best Practices: Recommendations for Repositories 4th Edition Update

CUMBERLAND F/G/H
TUESDAY, MAY 22, 2018 | 3:00PM – 4:00PM

Presenter: Sheila O'Donoghue *(Canada)****, Cathy Seiler*** *(USA)****, Daniel Simeon-Dubach*** *(Switzerland)*

This workshop focuses on the rationale for updating and the process associated with updating the ISBER Best Practices Guidelines, a summary of the changes made between the third and fourth edition and the dissemination of the Best Practices internationally.

Workshop 3: Accessing Human Samples to Deliver New Medicines for Patients: An Industry Perspective

CUMBERLAND J/K/L
TUESDAY, MAY 22, 2018 | 3:00PM – 4:00PM

Presenter: Clive Greene *(UK)*

Adequate and timely provision of appropriate quality, normal and diseased human tissue, accompanied by relevant associated data, is essential for experimental biomedical research to help pharma and biotech companies develop new healthcare interventions and diagnostics. Making human tissues widely available for approved and scientifically valid research is therefore in the public interest. Many companies have spent considerable resources building internal capabilities for utilizing human tissues from internal clinical trials and establishing or partnering a diverse, often global network of approved commercial and academic sources. This multi-modal supply approach is essential in securing samples appropriate to the field of scientific research and in such number that the experiments carry statistical significance to enable critical decision-making; ranging from starting a new drug project on a novel disease target to modifying a patients' treatment regime.

Not all of the human tissues available to the drug discovery industry have appropriate characteristics to deliver impact from scientific research. Industry ascribes value to samples that are appropriately consented for exploratory science, are of sufficient quality to generate meaningful scientific results, have associated clinical meta-data to derive knowledge on disease and patient populations, and can be supplied quickly to enable agility in experimental design and response to clinical findings. Additional practical considerations need to be given to the procurement of suitable human tissues and how they must be provided to the drug discovery scientists. For example, establishing the appropriate source and format (surgical, post-mortem, tissue size, fresh, fixed, frozen), meeting the experiment or study criteria (post-mortem delay, warm or cold ischemic time, donor characteristics) and defining how and who will be responsible for transportation.

In general, industry experiences a strong track record in the supply of high-value human tissues from our internal clinical trials, commercial sources and specific academic collaborations; the latter of which are often cultivated over many years. Supply from these sources can be trusted to conform with the critical parameters for consent, quality, associated data, speed and simplicity that enable scientific innovation on a timeframe that meets requirements for patients and business. Industry recognizes that a far larger number of human tissues are collected across the broader academic setting. Whilst these samples potentially offer a much needed additional resource to advance drug discovery, there is growing awareness that without the creation of simple mechanisms to share samples and associated data, these collections will lie dormant; becoming increasingly wasteful of both the patient donations and the healthcare resources.

In this workshop, the ISBER Pharma Working Group will share and debate with workshop attendees: 1) the use of human samples in drug discovery and development; 2) a perspective on the challenges that exist for the drug discovery industry in accessing human tissues from academic biobanks; and 3) steps that could be taken to increase the number of sample collections that have a positive impact on new medicine development and patients' lives.

Workshop 4: Designing and Maintaining a Human Tissue Repository, Part 1

CUMBERLAND A/B/C
WEDNESDAY, MAY 23, 2018 | 11:45AM – 1:00PM

Presenters: Kathy Sexton *(USA)****, William Grizzle*** *(USA)*

The design and planning of a human tissue biobank or biorepository requires much preparation and forethought. This workshop will be presented in two parts.

Part 1 will discuss the different repository models that are available, the many issues that should be considered and the various types of services your repository might want to provide, leading the audience through questions they should ask and answer when considering the establishment of a human tissue biorepository at their institution. The answers to the questions will help them design the biorepository that is right for their needs.

Workshop 5: The Revised Common Rule: Practical Implementation Challenges for Biorepositories and Strategies for Addressing Them

CUMBERLAND F/G/H
WEDNESDAY, MAY 23, 2018 | 11:45AM – 1:00PM

***Presenters: Mark Barnes** (USA), **Marianna Bledsoe** (USA)*

In January 2017, the US federal government issued revisions to the Federal Policy for the Protection of Human Subjects, commonly referred to as the Common Rule. These regulations involve a number of new changes that pertain to human biospecimen research and biorepository operations. These include changes to the definition of "human subject", the option of using broad consent and limited Institutional Review Board (IRB) review for secondary research of human biospecimens and/or data, two new exemptions, additional criteria for a waiver of informed consent, and new consent requirements. These changes present new practical implementation issues and challenges for biorepositories. This workshop will provide an overview of the changes to the Common Rule as they pertain to human specimen research and biorepository operations. In addition, presenters and workshop attendees will discuss the practical implementation issues and challenges of these changes and strategies for addressing them.

Workshop 6: Designing and Maintaining a Human Tissue Repository, Part 2

CUMBERLAND A/B/C
WEDNESDAY, MAY 23, 2018 | 1:45PM – 3:30PM

***Presenters: Kathy Sexton** (USA), **William Grizzle** (USA)*

The design and planning of a human tissue biobank or biorepository requires much preparation and forethought. This workshop is organized into two parts:

Part 2 will be devoted to an in-depth discussion of the daily operations of maintaining a biorepository and will include discussions of the importance of quality control and safety. The workshop will provide useful information for anyone thinking about or planning to establish a repository as well as those who have recently begun repositories. Time will be devoted to questions and audience discussion.

Workshop 7: Animals, Plants, Environments, and Humans: Brainstorming Models for Cross-Sector and Interdisciplinary Collaboration and Utilization

CUMBERLAND F/G/H
WEDNESDAY, MAY 23, 2018 | 1:45PM – 3:30PM

***Presenters: Piper Mullins** (USA), **Mariel Campbell** (USA), **Marianne Henderson** (USA), **Judith Giri** (USA), **Dr. Xu** (China), **Susan Garrison** (USA), **Geoff Wood** (Canada)*

Collaborations enhance biobanks, and interdisciplinary collaborations provide exciting opportunities for biobanks looking to increase research output and sample utilization. This interactive workshop will employ case studies and group discussions on how biobanks can work more efficiently together through intra-organizational and external collaborations, especially across different areas like animal and human biomedical. We will focus on sample use in biobanks and demonstrate how organizations can go outside their organization or sector to find other customers and different collaboration types.

Biobanks each offer a unique set of samples, collections, and varying services, and there is a need to increase communication between different biobanks. Animal, plant, environmental, and human biobank collaborations bring together different sample types and services that complement both partners. For example, the Cornell oncology biobank collaborates with the Cornell veterinary biobank to develop, test, and refine SOPs.

Attendees will learn and discuss how to collaborate with other biobank disciplines or areas to increase biobank usage and therefore sustainability. These "outside the box" collaborations can provide funding and/or value statements that a bank's samples are desirable, which can be used to explain to funders why to support them, and increase scientific value. All biobanks have to make a plan for use and users, and costs associated. Attendees will gain tools to find collaborations and ways to think outside of their own sectors and gain new users and funds.

Anyone seeking ways to increase their biobank's sample utilization and value statement is encouraged to attend, both experienced collaborators and those just getting started.

Workshop 8: Guidelines for Choosing a Biobank Informatics System

CUMBERLAND J/K/L
WEDNESDAY, MAY 23, 2018 | 1:45PM – 3:30PM

***Presenters: Kevin Meagher** (USA), **Cheryl Michels** (USA), **Mark Cada** (USA), **Ashokkumar Patel** (USA), **Srikanth Adiga** (India)*

The ISBER Informatics Working Group (IWG) will cover the considerations when choosing the system(s) necessary to support their biobank's activities. Just as biobanks differ in their processes and workflows, their informatics requirements also differ. Inventory systems have gone beyond tracking solely sample information, and many now offer a comprehensive suite or modules of functionality, including consent management, inventory management, survey data, test results, clinical data management, instrument integration and cohort identification. This presentation will cover components to consider, evaluation criteria, a model decision tree, and practical advice. Participants will learn how to prioritize their own requirements and identify those that are critical, in line with the ISBER Best Practices.

Anyone considering a change in their biobanking informatics system, infrastructure, or environment should attend.

Special Topic Workshop: ISO and ISBER and CAP, oh my!

LANDMARK A/B
THURSDAY, MAY 24, 2018 | 1:15PM – 2:15PM

***Presenters: Clare Allocca** (USA), **Marianna Bledsoe** (USA), **Helena Ellis** (USA), **Koh Furuta** (Japan), **Shannon McCall** (USA), **Cheryl Michels** (USA), **Nilsa Ramirez** (USA), **Melissa Rawley-Payne** (USA), **Brent Schacter** (Canada), **Daniel Simeon-Dubach** (Switzerland)*

One of the largest drivers for biobanking is the goal to efficiently achieve quality specimens that are fit for purpose. The assortment of tools to assist in achieving this goal has been increasing in both type and complexity. These tools will be described and their potential interactions, synergies, and differences will be examined. A panel of experts will compare options for varied mechanisms.

Standardization encompasses concepts such as quality management, explicitly defined requirements, and conformity assessment (demonstration that specified requirements relating to a product, process, system, person, or body are fulfilled). Biobanks may benefit from adopting relevant standards in whole or in part, and applying them to processes ranging from minor operational guidance to critical quality management systems. Standardization may also become a pathway to accreditation (e.g. by working with an accreditation body such as CAP) or certification (e.g. by use of certification products provided by entities such as CTRNet). What do all these terms really mean? What do all these acronyms stand for? Where should a biobank begin? How does a biobank determine how to best use standardization to obtain value for their organization? These issues, as well as considerations and challenges for implementation of standards, will be addressed.

