

Candidate Biographies and Vision Statements

Election Dates: November 17th – December 1st, 2025

Voting Instructions

All members in good standing will receive an email in advance of the election to the email address listed in their member profile. The email will contain a personalized one-time use voting link to cast your vote anonymously at simplyvoting.com. If you do not receive your voting email within 24 hours of the election opening, please check your spam folder in the first instance and then contact nicole.evans@societyforcryobiology.org

Candidates for President (President-Elect 2026 – 2027; President 2028 – 2029)

- BROCKBANK, Kelvin
- HE, Xiaoming (Shawn)

Candidates for Secretary (2026 – 2027)

- TESSIER, Shannon
- WOLKERS, Wim

Candidates for Treasurer (2026 – 2027)

- CHAKRABORTY, Nilay
- LAUTERBOECK, Lothar

Officers Ranked Voting Method

Each voter must rank the candidates in order of preference. The highest ranked candidate is the winner.

Candidates for Governor-at-Large (2026 – 2028)

- BALLESTEROS, Dani
- KILBRIDE, Peter
- MENZE, Michael
- OSBORNE, Robyn
- SANDLIN, Rebecca
- WILSON, Peter
- XU, Yi

Governors Voting Method

Each voter is assigned 100 points to allocate to one or more candidates e.g. a voting member could give one candidate all 100 points, or divide points between any number of selected candidates. All candidates are ranked by cumulative points. The winners are the three top-ranked candidates.

President-Elect Candidates (2026-2027)

[BROCKBANK, Kelvin](#)

Founder & CEO, Tissue Testing Technologies, USA

Biography: Kelvin has a BA and MA in Zoology from Trinity College, Dublin, Ireland and a PhD in Experimental Pathology from the Medical University of South Carolina. He is currently the Founder and CEO of Tissue Testing

Technologies LLC, a Research Professor, Department of Bioengineering, at Clemson University and an Adjunct Professor, Department of Comparative Medicine, at the Medical University of South Carolina. My mission is “preservation of biological materials for restoration of patient health”. Central to this mission is the definition and design of cold chain conditions for living biological products. He has a broad background in low temperature biology with focus in two areas, subzero storage methods of cells and tissues and above zero hypothermic storage and transport of

Disclaimer: Biographies and vision statements were provided by each nominee and have not been checked for accuracy. Any opinions are those of the nominees, not of the Society for Cryobiology.

cells, tissues and organs. Kelvin has successfully managed company-sponsored and competitive grant funded projects in his more than thirty years of project management experience and maintained a high publication rate for a corporate scientist with 396 presentations, 38 US patents, 42 proceedings and book chapters and 154 peer reviewed publications to date. Funding agencies have included the NIH, the NIST-Advanced Technology Program, Cancer Foundations, the Department of Defense and various commercial contracts. His work has resulted in a clinical stem cell product for LifeNet Health, cryopreserved cardiovascular products for CryoLife and the LifePort Kidney Transporter for Lifeline Scientific. He also initiated research and development on SynerGraft decellularized tissue products for CryoLife and made significant contributions to a tissue engineered patch graft distributed by Organogenesis. Lifeline Scientific was successfully launched via an initial public offering on the London Stock Exchange with over 500,000 kidneys transplanted using the LifePort® kidney platform. His last company, Cell & Tissue Systems, was acquired in 2014 for its pancreas and liver organ perfusion intellectual property. A liver perfusion/transport device incorporating their liver intellectual property has completed a 9 center US clinical trial and is waiting for FDA clearance. Kelvin has been involved in regulatory filings for tissue products including investigational device exemptions (IDEs), premarket approvals (PMA) and 510k applications. He was responsible for regulatory affairs and quality control at Lifeline Scientific during the early phases of the LifePort® Kidney Transporter development.

His current company, Tissue Testing Technologies LLC, is primarily supported by US Federal grants, commercial contracts, and GMP Unisol™ solution sales for research preservation purposes. Lead projects at his Company include DMSO-free cryopreservation

methods for stem cells and peripheral blood cells, ice-free vitrification of complex tissues, automation of cryopreservation protocols and optimization of hypothermic storage methods for cells, tissues and organs.

Kelvin attended his first Cryobiology Society meeting in 1986 and has been a member since 1992 with frequent contributions to annual meetings including being on the organizing committee for the Atlanta Society meeting in 1993. In the past he was a frequent manuscript reviewer for our Journal and at present he is an Associate Editor and a member of the Board of Governors.

Vision Statement: Where could the Society do more? I would like to continue encouraging efforts towards getting more industrial scientists involved in the Society. As I have said before, thanks to the Covid-19 pandemic, it is a great time to try to get them involved since the vaccine storage issues have placed low temperature biology center stage. Increased financial support for our conferences would follow more involvement of industrial scientists. We should also do more to educate the World on low temperature biology by continuing webinars on freeze tolerance, freeze avoidance, impact of warm and cold ischemia, cryopreservation, shipping, and any other issue important for so called “cold chain” issues related to storage and transport of biological materials. This would also increase Society exposure, recognition and membership as well as introduce new technologies developed by our members to other scientists and engineers who are still using archaic methods developed in the last century.

I originally became involved in the Society because of opportunities to share my research, get expert criticism, and learn about low temperature biology and physics. My career has been influenced by the contacts and

friendships I have made in the Society starting with Greg Fahy in front of one of his posters in 1986. One of the downsides of being a commercial scientist is the absence of the young people that most of our Society members have working in an academic learning environment. Therefore, I have particularly enjoyed the opportunity to meet and work with students and young faculty members during my 33 years of Society membership and 39 years of Society meetings. I agree with other Society members that the goals of the Society should be to both promote the science to outside groups and to continue creation of a welcoming environment for members new and old. I also welcome and will encourage the strategies laid out by other candidates for Society positions, past and present, for getting increased student and young investigator involvement and their retention. I also strongly support the diversity of research areas and people in the society. Over the years I have learned most from plant and animal lessons from nature sessions at Society meetings and from attendees with diverse technical backgrounds that I have then applied to my own work.

More recently I have been involved in the Journal as an associate editor and would like to continue encouraging our members to contribute some of their best work to the Journal instead of higher impact journals. I am presently in my third year on the BOG and I have supported the improvements led by Alison, our current President, that John, our current President-elect will continue. Probably the most important thing I have brought to the BOG and will continue as an executive officer is my business experience from many years of running small businesses.

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

HE, Xiaoming (Shawn)

Professor, Fischell Department of Bioengineering, University of Maryland, MD, USA

Biography: Xiaoming (Shawn) He is a Professor of Bioengineering at the University of Maryland. He received his PhD in 2004 from the University of Minnesota-Twin Cities with research focused on developing both low and high-temperature minimally invasive technologies for cancer therapy and understanding the associated thermodynamics and cell-tissue injury mechanisms and kinetics. His postdoctoral training in Massachusetts General Hospital/Harvard Medical School from 2004 to 2007 was focused on cryopreservation of stem and reproductive cells by low-cryoprotectant (CPA) vitrification and quantitative elucidation of the physicochemical processes of vitrification at both cryogenic and ambient temperatures.

Through his independent research since 2007, he has pioneered 1), the development of innovative cold-responsive nanotechnologies for (i) enabling cryopreservation solely with sugar (e.g., trehalose), (ii) potentiating the immune responses to cryoablation for achieving cryoimmunotherapy of not only primary but also metastatic cancers, and (iii) detaching cells simply by gentle cold treatment without using any toxic chemicals to maximize the functional survival of human induced pluripotent stem cells (iPSCs) for efficient and minimally-invasive production of patient-specific human organoids; 2), the creation of biocompatible sand-polymer constructs for automatic ice-seeding to facilitate automation of large-scale and consistent cryopreservation of cells and tissues by slow freezing for clinical uses; and 3), the microencapsulation of stem cells in biocompatible alginate hydrogel for achieving low-CPA vitrification with minimized CPA toxicity. His cryobiology work has been published in a broad category of journals like *Nature Biomedical Engineering*, *Nature Communications*, *Advanced Functional*

Materials, Nano Letters, Small Sciences, Journal of Medical Devices, in addition to the excellent Society for Cryobiology (SFC) journal *Cryobiology*. In total, he has published >150 journal articles, together with 1 book and 5 book chapters, which have been cited >12,000 times with an h-index of 63. His research has been supported by >20 million US dollars in funding, including 8 NIH R01 grants with him as PI. He has trained 21 postdoctoral researchers/scholars, 18 graduate (16 PhD and 2 MS) students, and 35 undergraduate researchers in his independent lab, and many of them are now assistant, associate, or full professors working in the cryobiology and adjacent fields. Moreover, he has founded HOHCells, LLC to translate and commercialize his innovative cryobiology technologies with successful fundraising.

Dr. He has been an SFC member since 2002. He has served the Society extensively as the 2024 Annual Meeting (CRYO2024) co-chair; as an abstract reviewer, session chair, and invited speaker of the SFC Annual Meetings since 2008; and as a manuscript reviewer of the *Cryobiology* journal since 2007. He is an Editor-In-Chief of *Journal of Medical Devices* and has been an Associate Editor or Editorial Board Member of 5 other journals. He served as the Chair Elect and Chair (2015-2021) of the American Society of Mechanical Engineers (ASME) K17 Committee of Heat and Mass Transfer in Biotechnology. Lastly, he is an American Cancer Society Research Scholar; an elected Fellow of the Industry Academy of the International Artificial Intelligence Industry Alliance (AIIA), American Institute of Medical and Biological Engineering (AIMBE), and ASME; and an elected Member of the European Academy of Sciences and Arts (EASA).

Vision Statement: My vision for the Society for Cryobiology (SFC) is to cultivate a vibrant and inclusive community that fosters members' career growth, amplifies their professional visibility, and elevates the Society's profile as a beacon of excellence in cryobiology widely

known to people in adjacent fields. Since my first attendance of the SFC Annual Meeting in 2002, I have made many friends in this great community. I am grateful for the help on my career development from several people who I was fortunate to meet through the Society. While this happened to me more or less serendipitously, I feel the SFC is like a big and warm family that can provide tremendous support for all junior/mid-career members to grow and achieve their career goal. Therefore, as President, I will work with the leadership team to establish a formal mentoring program consisting of a pool of formally recognized SFC Mentors and a standing SFC Mentoring Committee, to facilitate the assistance and promotion of junior and mid-career members in their career development as the next-generation cryobiologists. I initiated a similar program in the ASME K17 Committee when I was the committee Chair, and I am confident this can be done successfully in our SFC.