Also available to biobanks are best practices documents, including the 2018 revision of ISBER's Best Practices, 4th edition. How do best practices documents relate to standards, and how can they be used in concert with standardization to serve biobanking needs? How do I navigate the large number of guidance documents that are currently available? Does one need to choose among these approaches or can they be used together?

Once the components of this "toolbox" have been discussed and several paths to fitness-for-purpose of biospecimens have been examined, we will facilitate an interactive discussion on biobanking standards-related needs. The workshop will solicit input to develop a white paper, as well as to design and plan a focused biobanking standardization workshop in late 2018.

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POSTER SESSIONS

Poster session 1: Monday, May 21, 2018

Poster presenters will be at their posters from 6:30 PM – 7:30 PM

ID	TITLE	PRESENTER	COUNTRY
P-05	A Heart Valve Sample Collection for Sustainable Research in Indonesia	Ery Dwianingsih	Indonesia
P-06	A Survey of the Present Situation of Clinical Biobanks in China	Mingyu Ni	China
P-07	Building a Bank for the Future: Developing the Maternal Research Placenta & Cord Blood Bank at Froedtert and the Medical College of Wisconsin	Mary Rau	United States
P-08	Key Roles of the Korea Gynecologic Cancer Bank	Hyunja Kwon	Korea (the Republic of)
P-09	Qatar Biobank Biorepository Structure	Fatima Qafoud	Qatar
P-10	Singapore Integrated Network of Biorepositories SINB	Chon Boon Eng	Singapore
P-11	The Establishment of a National Health Laboratory Services Biorepository in Uganda	Hellen Nansumba	Uganda
P-12	The Penn Medicine BioBank (PMBB), a Large Community-Based Resource, Provides Access to Human Biospecimens and their Clinical and Genetic Data	Cristian Perez	United States
P-13	Consortium Model Biobank/Biobank of the Future in the Light of Precision Medicine	Zdenka Prodanovic	Australia
P-14	A Comparison of PBMC Separation Methods – Under-layering, Leucosep™ Separation, and CPT™ Cell Preparation Tubes	Robyn Osborne	United States
P-15	A Comprehensive Biorepository Analysis of Bone Marrow Cells from Peripheral Vascular Disease Patients Treated with ALDH Bright Cells	Micheline Resende	United States
P-16	A Novel Method for Biobanking Hard Bone Metastases	Ashley Fletcher	United States
P-17	A Single-Molecule Assessment of the Protective Effect of DMSO Against DNA Double-Strand Breaks Induced by Freezing	Tatsuaki Tsuruyama	Japan
P-18	Analysis of Processing Method on Peripheral Blood Mononucleated Cells Isolation and Plasma Total Protein Levels	Angela Muise	United States
P-19	Assessing Lymphocyte Viability and EBV-Transformation in 12 Samples from the CPS-3 Cohort	Cari Lichtman	United States
P-20	Assessing the Quality of DNA from Fresh Frozen Human Tumour Tissues Stored Long-term at Cryogenic Temperatures and secondary comparison to RNA integrity	Monique Albert	Canada
P-21	Automated Extraction of DNA from FFPE for Whole Exome Sequencing	Shawn Westaway	United States
P-22	Comparing Cell-Free DNA (cfDNA) Yields Extracted from Plasma Stored at Varying Temperatures	Jessica Kenney	United States
P-23	Comparing Measurement Variability in Selected Analytes to Evaluate Operational Quality of Biospecimen Procedures in the National Children's Study (NCS) Vanguard Pilot: Markers of Glucose Metabolism	Jack Moye	United States
P-24	Cystatin C as a Quality Control for Optimal Storage Condition of Human Cerebrospinal Fluid (CSF)	Kathleen Mommaerts	Luxembourg
P-25	Developing a Public Data Resource for the NCI's BPV Program	Ping Guan	United States
P-26	Divergent Gene Expression Analysis Results from Separate Intra-Institutional Tissue Fixation Protocols	Timothy Geddes	United States
P-27	Effects of Metformin on Cholesterol Metabolism and SREBP - 2 Protein Expression in Type 2 Diabetic Patient	Guang Pang	China
P-28	Etiology and clinical traits of hospitalized children with hand, foot and mouth disease in Beijing from 2010 to 2014	Jun Cheng	China
P-29	Evaluation And Optimization Of Sample Type For The National Marrow Donor Program's Be The Match Registry	Jessica Henry	United States
P-30	Exome Sequencing of Primary Liver Tumors in Workers Occupationally Exposed to Ionizing Radiation Reveals Novel Candidates for Driver Genes	David Goerlitz	United States
P-31	IL8 and IL16 Levels Indicate Serum and Plasma Quality	Olga Kofanova	Luxembourg
P-32	Influence of Cold Ischemia Time on RNA Quality of HCC Frozen Tissues and Matched Adjacent Tissues	Yue Hu	China
P-33	Influence of Environmental Estrogens Bisphenol on Female Reproductive Function	Chun Zhang	China
P-34	Interleukin 31 as a Novel Biomarker in Diabetic Nephropathy Diagnosis	Guang Pang	China

ID	TITLE	PRESENTER	COUNTRY
P-35	On the Use of Buffy or Whole Blood for Obtaining DNA or RNA of High Quality and Functionality: What is the Best Option?	Pedro Ferro Gallego	Spain
P-36	Quality Control in Cryopreserved Samples Applied in Genomic Research	Ana Neuber	Brazil
P-37	Quality Spectrum of RNA in Cryopreserved Cancer Biospecimens	Poonam Gera	India
P-38	RNA Extraction from FFPE Tissue: Optimizing Deparaffinization Process Using a Commercial Solution or Xylene Protocol	Ana Neuber	Brazil
P-39	The Stability of Two Serum Cytokins in Diabetic Patients	Yinan Zhang	China
P-40	The Storage Stability of Red Blood Cell in Diabetic Patients	Yinan Zhang	China
P-41	Using the Biomaterial from Radiobiological Repository of Tissues Obtained from Individuals Exposed to Occupational Radiation for Identifying Potential Markers of Early Disease Processes	Evgeniia Kirillova	Russian Federation
P-49	A Proposal Enhancing In-house Ecosystem Supporting Biorepository and Real World Data-Driven Clinical Research in A Community-based Cancer Hospital along with ISO15189 Accreditation	Morihito Takita	Japan
P-50	Biospecimen Cost Recovery in a Hospital Integrated Biorepository	Jennifer Wong	United States
P-51	Building Biorepository for Cardiovascular Research: The Vanderbilt Human Heart and Tissue Biobank	Yan Ru Su	United States
P-52	Challenges of Embedding Biobanking into Pathology	Kathleen Phillips	Australia
P-53	Children Are Not Small Adults: Insights Into Pediatric Biobanks	Adam Velenosi	Canada
P-54	Collection of the Whole Life Cycle : A Longitudinal Collection of Nomal Pregnant Women and Offspring's Healthcare Biorepository	Hongyan Jin	China
P-55	In vivo Evolution of Drug-Resistant M. Tuberculosis in Patients During Long-Term Treatment	Zhaogang Sun	China
P-56	Increased Demand for Archival Tissue Specimens Following Authorization of the United States' Cancer Moonshot Initiative	Aubrey Coulas	United States
P-57	Mono-Prep Processor Increases the Case-Finding of Sputum Smear Microscopy for the Diagnosis of Tuberculosis	Shaofa Xu	China
P-58	Optimization of an Automated Biobank Specimen Collection in a Hospital Laboratory	Marie Karlikova	Czechia
P-59	The T1D Exchange Biobank: A Resource and Virtual Registry for Type 1 Diabetes Research	Haley Oh	United States
P-60	The Value of a Specimen Tracking Tool And Beyond	Manish Asiani	United Kingdom
LBP-12	Setting & Maintaining a Biobank with a Training Perspective in Laboratoire La Grace, Yaounde – Cameroon	Jean Nana	Cameroon
LBP-13	National Liver Disease Biobank in India: Fostering Research Collaboration across India and Abroad	Birendra Yadav	India
LBP-14	Korea Biorepository Activity of Human Serum Bank for Infectious Disease Preparedness	Young Joo Cha	Korea (the Republic of)
LBP-15	Challenges of Establishing a Human Cancer Biobank in a Developing Country: A Philippine Experience	Ma. Luisa Enriquez	Philippines
LBP-16	Management Mechanism of Clinical Specimen Bank in Large Comprehensive Hospital	Shan Wang	China
LBP-17	China Biobank Profile	Xun Xu	China
LBP-18	PUMCH Biobank and National Rare Disease Registry System of China (NRDRS)	Dan Guo	China
LBP-19	Pin1 Promotes Regulated Necrosis Induced by Glutamate in Rat Retinal Neurons via CAST/calpain2 Pathway	Shuchao Wang	China
LBP-20	Immune-checkpoints Screening in Tumor Specimens of Gastric Cancer from Hospital Biobank in Shanghai	Yingyan Yu	China
LBP-21	Comparing the Immune Profile of NMO Patients Receiving Mechanistically Distinct Immunomodulatory Therapies	Oladipupo Anibire	United States
LBP-22	Clinicopathological Significance and Prognostic Role of EZH2 Expression in Pulmonary Adenocarcinoma with a Micropapillary Pattern	Anqi Wang	China
LBP-23	High-quality Samples for Biobanking – Biobank Graz Concept for Quality Assurance and Quality Control	Karine Sargsyan	Austria
LBP-24	Association Between STAT4 Polymorphisms and the Risk of Juvenile Idiopathic Arthritis in Han Chinese Populations	Xiaolan Huang	China
LBP-25	Study of the Potential Tumor Markers of Renal Clear Cell Carcinoma with Proteomic	Xiaoxiao Zhao	China
LBP-26	The Results of Peripheral Blood Mononuclear Cells Isolated From Liver Disease And HIV-1 Infected Individuals From Hepatitis/AIDS Biobank	Jianping Sun	China