With recent advances in exploring natural and engineered cells, tissues, organs, together with their derivatives (e.g., exosomes) as medicines, cryobiology research to improve banking of these biosystems is pivotal as an enabling technology for not only the eventual success but also the ongoing research and development of the modern medicines. Having a cryobiologist on team is of great importance for putting together winning proposals and carrying out high-impact work on these topics. Unfortunately, people in these adjacent fields often do not turn to the SFC as they are unfamiliar with this great Society. In other words, it is essential to further elevate the visibility of the Society, including promotion of broader recognition of our SFC members' contributions, in adjacent communities. Therefore, as President, I will work with the leadership team to form a standing SFC Award Committee to nominate our members for awards of all career stages in adjacent communities (e.g., ASME, AIChE, BMES, ISBER, SFB, ACS, AIIA, AIMBE, NAI, EASA, etc.). I successfully did this as Chair of the ASME K17

Committee and am confident to translate that experience effectively to our SFC.

To further elevate the overall profile of SFC, I will work with the leadership team to establish a standing SFC Liaison Committee to proactively reach out to and build connections with adjacent communities as aforementioned and relevant companies (e.g., ATCC, Stem Cell Technologies, Lonza, AstraZeneca, Pfizer, etc.). The goal is to develop joint multidisciplinary and translational programs/initiatives including joint meetings/tracks/sessions, multidisciplinary and translational webinars, multidisciplinary special issues in the *Cryobiology* journal, seed-funding programs, etc. I have conducted highly multidisciplinary research and been highly active in communities of adjacent disciplines, as shown by the aforementioned (in my Biography) diverse technologies that I have developed, journals where I have published my work, and communities where I have been active. I am confident that I am well positioned to spearhead this effort.

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

Secretary Candidates (2026 – 2027)

[Shannon Noella Tessier, PhD](#)
Associate Professor, Harvard Medical School;
Director of Surgical Research,
Department of Surgery, Massachusetts General Hospital;
Scientific Staff – Shriners Children’s Hospitals, Boston, USA

Biography: Shannon Tessier is an Associate Professor with the Center for Engineering in Medicine and Surgery and Division of

Cardiac Surgery at Harvard Medical School and Director of Surgical Research in the Department of Surgery at the Massachusetts General Hospital.

Dr. Tessier is leading research in the fields of organ preservation, cryobiology, and molecular biology. Her work has advanced fundamental understanding of suspended animation and ischemia-reperfusion biology, enabled extensions in organ preservation duration, and identified novel biomarkers to assess organ function. Dr. Tessier is deeply committed to education and mentorship. She has directly mentored more than 40 trainees and staff—including undergraduates, graduate students, medical students, postdoctoral fellows, and technical personnel—many of whom have gone on to independent research and leadership roles in academia, industry, and nonprofit sectors.

Since establishing her independent research program in May 2021, her laboratory has secured multiple major federal and foundation awards, including R01 grants from the National Heart, Lung, and Blood Institute (NHLBI) and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), an R24 from the Office of Research Infrastructure Programs (ORIP), an R01-equivalent award from Shriners Children’s Hospital, and a Research Infrastructure Award from the Massachusetts Life Sciences Center. Her rapidly growing, interdisciplinary team comprises postdoctoral fellows, research staff, and trainees spanning engineering, medicine, and life sciences.

Dr. Tessier is actively engaged in national and international scientific leadership. She serves as an elected Executive Officer of the Society for Cryobiology, leads the

Integrated Thrust Area 3 of the NSF-funded Engineering Research Center for Advanced Technologies for the Preservation of Biological Systems (ATP-Bio), and contributes to the scientific community as a grant reviewer for the NIH. She is also a member of the editorial boards for *Frontiers in Transplantation* and *Scientific Reports*, and has been an invited speaker at numerous venues, including UCLA Grand Rounds and the International Society for Heart and Lung Transplantation (ISHLT) Plenary Session.

At the institutional level, Dr. Tessier serves as Director of Surgical Research for the Department of Surgery at Massachusetts General Hospital (MGH), a role to which she was appointed in 2023 following a competitive selection process. Working closely with the Vice Chair of Research, she oversees a \$70 million research portfolio supporting more than 200 faculty. She co-chairs the Surgical Research Council, launched the Personalized Grant Program to provide tailored mentorship in grant development, and leads department-wide initiatives to strengthen research infrastructure, collaboration, and faculty development. Under her leadership, the Department's annual research expenditure has reached the highest level in its history.

Vision Statement: This is an exciting time to be working in the field of cryobiology, as preservation technologies are rapidly emerging as critical enablers across diverse sectors—including human health, biodiversity, and the global food supply. Stopping biological time holds the promise of making transplantable organs and tissues available to all who need them, accelerating drug discovery, safeguarding endangered species, supporting sustainable agriculture, and even extending human exploration to Mars and beyond. We stand at the threshold of what

I believe will be the greatest era of cryopreservation research, and I am deeply committed to being a steward for the Society for Cryobiology and the broader preservation community as we advance toward this future.

During my tenure as Secretary of the Society for Cryobiology, I have led a major strategic effort to grow and strengthen our membership base, ensuring the Society's continued vitality and reach. As Chair of the Membership Committee, I spearheaded the development of the Society's first Strategic Membership Plan, a comprehensive roadmap for increasing engagement, inclusivity, and global participation. Through this plan's early implementation, we have already achieved a 12% increase in total membership, demonstrating that intentional, community-driven strategies can yield immediate and meaningful impact. These efforts have expanded our international footprint and strengthened the Society's foundation for long-term growth.

Building on these successes, my vision moving forward emphasizes broad engagement across all sectors touched by cryobiology—academic scientists, clinicians, government agencies, startups, large industry partners, and nonprofit organizations. Expanding participation not only raises the Society's profile but also enriches its scientific and cultural diversity, catalyzing new discoveries through collaboration. I plan to continue advancing these efforts through targeted outreach campaigns, enhanced communication and transparency, and the creation of new platforms for networking and idea exchange.

Equally important, I believe the future of our Society rests in the hands of the next

generation of cryobiologists. I aim to develop workforce and career development programs that empower trainees and early-career scientists through mentorship, leadership roles in conference planning, and professional workshops on topics such as grant writing, faculty applications, and scientific communication. Finally, I am dedicated to advancing diversity, equity, and inclusion, including building new international exchange opportunities, supporting underrepresented researchers, and reducing financial and logistical barriers to participation in Society activities.

Through these collective efforts—strengthening membership, empowering future leaders, and fostering an inclusive global community—I am confident that we can propel the Society for Cryobiology into a new era of growth, innovation, and impact.

WOLKERS, Wim

**Professor, NIFE - Lower Saxony Institute for Biomedical Technology, Implant Research and Development;
University of Veterinary Medicine, Hannover, Germany**

Biography: Wim Wolkers received his education at Wageningen University (M.Sc., Molecular Sciences, 1992; Ph.D., 1998) in the Netherlands, after which he did postdoctoral research at the Center for Biostabilization, University of California, Davis, USA. He was appointed as research assistant professor at the department of Mechanical Engineering, University of Minnesota in 2006 and appointed as full professor at the Institute of Multiphase Processes, Leibniz University of Hannover in 2007, where he has been leading a group 'Biomedical Process Technology' within the cluster of excellence 'From

Regenerative Biology to Reconstructive Therapy' REBIRTH. In 2019, he moved with his group to the University of Veterinary Medicine Hannover, where he is leading a biostabilization group in the research center NIFE 'Lower Saxony Centre for Biomedical Engineering, Implant Research and Development'. His research interests include; membrane biophysics, liposomes, molecular interactions in biological glasses, desiccation tolerance, membrane and tissue permeation processes, vibrational spectroscopy, and freeze-drying of cells and tissues.

Vision Statement: My fascination for cryobiology and the related field of anhydrobiology comes from working on a wide range of topics including macromolecular stability in desiccation tolerant tissues, freeze-drying of platelets and biological scaffolds, permeation of protectants in tissues, and water transport processes during freezing of cells. The inherent interdisciplinary nature of cryobiology and its link with human and animal medicine make it attractive for me. I also enjoy conveying my knowledge to young scientists and students. During my academic appointments in various geographic locations worldwide, I have supervised and mentored many PhD, master and bachelor students in various disciplines during their final projects. As associate editor of Cryobiology and editor of two editions of 'Cryopreservation and Freeze-Drying Protocols', I have gained a broad overview of the cryobiology and dry preservation field. Cryobiology should be approached as more than an empirical science. It follows thermodynamic principles, which can be used to predict and improve cryobiological outcomes. My visions for the position of secretary are first of all to fully commit myself to all organizational duties coming with this position. Furthermore, within this executive position, I want to promote cryobiological research among different scientific disciplines, to attract new

communities increasing the size of the society, and to attract young scientists. Cryobiology should provide a podium for biologists, chemists, physicists, mathematicians, and engineers that have affinity for the fascinating fields of low temperature and anhydrous biology.

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

Treasurer Candidates (2026 – 2027)

CHAKRABORTY, Nilay

**Director of Cryobiology, American Type Culture Connection; BioNexus Foundation
Principal Scientist, USA**

Biography: Cryobiology at ATCC and a BioNexus Foundation Principal Scientist. Nilay received his Bachelor of Engineering in Mechanical/Production Engineering from India and received his MBA degree from Indian Institute of Engineering Science and Technology. He received his PhD degree in Mechanical Engineering from University of North Carolina, Charlotte. He did his post-doctoral work and research fellowship at Center for Engineering in Medicine at Massachusetts General Hospital and Harvard Medical School. Nilay currently holds an additional faculty appointment with the Dearborn Mechanical Engineering Department at University of Michigan.

At ATCC Nilay is leading a core group of scientists focused on advancing ATCC's core competencies and capabilities in preservation sciences and developing products of strategic importance. He spearheaded creation of consumable reference materials program at ATCC.

Prior to joining ATCC in 2021, Nilay was an Associate Professor with tenure at the Dearborn Mechanical Engineering Department at University of Michigan. During his tenure at University of Michigan Dearborn, he served as Provost Fellow to the University in 2019 and was the Chair of Engineering Research Committee from 2018-2021. He has designed and developed several programs and courses at University of Michigan that focused on success of first-generation college students. Nilay served as PI of several Federal Research Grants. He has multiple patents and has actively worked on technology translation by creating two successful startup businesses.

Nilay is passionate about practical translation of preservation technologies – his current work in the area of Cryobiology focuses on understanding of cellular injury, use of micro-spectroscopy techniques to characterize molecular stability and metabolic modulation to improve preservation outcome.