ID	TITLE	PRESENTER	COUNTRY
LBP-27	Role of aldehyde dehydrogenase 1A2 in ovarian cancer	Hyunja Kwon	Korea (the Republic of)
LBP-28	Exploring the Improvement of Cryopreserving Human Peripheral Blood Mononuclear Cells	Hao Guo	China
LBP-29	Optimizing Thawing Temperature To Improve The Quality Of Cryopreserved Human Peripheral Blood Mononuclear Cells	Yanhong Xu	China
LBP-30	Molecular Biological Characterization of Newly Established Epithelial Ovarian Cancer (EOC) Cell Lines	Hyunja Kwon	Korea (the Republic of)
LBP-31	Temporal RNA Integrity Analysis of Archived NASA Spaceflight Biological Samples - 1991 to 2016	Kaushik Chakravarty	United States
LBP-32	Effect of using previously banked hair samples on SNP genotyping of livestock animals	Avhashoni Zwane	South Africa
LBP-33	Characterizing Freezing Responses of Human iPS Cells Using Low-Temperature Raman Spectroscopy	Guanglin Yu	United States
LBP-34	Extracting DNA From Formalin-Fixed, Paraffin-Embedded (FFPE) Tissue Biospecimens Using User-Friendly Automated Technology: Is There An Impact On Yield Or Quality?	William Mathieson	Luxembourg
LBP-35	Quality of Plasma from Barricor Blood Collection Tubes	Conny Mathay	Luxembourg
LBP-56	MW CHTN Researcher Requested Tissue Sample Sizes (Weight) Distributed, 2015 - 2017: Supporting Data For Biorepository Research Tissue Sample Weights For Storage.	Randal Mandt	United States
LBP-57	Insights into the development and clinical outcomes of Atrio ventricular septal defect-a Multicenter Tissue Banking Approach	Lalita Wadhwa	United States
LBP-58	Biospecimen Collection and Management in a Large International Intervention Study	Jennifer Kemp	United States
ITP-1	An Integrated Data and Collaboration Framework for Enhancing Biospecimen Utilization and Data Sharing	Tamer ElNashar	Qatar
ITP-2	Construction of A Multi-center Data Integration System: Jiangsu Biobank of Clinical Resources	Risheng Cao	China
ITP-3	Information Management of Clinical-grade Stem Cell Bank	Hongmei Zhou	China

Poster Session 2: Tuesday, May 22, 2018

Poster presenters will be at their posters from 6:00 PM – 7:00 PM

ID	TITLE	PRESENTER	COUNTRY
P-01	Making Biobank Data and Samples Findable and Accessible	Erik Iperen	Netherlands
P-02	MOLGENIS Catalogue - Biobank Catalogue in a Box	David van Enckevort	Netherlands
P-03	The Development of Checklist Tools for Assessing Biobanking Compliance and Quality	Monique Albert	Canada
P-04	The Newly Expanded NCI-BBRB Patient Corner Website: A Community Resource for Biospecimen Information and Education	Esmeralda Casas-Silva	United States
P-42	A Closer Look at Adult Participants Providing Informed Consent for Biobanking	Xiaoyin 'Sara' Jiang	United States
P-43	Challenges of Ethical Reviews in China's Biobanks	Kaiyu Qian	China
P-44	Ethics and Governance of Pediatric Observational Study: The Experience of The Born in Guangzhou Cohort Study	Xiu Qiu	China
P-45	Leveraging Clinical Consent Procedures to Obtain Research Consent of Remnant Sample Donations in a University-Based Practice.	Stephanie Soares	United States
P-46	The Altruistic nature of Tuberculomas in Durban, South Africa	Khadija Khan	South Africa
P-47	Biobanking to innovation	Koh Furuta	Japan
P-48	Cancer Biobanking in India- Emerging Avenues at a Tertiary Care Cancer Centre in Northern India	Juhi Tayal	India
P-61	Automated Robotic Solutions for a Large Scale Biobank: Changing How We Work Everyday	Jessica Erbsen	United States
P-62	Evaluating Temperature on a Custom Automation Platform to Optimize Chilling Requirements for Sample Protection	Jesse Gore	United States
P-63	Implementation of Information Technology Automated Enhancements in a Biorepository IT Solution	Manu Manrao	United States
P-64	Streamlining DNA Quantification and Normalization for Highly Automated National Biobank	Jeffrey Meyer	United States
P-65	-70°C versus -80°C Ultra-Low Temperature Set Points: Cost Efficiency and Metrics for Failure Prediction	Tom Waites	United States
P-66	A Worldwide Study of the Factors Affecting Sustainable Biobanking Operations and Technology-Based Approaches to Increase Utilization Rates	Jeffrey Goldman	United States
P-67	BBMRI, a European Research Infra… What? - Rethinking BBMRI-ERIC's Communication Strategy	Johanna Dungl	Austria

ID	TITLE	PRESENTER	COUNTRY
P-68	Biobank Sweden – A New Organization of Biobank Infrastructure in Sweden	Lena Thunell	Sweden
P-69	Biorepository Design Considerations for Emerging Therapeutics	Timothy Sharp	United States
P-70	Building a Quality-Based, Sustainable, Consenting Infrastructure: One Biobank's Experience	Carol Elliott	United States
P-71	Clinical Trials' Samples Management and Creation of Strategic Collections through Bio-banks	Alvaro Jimenez	Spain
P-72	Comparison of Energy Efficient -80°C Freezers for Biorepository Storage	Jessica Lesko	United States
P-73	Custom Liquid Nitrogen Freezer Monitoring System	Lisa Kalman	United States
P-74	Enabling Systems Toxicology Assessment Studies with State of the Art Biospecimen Data Management Systems	Sam Ansari	Switzerland
P-75	Forming International Disease-Specific Biobank Trusts to Ensure Long-Term Biobank Sustainability: a Risk and Benefit Sharing Model	Robert Hewitt	United Kingdom
P-76	Integration of a Biobanking Information Management System (BIMS) with the Electronic Medical Record (eMR) for Multi-site Comprehensive Biobanking	Wayne Ng	Australia
P-77	Integration of Human and Animal Biorepository Data into a Virtual Biospecimen Discovery (VBD) Tool to Enhance Visibility of Research Samples within the University of California, Davis	Stephanie Soares	United States
P-78	Integrative Construction of Laboratory Information Management System in Hospital	Menghong Sun	China
P-79	Migrating To A New Biobanking Data Management System: One BioRepository's Experience	Melissa Whitford	United States
P-80	Multi-institutional Mapping of a Biobanking Minimum Dataset to Data Sources from Electronic Medical Records (eMR) across Hospitals in New South Wales, Australia	Wayne Ng	Australia
P-81	Qatar Biobank Participant Recruitment Strategy	Mohammed Al Dosari	Qatar
P-82	Qatar Biobank Strategy to Enhance Sustainability	Eleni Fthenou	Qatar
P-83	Quality Enhancements of your Biorepository Through Continuous Metrics Review	Barbara Pruetz	United States
P-84	Specialized Consent Training in an Academic Biorepository	Katherine Arnette	United States
P-85	The Comprehensive Data Resource: An informatics system for complex, multi-omics research studies	Christopher Kinsinger	United States
P-86	The Role of Cloud Technology in Supporting Biobank Sustainability	Jim Vaught	United States
P-87	Training a New Biobank Employee	Alison Parry-Jones	United Kingdom
P-88	Transfer Management of Healthcare Archive Samples for Oncological Clinical Trial by the Biobank Platform	Pedro Ferro Gallego	Spain
P-89	Acquiring External Collections	Chelsea Bender	United States
P-90	Best Practices for Cryogenic Handling of Temperature Sensitive Biological Materials	John Fink	United States
P-91	Construction and Quality Control of Obstetrics and Gynecology Disease Biobank	Yanhong Liu	China
P-92	Contamination Analysis of the NIST Marine ESB's Post-Homogenization Cleaning Protocols	Jennifer Trevillian	United States
P-93	Delay in Freezing PAXgene Vacutainers Reduces RNA Integrity Numbers (RIN)	Bryan Lopes	United States
P-94	Experience of Australia's First Biobanking Certification Program: What is more valuable than a certificate?	Li Zhou	Australia
P-95	Real -time Mapping of Temperature of Upright Ultra-Low Freezers as a Standard Quality Control Measure for Biospecimens	Sharmeela Kaushal	United States
P-96	Standardized DNA and RNA Sample Quality Control	Elisa Viering	Germany
P-97	The Eastern Virginia Medical School Biorepository: How we survived CAP accreditation	Mary Ann Clements	United States
P-98	The International Standard (ISO/AWI 21709) for Biobanks Handling Mammalian Cell Lines	Paul Jung	Korea (the Republic of)
P-99	Automated, LN2 Vapor Freezers: Inventory, Sample Safety, Energy Efficiency, Oh My!	David Lewandowski	United States
P-100	Clinical and Bio-specimen Data Collection in a Limited Resource Context – Integration of OpenSpecimen and OpenClinica	Anna Mantsoki	Switzerland
P-101	ISBER Tools to Facilitate Quality Biobanking	Debra Garcia	United States
P-102	ISBER Information Management System Evaluation Checklist	Kevin Meagher	United States
P-103	Guidance on Incorporating the ISBER Best Practices: Recommendations for Repositories in Policies and Procedures	Lori Campbell	United States