Vision Statement: The Society for Cryobiology has provided to me with a sense of community for last twenty years. Interactions I have had within the Society over the years were key to shaping my scientific trajectory. As I derived my sense of identity as a scientist and researcher from the society, I realized that effective translation of preservation technologies is key to expansion and wider acceptance of the field of Cryobiology. Cryopreservation remains a significant bottleneck in effective translation of several cell-based technologies and on occasion it is the only constraint that prevents wider acceptance of a technology. In that vein, I believe we should reach out to a wider audience of closely related fields to help deliver the message how the field of Cryobiology can be the partner of choice to help successfully translate a technology from bench to bedside.

I believe with the important discoveries in our field over last couple of years, our Society is

now in a better position than ever to play an important role of being a facilitator of cross-disciplinary collaboration, communication, and discovery. A strong financial strategy supporting such initiative would be the key to success. It could then support annual meetings with participants from other closely related fields and workshops supporting cross-disciplinary work. While we focus on collaboration amongst closely related fields, we should also focus on encouraging and rewarding outstanding scientists early in their career in Cryobiology. As the treasurer, I am happy to support the financial side of such initiatives through careful planning with a focus on strategic realization.

Declaration of Competing Interests: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

LAUTERBOECK, Lothar

Scientist II, CTMC, Houston, TX, USA

Biography: Lothar Lauterboeck is a Scientist II and Team Lead in the Cryobiological development group within CTMC, Houston, TX, USA.

He has served in that position for 1.5 years. He completed his Master of Science Degree from the Veterinarian University of Vienna, and Ph.D. degree from the Hannover Medical School, where he was working on his thesis at the Institute for Multiphase Processes. After finishing his Ph.D. and a 6-year postdoctoral fellowship in multiple laboratories outside of cryobiology, he joined ThermoFisher Scientific, in Frederick, MD to work in product development for a new cryopreservation formulation for freezing cell suspensions and Tumoroids. In 2024, he joined CTMC to serve in his current position. He has been a member of the Society for Cryobiology since 2012 with a gap between 2017 and 2022.

Vision Statement: Since joining the Society for Cryobiology in 2012, a lot has happened in terms of cryodevelopment and that it is now possible to partly freeze organs with good recovery. In the Academic world it is good to see that a lot of progress has been done, but the translation into industry is still behind. Cryopreservation is being recognized as a critical aspect of supply chain management in diverse fields from animal breeding to cellular therapy. The Society has been putting a lot of effort into teaching the leaders in industry that there is no one that fits all approach and that it is important to regulate the cryopreservation step. It is my desire to contribute to such efforts. We need to continue to reach out to a diverse audience to broaden our impact and demonstrate the value we bring to improvements in biotechnology and medicine. His emphasis is on cell therapy since he can see the shortcomings there. He supports the efforts to improve our financial position that has allowed us to become a more attractive venue for scientific collaboration and communication.

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Governor-at-Large Candidates (2026 – 2028)

BALLESTEROS, Dani

Associate Professor, University of Valencia, Spain;

Honorary Research Associate, Royal Botanic Gardens, Kew, UK

Biography: Daniel Ballesteros is Associate Professor of Botany at the University of Valencia (Spain) in the department of botany and geology. He is also Honorary Research Associate at Royal Botanic Gardens, Kew (UK). He obtained his BSc and MSc degrees in

biology and plant science from the same university where he develops his current professional activities, where he also received a PhD in Plant in 2008. However, Dr. Ballesteros has a large international career and experience in plant germplasm conservation and cryopreservation gained during his postdoctoral phase across research institutions and centers of the USA, South Africa, Italy, and United Kingdom. His research aims to reveal the fundamental basis of desiccation and low temperature stress tolerance in plant propagules, particularly in relation to successful cryopreservation. In addition to studies on desiccation sensitive seeds (e.g., oaks, chestnuts), he is interested in the variation in longevity in plant propagules, from fern spores as a unicellular model to more complex systems. Often these studies involve making structural and biophysical determinations. Frequent participant to the annual meetings of the SfC since 2010, Dr. Ballesteros became a regular member of the Society for Cryobiology in 2018 and has acted as governor from 2020 to 2025, chairing also the webinar committee during the last 4 years. He was executive co-chair of CRYO2018 along with Dr. Antonio Molina-García and co-chair of the program committee of CRYO2019 along with Dr. Jason Acker and has served on the program committee of the annual meeting of the SfC from 2018 to 2024. Dr Ballesteros was also plenary speaker at CRYO2021 and serves in the editorial board of Cryobiology where he has edited an special issue in plant cryobiotechnology. Recently, he has been involved in the creation of the Spanish Society for Cryobiology, in which he is vice-president.

Vision statement: Cryobiology is an essential science, crucial to understand how life respond and has adapted to low temperatures and to living in freezing environments, and vital to improve the methods for an effective cryopreservation of plants and animal cells. Advances in cryobiology and cryopreservation can only be possible if we build our research

and technological developments on the knowledge that has been previously acquired. These advances are often stimulated by interdisciplinary learning, by collaboration among research groups, by effective networking, and by the support and promotion of the next generation of scientists. The Society for Cryobiology (SfC), its publications, annual meetings, and, lately, the webinar series, are global references for these activities.