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

ID	TITLE	PRESENTER	COUNTRY
LBP-1	The Construction and Development of Information System of Clinical Biobank	Dan Guo	China
LBP-2	Comprehensive Paperless Biorepository Management	Carla Thomas	United States
LBP-3	A Comprehensive Biobanking Ontology of the Lifecycle of the Biospecimen Made For-and-With Diverse Subject Matter Experts	Helena Ellis	United States
LBP-4	Transforming Sample Creation Process for Biobanking Registration with Excel Macros	Yan Liu	United States
LBP-5	OpenSpecimen – Experiences of Collaborative Development of an Open Source Biobanking Informatics Platform	Srikanth Adiga	India
LBP-6	Data Quality Assessment of the Human Biobank Information System in the National Biobank of Korea	Byeonggon Ji	Korea (the Republic of)
LBP-7	Reducing the Human Data Entry Burden of a Growing Pediatric Brain Tumor Biospecimen Banking Consortium	Alex Felmeister	United States
LBP-8	Challenges in Integrating Automated Solutions for Biobanking Workflows: A Piece of Equipment is not the Solution	Benjamin Trapp	United States
LBP-9	Strategic Implementation to Establish Biorepository Sample Processing Platform in Clinical Laboratory for a Examination Remaining Blood Genomics Biobank Without Disrupting Clinical Examination Practice	Manli Wu	China
LBP-10	The Biospecimen Research Database: an Online Literature Repository and SOP Library to Improve Specimen Quality	Lori Campbell	United States
LBP-11	A Unique Approach to Rare Disease Specimen Collection	Martha Mann	United States
LBP-36	Biobanking of Biospecimens for the Epidemiology of Cardiovascular Risk Factors and Diseases in Regions of the Russian Federation Study (ESSE-RF)	Sergey Anisimov	Russian Federation
LBP-37	Develop and Validate PCR and ELISA Methods for Detecting Orthopoxvirus in Georgia	Ana Gulbani	Georgia
LBP-38	Evaluating the Utility of Necropsied Marine Animal Tissues in Genomics	Jennifer Ness	United States
LBP-39	The Biobanking of Human Peripheral Blood Mononuclear Cells	Aiping Zang	China
LBP-40	Three Methods for Leukocytes Separation and RNA Quality Control	Heng Zhang	China
LBP-41	The Proficiency Testing Program in National Biobank of Korea	Hye Ryun Kim	Korea (the Republic of)
LBP-42	Determining Quality of BioBank Tissue Samples	Tamsin Tarling	Canada
LBP-43	Stability of Total and Free Prostate Specific Antigen After Ten Years Storage	Judita Kinkorova	Czechia
LBP-44	Standardized DNA and RNA Sample Quality Control	Elisa Viering	Germany
LBP-45	OPTIMARK Project: Preliminary Results on Antigenicity and Integrity in Non-Tumor Tissue Samples	Cristina Villena	Spain
LBP-46	Long-term Stability of Tumor Markers in Human Sera	Marie Karlikova	Czechia
LBP-47	Tackling Compliance Challenges for Use of Biological Assets in Drug Discovery	Stacy Quirin	United States
LBP-48	Implementing Electronic Consent in an Academic Biorepository	Taylor Daughrity	United States
LBP-49	Parental Attitudes and Willingness to Donate Children's Biospecimens for Congenital Heart Disease Research	Shijian Liu	China
LBP-50	The Re-consenting Hurdles of a Pediatric Biorepository	William Marsh	United States
LBP-51	Reflexivity and Ethics for ABS of the CBD: Empirical Analysis by Network of Scientific Articles with NLP	Ryo Kohsaka	Japan
LBP-52	A Brief Introduction of ABC2017	Yun Zhang	China
LBP-53	Pathogen Asset Control System (PACS) Integration with Radiofrequency Identification (RFID) Technology at NCDC of Georgia	Svetlana Chubinidze	Georgia
LBP-54	ACMG Incidental Findings at the CLIA-certified Colorado Center for Personalized Medicine Biobank	Stephen Wicks	United States
LBP-55	Biobanks Managing Specimen and Annotations Associated with Patient Derived Xenografts (PDX)	Heidi Dowst	United States
LBP-59	Utilization Performance of Bioresources Distributed by The National Biobank of Korea	Meehee Lee	Korea (the Republic of)
LBP-60	Enabling Detailed & Operator-Independent Plasma QC by an Innovative Spectrophotometric Approach	Andrew Brooks	United States

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ABBOTT INFORMATICS — BOOTH #615

Abbott Informatics provides leading Laboratory Information Management Systems (LIMS) solutions that have served customers around the world for more than 30 years. The Abbott Informatics' STARLIMS solutions improve the reliability of laboratory sampling processes, support compliance with global regulatory requirements and industry standards, and provide comprehensive reporting, monitoring and analysis capabilities. With 12 development and support centers throughout the world, Abbott Informatics solutions are used in labs across multiple industries and disciplines including clinical, pharmaceutical, forensic, food safety, manufacturing, petrochemical, public health, and life sciences.

ADVANCED ANALYTICAL TECHNOLOGIES, INC. — BOOTH #600

Advanced Analytical Technologies, Inc. leverages parallel capillary electrophoresis to manufacture industry leading nucleic acid analysis systems. Dedicated to improving discovery, AATI's FEMTO Pulse is ideal for evaluating the quality of nucleic acids prior to use in sensitive applications, including long-read sequencing, optical mapping, and single-cell genomics. The FEMTO Pulse can accurately and quickly measure the amount of intact high molecular weight DNA present in genomic DNA deposited in biobanks, ensuring that the best possible samples are stored. Visit us at Booth 600 to learn how knowing sample quality can save time and help ensure optimal outcomes.

AGILENT TECHNOLOGIES — BOOTH #403

Agilent 4200 TapeStation system for Biobanking.

Sample quality is critical to the success of every biobanking project.

The integrity of your samples can vary dramatically—depending on their nature and age—and will have an impact on results of any downstream experiments.

The Agilent 4200 TapeStation is an automated electrophoresis platform that allows you to standardize your quality control of DNA and RNA samples isolated from different sources.

AUTOSCRIBE INFORMATICS INC. — BOOTH #405

For years Autoscribe has provided Laboratory Information Management Systems (LIMS) specifically designed to meet each organization's requirements. Using Autoscribe Informatics' Matrix Gemini LIMS allows laboratories to implement a LIMS that is easily tailored to match unique requirements. Such changes are achieved without writing any new code, or learning any esoteric scripting language; making implementation faster and support easier, resulting in less expense. The Matrix Configuration Tools enable workflows and screens to be altered to fit the unique requirements of each environmental laboratory from water and wastewater to soil testing labs. Come discover a LIMS as unique as your lab. Stop by Booth #405.

BAHNSON ENVIRONMENTAL SPECIALTIES — BOOTH #609

Bahnson Environmental Specialties (BES) design, manufactures, installs and services a diverse line of controlled environmental chambers that maintain precise conditions for a wide array of research, development, and manufacturing activities. All chambers are designed to satisfy the most stringent field performance tests. Our single-source turnkey solution includes pre-sales support; architectural, mechanical, and electric/controls design; project management, field installation, field testing/validation, and service.

BBMRI-ERIC — BOOTH #117

BBMRI-ERIC is a European research infrastructure for biobanks and biomolecular resources.

BIOLOGIX GROUP LIMITED — BOOTH #416/418

CryoKING, a brand by Biologix, offers complete biobanking solutions characterized by integrated biobanking designs, full biobanking

products, and comprehensive biobanking training. With professional designs, advanced techniques, and information-based management, CryoKING covers every phase of biobanking and offers complete and one-stop biobanking services. CryoKING biobanking products include traditional cryogenic vials, multi-coded cryogenic vials, automated products of SBS standards, various cryogenic boxes and racks, scanners, biobanking management software, low-temperature freezers, liquid nitrogen containers, etc. Due to the continuous technological innovation, CryoKING has enriched complete biobanking solutions and keeps competitive in the biobanking field.

BIOSERO/ ZIATH LTD. **BOOTH #715**

Whether you're attending ISBER to find a scanner, labeler or sample management software. Biosero has a standalone or complete workflow solution for you. We specialize in Information management, coding, tracking, compound sample management and bio sample management. Constantly striving to streamline a process in every way possible, form our purpose-built Mirage scanner or optimized sample management software that's extremely flexible. Will have a wide range of product in our booth to help you and your team!

We have also established a team of support specialists are strategically located worldwide so you'll have immediate access to local-support should the need arise.

BIOMICROLAB **BOOTH #319**

BioMicroLab provides innovative benchtop sample handling automation solutions and tools for life science researchers commonly in biobanking, drug discovery, R&D, biotech, and molecular genetics testing laboratories. Our instrument offering helps improve laboratory efficiency by automating tasks associated with tube sample handling, tube labeling, volume verification, and tube sample management. BioMicroLab manufactures tube and vial based robotic sample management platforms for weighing, capping, labeling, liquid handling, volume verification,barcode decoding and more. Our easy-to-use systems provide years of robust operation. BioMicroLab recently introduced 2D tubes to complement our product offering.