I joined the board of governors in 2020 with two main aims: (1) to increase the representativity of the “plant cryo community” within the governing body of the SfC, (2) to increase the participation of the “plant people” in the annual meetings of the SfC, and (3) to increase the multidisciplinary of the fundamental sessions at the annual meeting of the SfC. I think these aims have mostly been accomplished by my role as governor, my active participation in the organization of the program of the annual meeting, and the webinar series. I have also acted as SfC’s ambassador when joining meetings and workshops on plant cryopreservation organized by other societies and groups. I think my work has also helped to increase the number of plant-cryo fellows within the SfC membership, something that I am confident happened during CRYO2018.

But, while some advances have been made in the last years, the community of researchers and professionals of the plant cryopreservation area in the SfC is still small. This community is potentially very large (over 200 people) but is found spread across societies without a specific focus on cryobiology (e.g., the International Society for Seed Science, the International Society for Horticultural Sciences) and conservation/biobanking initiatives for both crop and wild species (Botanical Gardens Conservation International, CGIAR, Crop Trust, FAO). In addition, I still find that more presence of plant cell systems is needed at the fundamental sessions of the annual meeting of

the SfC to increase its multidisciplinary. My vision for the next years is that the SfC becomes a central and global reference for plant researchers involved in cryopreservation and natural adaptations of plants to freezing environments, as well as for plant biobank professionals. In my vision I would also like to promote that fundamental findings from plant scientist with applications on other fields could be promoted among diverse disciplines at the annual meeting of the SfC and, on the other way around, plant scientists could learn from advances made by other disciplines. This is crucial in a field like cryobiology, where the fundamental basis of all research and applications (i.e., ice formation/avoidance, vitrification, and stability of material in the frozen/solid/vitrified state) are shared among life kingdoms and disciplines.

I think there are several activities that I could do to support this vision: (1) to organize another annual meeting of the SfC in Spain to try to attract plant colleagues and collaborators into the SfC as I did in CRYO2018, (2) to promote the integration of more interdisciplinary sessions in the program of the annual meeting of the SfC, (3) to encourage the creation of sessions on fundamental research aspects (genomics, metabolomics, biophysics) that may not be directly related to cryobiology but their conclusions and new points of view may be interesting/applicable for members of the SfC, (4) to promote cross collaboration of the SfC with other international societies with interests on cryobiology (particularly from the plant-side), (5) to continue with my role as chair in the organization of the webinar series of the SfC and (6) to collaborate in the development of another plant cryopreservation issue within Cryobiology.

KILBRIDE, Peter

Cryobiology Lead, Nuffield Department of Women's & Reproductive Health, University of Oxford, UK

Biography: Dr Peter Kilbride has been Lead Researcher in Cryobiology at the University of Oxford since last year, previously working in industry. He has served as a Governor of the Society since 2023. My current role involves researching the impact of age on paediatric ovarian tissue cryopreservation, usually carried out to preserve the fertility of girls with cancer, translating academic results to clinical applicability, advising business, and building a network of cryobiology excellence at the university. Previously in industry (Asymptote then GE Healthcare then Cytiva), he has been involved in and managed a range of projects, including: Non-Newtonian cryopreservation techniques; Developing optimal cryopreservation techniques for regenerative medicine applications such as CAR-T therapies; Working with GMP compliant cold-chain delivery.

Dr Kilbride obtained his Ph.D from University College London in the field of "Mathematics and Low Temperature Biology", in a joint program with Asymptote. His Ph.D focused on large volume cryopreservation of a bio-artificial liver for clinical delivery. His undergraduate program was in Physics at King's College London, with his final project examining the detection of oral cancers using novel spectrographic techniques. A principal aim of his research involves linking together developments from different fields to benefit cryopreservation problems.

Dr Peter Kilbride has published about thirty first author papers in journals including Cryobiology, Tissue Engineering, PLoS One, PeerJ, Scientific Reports, and BioResearch Open Access, as well as registering 7 cryobiology related patents to help bridge the gap between academic research and commercial opportunities and funding.

Since 2013 he has been actively involved in the Society for Cryobiology including organising the ICYR events and for the 2016 conference and organising student moderator sessions for the 2017 meeting, and a Governor for the past three years with a portfolio focusing on the CryoMuseum.

Vision: If re-elected to the position of Governor in the Society for Cryobiology I would like to focus on two key areas.

I would like to continue and accelerate my work with the CryoMuseum to preserve our society's rich heritage. This will include digitizing and making available online historical, but still relevant, data from the pre digital age. I hope to access preservation grants in both the US and Europe to help facilitate this. I hope that the museum and the digitized papers made available can help support researchers and the Society.

I would also like to increase the profile of the Society and the field more generally in the UK specifically. In the past few years the involvement of UK based researchers has fallen, through a combination of lack of funding, with the next generation of researchers potentially being fewer in number than those that came before. This will be through advertising and encouraging students with whom I interact in my new role to consider the field, and through active involvement in related fields who rely on the data members of our Society have contributed to science (such as fertility, conservation, and advanced therapies).