BIOTILLION **BOOTH #605**

BioTillion provides sample-tracking solutions for cryogenic environments using RFID technology. Our new ColdSight system provides real-time biorepository inventory tracking. Box locations are updated automatically and the misplacement of samples eliminated. It guides users when accessing the repository for efficient and reliable retrieval and placement of samples while keeping robust transactional audit trails. ColdSight also provides 3D temperature monitoring ensuring sample integrity. Our BoxMapper product rapidly locates samples in a standard freezer box. Together, ColdSIGHT and BoxMapper provide a complete sample tracking solution for modern biobanks and biorepositories. Our systems integrate with freezer inventory and LIMS packages.

BLUECHIIP **BOOTH #515**

Bluechiip's unique and patented technology combines secure wireless sample tracking with integrated temperature reading for use in extreme environments. It works reliably in temperatures from -196°C to +200°C and it is not affected by radiation or frost buildup like labels or RFID.

Bluechiip provides both to OEM's and end users a range of tagged consumables, readers and sample data management software.

BROOKS LIFE SCIENCES **BOOTH #402/303**

Brooks Life Sciences is the leading worldwide provider of innovative and comprehensive sample lifecycle management solutions. Our solutions include automated storage systems, sample consumables/ instruments, cell cryopreservation storage, onsite/offsite temperature-controlled storage, cold-chain logistics and relocation services, sample preparation and bioprocessing solutions, innovative informatics systems and technology services. Our team of sample management experts, deliver high quality, flexible sample management products, services and technology solutions that support hundreds of organizations globally. Our industry-leading sample management solutions enable customers to unlock sample intelligence, advancing scientific research for healthier tomorrows.

BSI SYSTEMS **BOOTH #514/415**

BSI Systems (BSI and BioShare) is a collection of web-based specimen inventory and resource management products that provide a variety of helpful workflows, specimen inventory, and location tracking services for your facility.

The BSI system manages your biobank with a validated software that tracks the complete life cycle of all specimens within your repository.

BioShare is a web-based platform for sharing specimens and/or datasets with others in the research community by providing a central location for researchers to search, submit requests, and track requester correspondence.

CHART MVE — BOOTH #304/205

Chart MVE, the leading innovative manufacturer of secure cryogenic storage, features a complete line of stainless steel freezers, aluminum vapor shippers, and nitrogen handling equipment. Chart MVE's stainless steel freezers achieve the longest hold time and lowest LN2 consumption of comparable freezers, with vial capacities ranging from 3,200 to 94,000.

Cryogenic shipping became more secure with the introduction of Chart MVE's newest shippers that provide savings on packaging, shipping costs, dry ice, and disposal. Ask us about our new Fusion self-sustaining freezer that does not require regular LN2 fills.

CLOUDLIMS.COM — BOOTH #105

CloudLIMS, an ISO 9001:2015 certified software company, is a laboratory informatics company with a strong focus on data security and compliance. Our Laboratory Information Management System (LIMS), CloudLIMS, is built on cloud-based technology that requires no investment in IT resources or manpower and helps clinical research, biobanks and testing laboratories manage their data, automate laboratory workflows, and follow regulatory compliance such as HIPAA and FDA's 21 CFR part 11. Our mission is to provide an affordable solution that is secure, configurable and scalable.

COLLEGE OF AMERICAN PATHOLOGISTS — BOOTH #407

As the world's largest organization of board-certified pathologists and leading provider of laboratory accreditation and proficiency testing programs, the College of American Pathologists (CAP) serves patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine worldwide. The CAP Biorepository Accreditation program is designed to improve the quality and consistency of facilities that collect, process, store, and distribute biospecimens for research. Our accreditation checklists, cited as a reference for best practices by the National Cancer Institute, provide a blueprint of quality practices for your facility to follow. For more information, visit CAP.ORG.

CORIELL INSTITUTE FOR MEDICAL RESEARCH — BOOTH #408

Coriell is committed to providing the scientific community with high-quality and well-characterized cell cultures-including induced pluripotent stem cells-and DNA/RNA preparations, annotated with rich phenotypic and genetic data. Coriell also offers a multitude of scientific services to meet the growing needs of the biomedical community. Each of our products and services meets our stringent quality control and quality assurance standards and many are customizable to meet your unique needs. Here is a list of some of the services we offer. Biobanking, Cell Culture, Molecular Biology, Cell Line Integrity, Sequencing & Genotyping, Cytogenomics, Stem Cells, Biomarkers, Collection Kits, Reasearch Support Services.

CRYO BIO SYSTEM — BOOTH #502

Exclusively dedicated to the human life science, CryoBio System manufactures and markets cryopreservation and storage solutions for biological samples. From primary tube to final aliquot storage allotment, CryoBio System covers a range of innovative High Security devices, instruments and software. Product lines include CBS High Security straws, CBS High Security tube, filling, sealing and labeling equipment, storage devices for nitrogen tank or mechanical freezers. State-of-the-art cryopreservation technology provider, CryoBio System, is the reference in biorepositories, biobanks and biological resources centers for applications such as epidemiological studies and Assisted Reproductive Technologies (ART).

CRYOTHERM — BOOTH #508

Since 1964, Cryotherm has been manufacturing LN2 storage and transport containers in Germany.

The premium design and engineering of our BIOSAFE®LN2 freezers assures a safe storage of valuable medical and biological samples at -190°C in the gas phase stage.

For more information please visit www.cryotherminc.com or contact us. We will always be glad to be at your service!

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

CUSTOM BIOGENIC SYSTEMS — BOOTH #505/507/509

Custom BioGenic Systems

Founded in 1987, Custom Biogenic Systems is a global leader in the design and manufacture of state of the art liquid nitrogen laboratory freezers, cryogenic equipment and accessories. The CBS Isothermal Liquid Nitrogen Vapor Storage System was patented in 2000 and Custom Biogenic Systems continues to be an innovative leader in the design of cryogenic equipment and supplies. In addition to cryopreservation equipment, we supply upright freezer racks, chest freezer racks, liquid nitrogen freezer racks, canisters / cassettes and frames as well as laboratory boxes and dividers. By understanding the needs of the biotechnology industry, Custom Biogenic Systems provides superior laboratory freezers and complete inventory control rack systems that support veterinarian, horticulture, pharmaceutical, industrial, scientific and research laboratories and banks.

DATA + RESEARCH — BOOTH #608

Data+

Data+ Research is the first solution that covers all types of medical research and combines Clinical Data Management (CDMS), Electronic data capturing (EDC), Lab Management (LIMS) and Patient Engagement (ePRO).

ELLAB, INC. — BOOTH #614

ellab
Validation Solutions

Ellab manufactures a full line of wireless, real-time data loggers and wired thermocouple validation systems with temperature, humidity, pressure, vacuum, and CO2 sensor options. Ellab also offers validation services provided by experienced engineers for all of your temperature mapping needs. These environments often include -80C freezers, incubators, stability chambers, autoclaves, and ovens. Ellab has the products and experience to meet all your validation requirements.

FREEZERWORKS — BOOTH #711

Freezerworks
Sample Management Software

Configurable software solutions for sample and laboratory management. Track samples and data across multiple freezers, departments, and labs while managing workflow. Flexible and user-friendly, Freezerworks puts the laboratory in control with easy to build fields, screens, and reports. Safeguard data with comprehensive security features, 21 CFR part 11 compliance, and cryogenic-safe barcode labeling. State of the art security features maintains patient confidentiality.

FRONTIER SCIENCE — BOOTH #316

LDMS®

LDMS is a comprehensive laboratory information management system for medical research. It is used by clinics and laboratories around the world to manage specimen tracking, inventory storage, specimen shipment, and much more.

LDMS was developed and is maintained by Frontier Science, a not-for-profit organization that has over 30 years of data management experience. Many clinical trial networks trust Frontier Science to centrally manage clinical and laboratory data.

GA INTERNATIONAL — BOOTH #516

GA INTERNATIONAL LABTAG

An industry leader for nearly two decades, Labtag offers comprehensive laboratory label solutions for the academic, government and business sectors.

GENEPOINT BIOLOGICAL TECHNOLOGY (CHINA) CO., LTD. — BOOTH #704/706

Life Sciences
Genepoint

Genepoint Biological Technology (China) Co., Ltd. is driven by innovative technology and focuses on the new initiatives, technology application and process control on cryogenic biomaterial, which includes the latest generation of cryogenic cell storage automation system and total solution of alternative energy options.

We are committed to promote the intelligence, automation, and IoT technology and explore the new operation mode in the cryogenic biomaterial system. The improved quality and well managed biomaterials would finally assist the step up of Precision Medicine.

GENOHM INC. BOOTH #506

Genohm's main laboratory software automation suite, SLIMS, is a digital platform that provides laboratories with a rapidly deployable and seamless laboratory information management system (LIMS) and electronic lab notebook (ELN) environment that is used in biobanks, diagnostic facilities, research labs and next generation sequencing facilities. The platform tracks data and samples, tests and users, results and workflows, from the original material shipment to the result from lab instruments and in-silico analysis pipelines. Genohm also has an application marketplace with preconfigured workflows to enable rapid system implementation across a broad range of industries and scientific workflows.