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

MENZE, Michael
Professor, Biology Department -
Molecular Physiology and Bioenergetics,

University of Louisville, KY;
President & Co-Founder, DesiCorp, Inc.
USA

Biography: Dr. Menze earned his doctoral degree in Physiology and Biophysics, pursuing a collaborative project between the Institute for Zoophysiology at the University of Duesseldorf and the Institute for Molecular Biophysics at the University of Mainz, Germany. During his doctoral training, he elucidated the role of allosteric regulation of respiratory pigments in the hypoxia tolerance of crustaceans. He continued his work on the stress tolerance of animals during his postdoctoral studies at Louisiana State University and at Harvard Medical School. During this time, he started focusing on animals that can survive in a frozen or desiccated state and animate after thawing or exposure to water. He primarily focused on the mechanisms of water-stress tolerance in animals promoted by organic compounds such as sugars and proteins to evaluate their potential for preserving clinically relevant cells and biologics in a frozen or desiccated state. Current projects include the dry preservation of red blood cells for transfusion in austere environments and stabilizing biomedical-relevant model cell lines at room temperature. Recent focus areas include the role of protein intrinsic disorder in liquid-liquid phase separations and the formation of biomolecular condensates as a prerequisite for desiccation tolerance in animals. He is a full professor in the Biology Department at the University of Louisville and Co-Founder of a start-up company aimed at improving dry preservation of biological materials. He is a long-term member of the Cryobiology Society and served as an Annual Meeting Program Committee member for the past three years.

Vision statement: I believe that science is a collaborative endeavor best pursued as a team sport. Progress in the preservation of biological

materials and our understanding of the biological underpinnings that enable organisms to naturally survive freezing or drying can be facilitated by forming teams with diverse expertise and backgrounds. The research community currently working on water-stress tolerance and low-temperature biology offers a unique opportunity to achieve this collaboratively. My vision for the future is to facilitate the exchange of ideas and foster collaborations with other scientific communities to enhance our understanding of life at the limits of water availability. In this context, I strive to facilitate deeper connections among the cryobiology, lyophilization, and anhydrobiosis communities and plan to actively engage with the groups to strengthen our relationships.

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

OSBORNE, Robyn

**Assistant Director, SSCRS;
Laboratory Operational Management Leader
& GCLP/CAP Quality Contact (CAP/BAP)
Department of Surgery
Duke University Medical Center, NC, USA**

Biography: Robyn Osborne serves as the Assistant Director of the Substrate Services Core and Research Support (SSCRS) in the Department of Surgery at Duke University in North Carolina. With nearly three decades of experience in basic scientific, clinical, and translational research, Robyn brings a deep understanding and passion for the impact of pre-analytical variables on downstream assays and data integrity.

A champion of quality and standardization, Robyn played a pivotal role in implementing Good Clinical Laboratory Practices (GCLP) at SSCRS. She currently serves as the quality lead for the Department of Defense's Surgical

Critical Care Initiative (SC2i), where she guided laboratories at Duke University, Walter Reed National Military Medical Center, and Emory University toward GCLP compliance. Her leadership ensures the availability of high-quality biospecimens to support precision medicine efforts for wounded warriors.

As Assistant Director at SSCRS, Robyn oversees all quality control operations within the laboratories, culminating in the successful College of American Pathologists (CAP) Biorepository Accreditation in 2023. She continues to manage operations form maintaining this accreditation.

Robyn began her career at Trimeris, Inc., where she evaluated and characterized peptide fusion inhibitors for various human viruses, including Human Parainfluenza, Respiratory Syncytial Virus, and Hepatitis C. She was part of the team that identified HIV fusion inhibitors, contributing to the development and market launch of **Fuzeon® (Enfuvirtide)**.

In 2008, she joined the Duke University Translational Research Institute, where she conducted advanced multi-color flow cytometry, including T-cell intracellular cytokine assays, maturation and activation panels, and MDSC profiling. She also contributed to the development of PhosFlow assays for analyzing intracellular signaling via protein phosphorylation.

In 2015, Robyn helped establish a centralized bioprocessing and storage core facility, now known as SSCRS. She remains a key figure in promoting sample integrity and quality, frequently representing SSCRS and the Department of Surgery at national conferences. Through her educational efforts, she continues to raise awareness about the critical role of pre-analytical variables in ensuring assay data reliability and reproducibility.

Robyn earned her Bachelor of Science from the University of California, Davis, and her Master of Science from North Carolina State University.

Vision Statement:__As a biobanker, my perspective on cryobiology may differ from others within the Society. While many focus on research and analytical outcomes, my primary concern lies in the pre-analytical variables that directly impact the quality and integrity of the samples being tested, monitored, or measured. It aligns with the familiar adage: "Garbage In – Garbage Out." Without high-quality inputs, even the most sophisticated assays may fail or yield unreliable, non-reproducible results.

As a Governor of the Society for Cryobiology, I see it as my responsibility to contribute my unique expertise for the advancement of the Society as a whole. My primary goal is to champion the importance of sample integrity and quality, while educating members on how pre-analytical variables affect data fitness and reproducibility.

I envision this as a two-step initiative:

Step One: Enhance education and awareness around quality metrics and best practices. Resources such as ISBER's Best Practices and Good Clinical Laboratory Practices (GCLP) offer excellent guidance. By incorporating more quality-focused sessions and featuring experts in these areas at our annual meetings and webinars, we can empower members to implement proven quality systems within their labs.

Step Two: Promote standardization across the Society. A cornerstone of any effective quality management plan is the standardization of protocols and procedures. This step focuses on identifying the most commonly used protocols among our members and establishing "Gold Standard" versions of each. The ultimate goal

is to develop a centralized, easily accessible repository of validated protocols that all Society members can reference and adopt, fostering consistency and reliability across the field.