Genohm proudly serves a rapidly growing set of customers in widely varying research and clinical environments throughout Europe, the Middle East, Asia Pacific and the US. Today, Genohm has offices in Lausanne, Ghent, and Durham NC and most recently has entered into a definitive agreement to be acquired by Agilent Technologies, Inc. (NYSE: A) to further its expansion in the market.

GOLD SIM GROUP BOOTH #305/307

GOLD SIM International Group is a multinational, professional cell technology and cryogenic technology corporation. Since our establishment, GOLD SIM has been committed to continuous research and developments in bio-cryogenics, bio-bank, cell factory, automation and lab equipments. We have formed a comprehensive product range, such as vapor phase LN2 cryogenic storage system, sample management software, freeze dryer, CO2 incubator, hybridization oven, bioreactor, controlled rate freezer, auto cell culture system, auto cell separation system, auto cell expansion system, etc. Our service scope has been expanded to hospital biobank, cord blood bank, stem cell bank, cellular therapy company, cell factory, university, pharmaceutical company.

GREINER BIO-ONE NORTH AMERICA, INC. BOOTH #215

Greiner Bio-One North America, Inc. is a privately held plastic manufacturing company located in Monroe, NC whose three divisions manufacture a variety of products for the medical and research fields. The manufactured products include plasticware for the cultivation and analysis of cell and tissue cultures, microplates for high-throughput screening related to drug screening, products for blood and specimen collection, tests for the detection of bacteria and viruses, as well as, custom-made products. As an international manufacturer with global reach, Greiner Bio-One provides the manufacturing, distribution logistics and product application support to the world's largest hospitals, pharmaceutical and biotechnology corporations.

HAMILTON STORAGE BOOTH #204

Hamilton Storage provides ultra-low temperature automated sample management solutions for the life science industries. Our product line includes –185°C cryopreservation, –80°C biobanking, –20°C high-throughput tube and plate management systems, and consumables. Visit Booth 204 to learn about our new products: Askion C-line® HS200 M/L systems for high-capacity cryopreservation, SAM HD for high-density –80°C sample storage in a small footprint, ColdScan on the LabElite® I.D. Reader for 2D barcode reading of frozen samples, and the 6-channel head on the LabElite decapping devices to decap 24-well tube racks. Our systems integrate with Hamilton Robotics' automated liquid handling workstations for complete biobanking solutions.

INTERNATIONAL SOCIETY FOR BIOLOGICAL AND ENVIRONMENTAL REPOSITORIES (ISBER) BOOTH #217

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

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

ISBER TOOL BOOTH BOOTH #216

The tool booth is an interactive space where non-profit organizations and academic institutions will provide information about the biobanking tools they have developed and that are available to the international biobanking community.

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

ISPECIMEN INC. **BOOTH #309**

iSpecimen is the marketplace for human biospecimens, providing researchers with the specimens they need from the patients they want. The company developed the iSpecimen Marketplace, an online platform connecting healthcare organizations that have access to patients and specimens with the scientists who need them. The marketplace enables researchers to intuitively search for specimens and patients across a federated partner network of biobanks, hospitals, labs, and other healthcare organizations. Researchers easily and compliantly gain access to specimens to drive scientific discovery. Partner sites contribute to biomedical discovery as well as their bottom line. Ultimately, healthcare advances for all.

KAYE BOOTH **BOOTH #314**

The Kaye product range is designed to meet the most demanding industrial requirements for process improvement, thermal validation and environmental monitoring in Pharmaceutical and Biotechnology Industries.

Kaye products are relied upon by the world's leading pharmaceutical and biotechnology companies to meet the most demanding requirements for thermal validation and environmental monitoring.

We offer Complete Monitoring Solutions to Protect Your Critical Assets. No matter how complex or simple your monitoring needs may be, Kaye understands these unique requirements and offers solutions to automate the monitoring, alarming, and data collection of critical assets.

KLATU NETWORKS, INC. **BOOTH #808**

Klatu Network provides safety & security of samples, products, & research thru real time predictive analytic technologies & monitoring of mission critical cold chain equipment in biobanking, life science, pharma, & bio-medical companies.

LABCON **BOOTH #707**

Labcon is the leader in Earth Friendly® disposable plastic labware. We make Aerosol Filter Pipet tips, Centrifuge Tubes, Microcentrifuge tubes, Pipet Tip reloading systems, Robotic Pipet Tips, PCR plates and strips, and precision disposables. We pioneered biocompostable plastics for our products to help you reduce your carbon footprint. At ISBER we are introducing our new ColdPoint® cryo storage solution.

LABCONNECT **BOOTH #810**

Founded in 2002, LabConnect provides global central laboratory services, including routine and esoteric laboratory testing, kit building, sample management, biorepository and scientific support services for biopharmaceutical, medical device and contract research organizations. LabConnect's unique combination of state-of-the-art technology, world-class laboratories, easy access to major and emerging markets and extensive specialized testing expertise means that drug development companies can rely on one provider for all their central laboratory service needs. With LabConnect, the world revolves around you.

LABVANTAGE SOLUTIONS, INC. **BOOTH #501**

LABVANTAGE, the most configurable, web-based LIMS in the market, is trusted by industry leaders worldwide. We help customers run their labs more efficiently and with fewer errors by automating tasks and integrating with instruments and systems. LABVANTAGE comes standard with features essential to laboratory operations. Built on a platform that is widely recognized as the best in the industry, LABVANTAGE can support hundreds of concurrent users as well as interface with most instruments.

With over 30 years of experience, LABVANTAGE powers hundreds of laboratories, large and small, worldwide.

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LICONIC INSTRUMENTS **BOOTH #406**

LiCONiC specializes in the design and manufacture of automated sample storage solutions used in laboratories and applications with special climate requirements. We are experts in sample management and tracking for the biorepository, blood banking, and compound storage markets. Our 20 years of leadership in this field has led to an installation base of several thousands of systems in operation worldwide. By closely working with our customers, LiCONiC continually expands its product portfolio, ensuring leading edge technology for today and tomorrow.

LVL TECHNOLOGIES/ PHENIX RESEARCH — BOOTH #414/315

LVL technologies is a supplier of consumables for automated sample storage since 1986. The main focus of our product range are sample storage solutions in SBS-format, especially our 2D Tube Rack System SAFE®. With SAFE® LVL has to offer various volumes starting at 200µl up to 5ml, and a highly customizable 2D tube rack system.

PHENIX Research Products is recognized as a technical leader in providing outstanding laboratory products. Our core competency and focus is to provide value added solutions to life science researchers in University, Biotech and Government settings. We offer outstanding customer service 8:00am-5:30pm EST and a direct technical sales force.

MICRONIC — BOOTH #107

Industry leader since 1984, Micronic serves scientists with sample storage and automation solutions.

At Micronic, advancing scientific research to enhance quality of life is our corporate goal and to achieve this we make innovation and quality a priority. Our premium labware and precision engineered equipment are developed and manufactured in-house. This core competence gives us the opportunity to offer top-of-the-line products, delivering exceptional reliability and durability.

MODUL-BIO — BOOTH #417

Modul-Bio specializes in IT solutions for biological sample management, implementing barcode systems, Biobank Information Management Systems (BIMS) and collaborative tools for sharing biospecimen collections.

We deploy software dedicated to biobanking for Biological Resource Centres, national cohort projects and biotechnology companies.

NATIONAL DISEASE RESEARCH INTERCHANGE — BOOTH #504

The National Disease Research Interchange (NDRI) is a 501(c)(3) not-for-profit, NIH-funded organization that provides project-driven human biospecimen service to academic and corporate scientists. NDRI has 35 years of experience globally distributing human biospecimens for research. Our extensive recovery network has the expertise to provide anatomical structures, organs, and tissues with annotated data.

OPENSPECIMEN — BOOTH #409

OpenSpecimen is world's most widely used open source biobanking informatics platform. 65+ biobanks across 16+ countries use OpenSpecimen. It is highly configurable, enables you to collect high-quality specimen annotations and track specimens from collection to utilization. Sample clients: MSKCC, Stanford, Johns Hopkins Universities of Pittsburgh, Pennsylvania, Massachusetts, Maryland, Emory, New South Wales, Melbourne, Griffith, Leicester, Singapore General Hospital and so forth. Unlike other biobanking platforms, being open source, the unique strength of OpenSpecimen is that you will never be at the mercy of a single vendor. For more details email contact@openspecimen.org.

PHC CORPORATION OF NORTH AMERICA (PHCNA) — BOOTH #206/207

PHC Corporation of North America, formerly known as Panasonic Healthcare Corporation of North America, is a leader in supplying laboratory equipment for biopharmaceutical, life sciences, academic, healthcare and government markets. The company is operated as a subsidiary of PHC Holdings Corporation, Tokyo, Japan. Product lines under the new PHCbi brand include the space saving and energy efficient VIP® ECO, TwinGuard® and VIP Series ultra-low temperature freezers, cryogenic and biomedical freezers, pharmacy and high performance refrigerators, cell culture CO2 and multigas incubators, portable autoclaves, cell processing work stations and Drosophila/plant growth chambers.

PERKIN ELMER — BOOTH #714

PerkinElmer is a global leader focused on improving the health and safety of people and the environment. Our innovative detection, imaging, software, reagents and services solutions accelerate discovery in core areas of research including: next generation DNA sequencing, featuring our chemagen technology, epigenetics, genomics, cellular research, quantitative pathology, in vivo imaging, biotherapeutics and informatics.

ISBER 2018

DALLAS, USA ★ MAY 20-24, 2018

PRIM&R **BOOTH #115**

PRIM&R
PUBLIC RESPONSIBILITY IN MEDICINE AND RESEARCH

Public Responsibility in Medicine and Research (PRIM&R) advances the highest ethical standards in the conduct of biomedical, behavioral, and social science research. We accomplish this mission through education, membership services, professional certification, public policy initiatives, and community building. Learn more at primr.org.

REES SCIENTIFIC **BOOTH #317**

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Since 1982, Rees Scientific has been the industry standard for automated temperature monitoring. Our wide range of systems is a complete solution for all monitoring needs. Monitor critical equipment for temperature, humidity differential pressure and much more. Our systems help meet compliance for AAALAC, FDA, GAMP, GxP, HACCP, USP797, and other regulatory requirements. The new Z3 wireless modules offer many new exciting features and are a valuable transformation from the previous V.2 version. They offer extended battery life, reduced/eliminated battery alarms, improved reliability, encrypted communication, increased module per network device and more.

RUCDR INFINITE BIOLOGICS **BOOTH #404**

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As the world's largest university-based biorepository, RUCDR has been perfecting the science of biobanking, bioprocessing and analytics since 1999. By utilizing a technologically advanced infrastructure and the highest quality biomaterials, RUCDR scientists work to convert precious biosamples into renewable resources thereby extending research capabilities. RUCDR understands that research goals and objectives vary from project to project so we give each client individual and customized attention to ensure "best fit" service. Contact us to learn what we can do for you.

SCINOMIX **BOOTH #214**

scinomix

Scinomix is a provider of laboratory automation to the Life Science Industry. Their products have been used in a variety of industries from major Pharmaceutical Companies, to Agricultural Science Labs, to Hospitals and Research Labs all around the world. As the company has grown over the past 16 years, vial and microplate labeling handling solutions have proven to be their market niche. In addition to labeling, Scinomix has introduced the newest member of the product family-the Automated Capper; a plug and play system for capping and uncapping 2 mL Cyrovials.

SO-LOW ENVIRONMENTAL EQUIPMENT CO. **BOOTH #602**

SO-LOW

Setting the temperature standard in every lab, So-Low has been manufacturing Ultra-Low Temperature Freezers for both the medical and industrial fields since 1959. Professionals all over the world have recognized the dependability and efficiency of So-Low Ultra-Low Temperature Freezers, Refrigerators & Laboratory Equipment. Our level of quality construction, reliability and value are unequaled anywhere in the world.

STIRLING ULTRACOLD **BOOTH #814**

STIRLING
ULTRACOLD

Stirling Ultracold Ultra-Low Temperature (ULT) Freezers are developed and manufactured by Global Cooling, Inc. in Athens, OH, a HUBZone-Certified business operating in a Zero Waste-Certified facility. Stirling Ultracold ULT freezer products feature the industry's first reliable cooling technology, using the free-piston Stirling engine. This innovation has allowed the company to provide a new generation of environmentally-friendly ULT freezers that achieve stable storage conditions over a wide temperature range. Stirling freezers use less than one third the electric power of standard compressor-based ULT freezers, as confirmed by independent testing and the first ENERGY STAR® partnership for ULT freezers.

SUPRTECBOX LTD. **BOOTH #604**

SUPRTECBOX

SuprTecBox provide a Biobank Information Management System (BIMS) service hosted in the Cloud. The BIMS has been designed by biobankers and is secure and easy-to-use. Manage your information in one end-to-end system: sample management, clinical data and quality control. Established in 2013, we bring the best in new software and smart thinking to our customers. Stop by our booth for a chat about your requirements.

THERMO FISHER SCIENTIFIC — BOOTH #308/209

Thermo Fisher Scientific is the world leader in serving science. Our mission is to enable our customers to make the world healthier, cleaner and safer. Through our Thermo Scientific, Applied Biosystems, Invitrogen and Fisher BioServices brands, we help customers accelerate innovation and enhance productivity. Thermo Fisher Scientific supplies innovative solutions for the world's biobanking industry. With applications that span the biobanking processes –from sample collection, preparation, analysis, transport, and storage– we provide a broad range of products and services that support biobanks, including full biobanking services in our global network of biorepositories and affordable solutions ideal for large-scale biobank genotyping studies.

TITIAN SOFTWARE — BOOTH #709

Titian Software provides software products and consulting services that dramatically improve management of compounds, reagents and biological samples for customers' vital research processes. Titian's Mosaic sample management software is trusted globally to provide increased sample quality, service levels, and sample conservation while expediting core research functions.

Mosaic is out-of-the box, configurable software which controls and monitors all aspects of sample management. Mosaic empowers a seamless, error-free sample supply chain to companies ranging from small biotech to global pharma; from biobanking to agricultural R&D. SampleBank and FreezerManagement are pre-configured versions of Mosaic software available for rapid deployment and lower cost.

TTP LABTECH — BOOTH #708

Sample integrity is assured with TTP Labtech's modular, high-density biostores (comPOUND® at ambient, 4oC and -20oC and arktic® at -80oC). Advanced cherry picking ensures sample security and avoid unnecessary freeze/thaw cycles. Based on proprietary pneumatic technology, the biostores have continuous monitoring systems and in the case of arktic, backup refrigeration. TTP Labtech's mosquito® liquid handlers and range of automation accessories enable full or partial automation of your workflow. TTP Labtech is a world leader in the design and development of automated instrumentation and consumables for life science applications. Meet our experts on booth #708!

TUBEWRITER — BOOTH #607

TubeWriter produces direct printers for the life sciences industry.

TWD TRADEWINDS, INC. — BOOTH #503

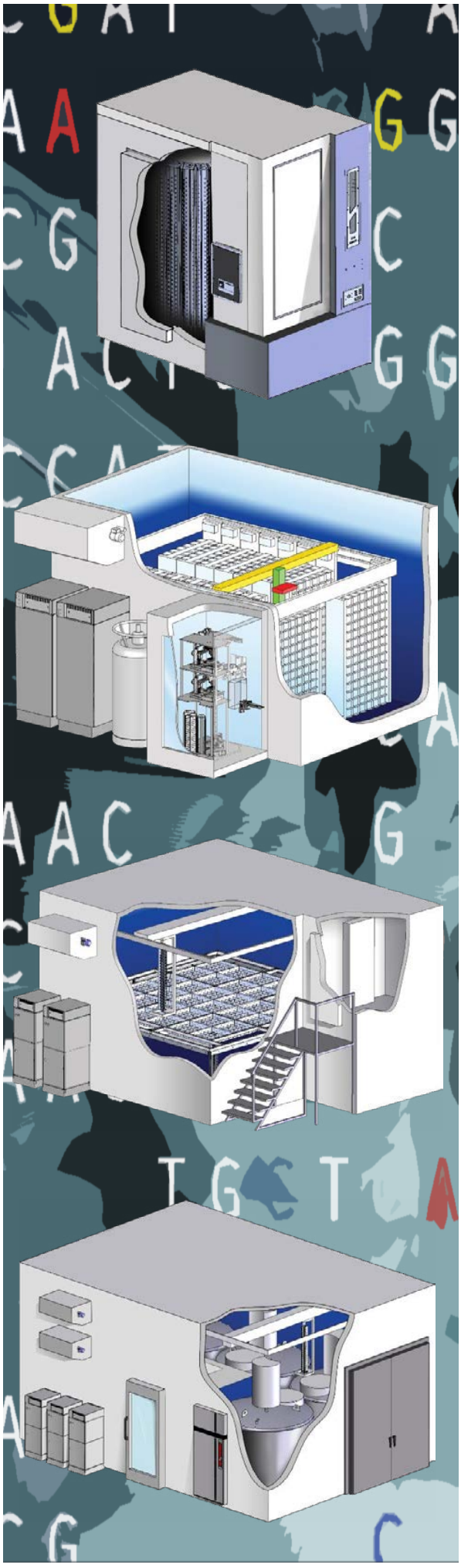
TWD is the industry leader in permanent barcoding technologies. We offer both a wide variety of permanently barcoded sample vials, as well as custom barcoding services.

UNCHAINED LABS — BOOTH #306

Here's the deal. We're all about helping biologics researchers break free from tools that just don't cut it. Unleashing problem-tackling products that make a huge difference in the real science they do every day. That's our mantra, our promise and we own it.

WORTHINGTON INDUSTRIES — BOOTH #208/109

Worthington Industries, a leading global manufacturing company headquartered in Columbus, Ohio, USA with 11,000 employees worldwide, is proud to offer smart, secure, reliable cold chain sample storage, transportation and data management for the life sciences market. Products are shipped with care around the globe from the Theodore, Alabama facility. To view the complete line of liquid nitrogen storage freezers, refrigerators, dewars, shippers and accessories, visit WorthingtonIndustries.com/LifeSciences.



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DALLAS, USA ★ MAY 20-24, 2018
Annual Meeting & Exhibits

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Cryotherm Inc.
5126 S. Royal Atlanta Dr.
Tucker, GA 30084
USA

: +1 770-274-2410
: +1 770-934-3384
: info@cryotherminc.com
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PATHWAY TO DISCOVERY:

The Pathway to Discovery is an interactive sequence of displays (steps) where the participants of ISBER 2018 Annual Meeting can visit the Pathway to Discovery stations for each step and discuss with experts at each step how the biobanked samples are collected, stored and assayed for scientific discovery into data in order to maximize the utilization. The Pathway takes place in the exhibition area guided by a Pathway map. Volunteer guides will also help participants in the Pathway to locate the 7 different steps:

STEP 1 ELSI: Addressing Ethical, Legal and Social Issues

The participants in the pathway will learn approaches for addressing ethical, legal, and social issues to ensure optimal specimen utilization. For example, participants can learn about approaches to consent that will help optimize specimen utilization and how to avoid downstream limitations in uses based on unnecessary restrictions in consent that do not confer additional protections. Participants in the Pathway will also learn what Public Responsibility in Medicine in Research (PRIM&R) can offer to biobankers to help address ELSI issues that may arise in their biobanks and research projects.

STEP 2 PREP: Biological Sample Collection, Processing and QC/QA

The participants can find sources of specimens and learn more about sample processing, QA/QC methods (e.g. cell separation, preparation for storage, DNA /RNA extraction, concentration measurement, etc.) and equipment for processing. The participants could learn more about laboratory ware (e.g. tubes, sealing systems, barcoded and etched labels etc.) suitable for storage applications.

STEP 3 STORE: Storage Systems, Automation and Monitoring

Participants are invited to explore all of the latest technologies in cold storage both manual and automated. Vendors will be available to discuss the numerous options for processing and preparing specimens, labeling, organizing, storing, monitoring and retrieving specimens. Design and consulting groups will be present to present workflow options and solutions for new as well as established biobanks. Emerging technologies such as alternative energy options and environmentally responsible consumables will also be presented.

STEP 4 DOCUMENT: Organize your Samples and Data – LIMS

The participants are able to get acquainted with the Laboratory Information Management System(s) (LIMS): how samples are registered at arrival and assigned new barcodes and how the samples can be followed through their lifecycle with the LIMS. The participants will learn what kind of information can be stored within the LIMS and how it is retrieved. Particular focus of this step is the security of data.

STEP 5 SHARE: Catalogues and Other Locators

The participants can search for specific samples by using a catalogue or other locator tool. This step highlights the need for sharing specimens and how you can find exisiting samples globally. So many specimens being collected, stored and annotated. Now, how do biorepositories get those specimens out of the freezer and storage and into the hands of researchers that need them? This step will show participants numerous options for cataloging and sharing inventory: Whether the specimens need to stay within their original institution or if participants want to explore a more global distribution approach. Participants can discuss ways to find collaborators to exchange specimens. Or find out how using a commercial vendor can them maintain sustainability through cost-recovery pricing.

STEP 6 USE: Ship and Run Assays using Samples

The participants will learn how samples are packaged, shipped and tracked, to maintain optimal molecular integrity and minimise down-stream analytical limitations. It is essential that the same level of QA/QC that is applied to sample acquisition is maintained through to end user sample delivery. Several tools will also be demonstrated for preparing and analyzing the quality of biospecimens before running them in molecular assays, including high-throughput genomics.

STEP 7: UTILIZATION Supports Sustainability

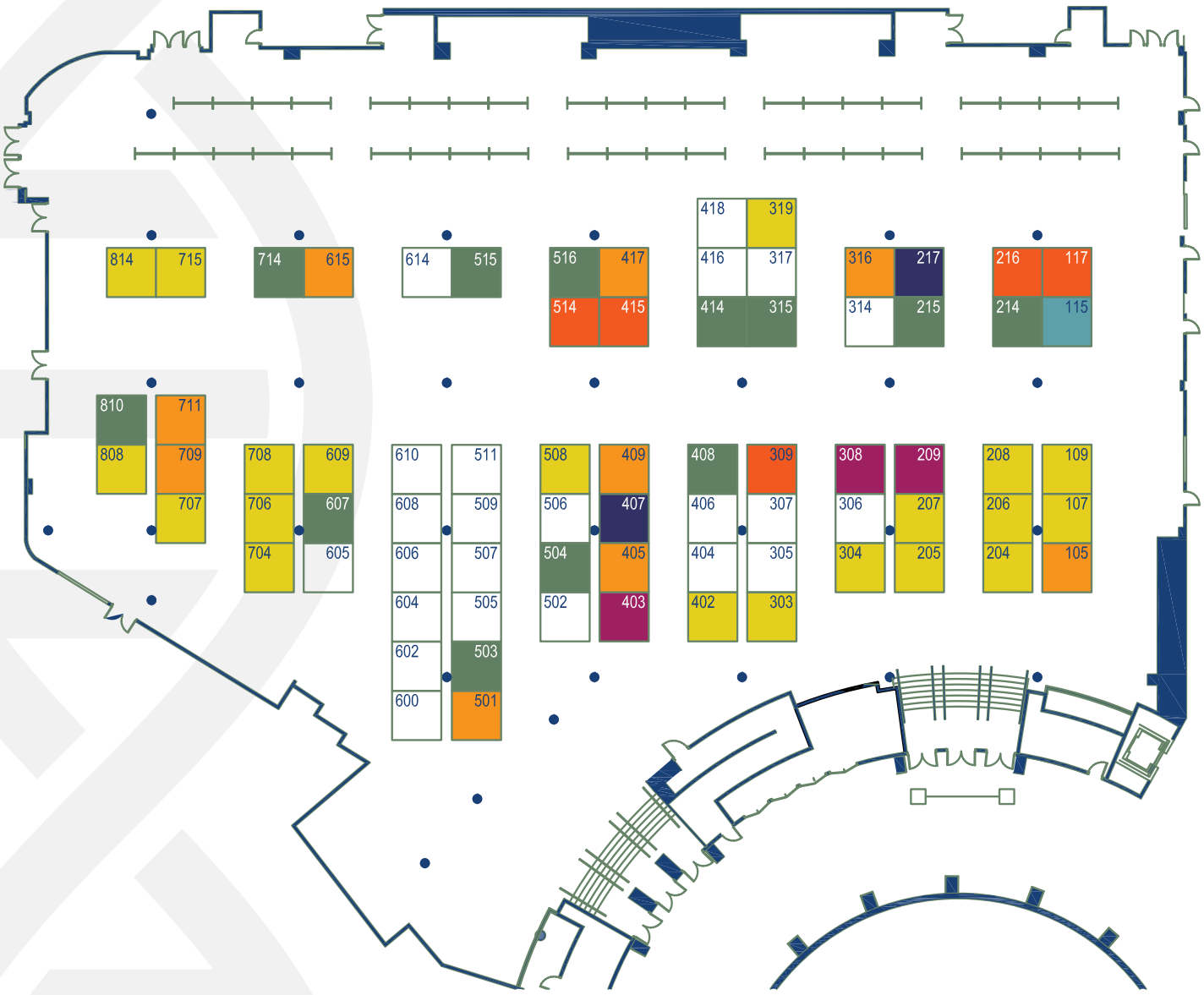
Increasingly health research are becoming high-throughput. This creates a demand for higher volumes of well- characterised, quality-assured samples and related data to be provided to researchers; as well as an increasing number of SOPs to be implemented by biobanks. On the other hand re-search funding agencies, institutions and philanthropic organisations often assume that beyond the initial start-up grant costs that biobanks at some point should become self-sustaining. Utilizing collected biospecimens, not bio-hoarding of specimens is one of the keys to sustainability.

The participants will learn about the ISBER Best Practices and other documents relating to standards in biobanking; the training and SOPs which are currently available; the financial planning examples for biobanks; and the approaches that can be taken to enhance the biobanking operations toward sustainability.

From Collection to Utilization of Biospecimens

Monday, May 21 • 5:30pm – 8:00pm

(Opening Reception of the Exhibit Hall)



Step 1 **Step 2** **Step 3** **Step 4** **Step 5** **Step 6** **Step 7**

Steps 2,3,4, 5 and 6 are exhibit sponsors of ISBER 2018 Annual Meeting. The participants can follow the Pathway from beginning to end visiting each 7 steps or visiting individual steps of interest for more information.

ISBER PROVIDES THE FOLLOWING TOOLS TO THE BIOBANKING COMMUNITY:

SELF-ASSESSMENT TOOL (SAT) FOR REPOSITORIES

SAT for *ISBER Best Practices for Repositories, 4th Edition* coming soon!

BIOREPOSITORY PROFICIENCY TESTING (PT) PROGRAM

Allows laboratories working with biospecimens to compare their performance to that of other expert laboratories from different sectors all over the world. PT works as an external quality assessment tool to verify the accuracy, precision and efficiency to laboratories' processing and testing methods.

PRE-ANALYTICAL BIOREPOSITORY EXTERNAL QUALITY ASSESSMENT (EQA) SURVEY

Allows participants to benchmark their pre-analytical practices to other biorepositories. Participants receive and individualized report which includes the results and statistics obtained by all biorepositories who have participated.

ALL ISBER TOOLS ARE AVAILABLE FREE TO MEMBERS!

INTERNATIONAL REPOSITORY LOCATOR (IRL)

Helps investigators locate biospecimen data repositories by developing a directory of repository information that can be searched online.

STANDARD PRE-ANALYTICAL CODE (SPREC)

Identifies and records the main pre-analytical factors that may have impact on the integrity of sampled clinical fluids and solid biospecimens and their simple derivatives during collection, processing and storage.

BIOSPECIMEN STABILITY TESTING CALCULATOR (STABCALC)

Determines sample stability, including freeze-thaw stability and storage stability. STABCALC facilitates stability studies performed by biobanks on different types of biospecimens by identifying potential variabilities in pre-analytical procedures.

NEUROLOGICAL DISEASE METADATA

Access metadata related to the biorepository level, the collection level and the individual sample level. Housed in a RedCap server, this tool has been configured in the scope of neurological disease collections, but can be used for other disease collections too.

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isber2019

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