I have already begun this effort by contributing sections to the upcoming Fifth Edition of *Wolkers and Oldenhof's Cryopreservation and Freeze-Drying Protocols*.

Together, through education and standardization, we can elevate the rigor, reliability, and impact of cryobiological research across our global community.

Declaration of Competing Interests: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

[SANDLIN, Rebecca](#)

Assistant Professor, Center for Engineering in Medicine & Surgery (CEMS), Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA

Biography: Rebecca Sandlin is an Assistant Professor at the Center for Engineering in Medicine and Surgery (CEMS) at the Massachusetts General Hospital and Harvard Medical School. In 2007, she received her B.S. from Western Kentucky University where she double majored in Chemistry and Mathematics. In 2013, she received her Ph.D. in Chemistry from Vanderbilt University where she focused on parasite biochemistry, high-throughput screening, and drug discovery. Throughout her doctoral studies, Dr. Sandlin became increasingly interested in translational research opportunities at the interface of engineering and biology. To pursue this interest, in 2013, she joined the CEMS as a postdoctoral fellow under the mentorship of Dr. Mehmet Toner. Here, she applied her prior training in drug discovery in a new way to develop cocktail preservative solutions for

whole blood that act by targeting multiple pathways of deterioration. She subsequently developed long-term storage methods for blood-derived cells using ultra-rapid vitrification. Now, as a faculty member at the CEMS, Dr. Sandlin's research focuses on the development of cryobiology technologies and application of these tools to preserve clinical specimens, cells, parasites and whole organisms. Recently reported work includes the development of spatiotemporal methods to quantify CPA uptake in whole organisms, ethical and societal considerations regarding the cryopreservation of pathogens, hydrogel beads for uniform cryoprotectant unloading, the development of high aspect ratio specimen containers to achieve ultra-fast cooling rates, and methods to vitrify parasites. Emerging work focuses on the use of microfluidic technologies to enable rapid CPA loading, development of automated cryopreservation methods, and formulation of low toxicity CPA cocktails. Dr. Sandlin currently serves as the faculty thrust lead for Biostabilization Engineering within the Engineering Research Center (National Science Foundation) for Advanced Technologies for the Preservation of Biological Systems (ATP-Bio). To support her research program, Dr. Sandlin has received numerous grants from the National Institutes of Health (NIH), National Science Foundation (NSF), and non-governmental organizations. She has served on multiple local and national study sections including at the NIH and NSF. Dr. Sandlin is a current recipient of the Anne Klibanski Scholar Award and an NSF CAREER award. Dr. Sandlin is a current Governor for the Society for Cryobiology, and a board member on the Mass General Brigham Institutional Biosafety Committee.

Vision Statement: Cryobiology plays a critical role for the development and dissemination of biotechnologies that rely on living specimens. Technologies ranging from cell therapies, organ transplantations, *in vitro* biological models, species conservation efforts and

beyond each benefit from improved methods of biostabilization. It is therefore no surprise that the demand for well-trained cryobiologists has increased sharply in recent years. I believe the Society for Cryobiology plays a critical role for meeting this demand by providing a platform to promote education, training, collaboration, and integration of commercial and academic entities, among others. To meet this goal, my lab routinely hosts visiting students from other academic institutions within the cryobiology community, and I serve as a liaison between the SfC and the ICYR. I am further engaged at the community college level where my lab provides shadowing and internship opportunities to students, and I have given invited talks to discuss my own career trajectory as a first-generation high school graduate to faculty member. If I am re-elected as a Governor, my intention is to continue building and supporting these workforce development activities of the SfC. This will be accomplished using three strategies. First, I would like to promote new and existing career development opportunities for trainees (i.e. undergraduates, graduates and post-docs). This can be accomplished through opportunities that increase the interaction of trainees with senior scientists and industry professionals, workshops to assist with preparation of job application materials, and increased opportunities to participate in conference planning and session chairing. Second, given the multidisciplinary nature of cryobiology, I would like to increase engagement of non-cryobiologists from adjacent fields and industries. This would include professionals working in heat transfer, organ transplantation, immunotherapies, biotech start-ups and beyond. Engagement of these individuals will have a dual effect of increasing membership, while creating new opportunities for junior scientists to network with a diverse group of professionals. Third, I am committed to promoting a welcoming environment for scientists from a range of backgrounds where individuals are openly

welcomed into our community. This sense of inclusion is critical to fostering the development of a sufficient workforce to meet the needs of society in general, and the wider cryobiology field in particular.

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WILSON, Peter

**Research Associate, Scripps Institution of Oceanography, UCSD;
Physics teacher, One School Global, Sydney, Australia**

Biography: While training in Physics at Otago University in New Zealand, Peter met Art DeVries and immediately became interested in antifreeze proteins. Several trips to McMurdo with Art ensued. When Clifton nanoliter osmometers became no longer available, Peter spun out a small company manufacturing a newer version (Otago Osmometers) for use by cryobiologists and sold them for about 20 years.

Peter's university work has seen him research in Japan, Australia, NZ and USA. He has been a Research Associate at Scripps Institution of Oceanography since 2007 and for the past decades has studied ice nucleation per se, much of that work in collaboration with Tony Haymet. In 2023, Peter was the Russell Severence Springer Visiting Professor at UC Berkeley with Boris Rubinsky.

Vision Statement: Having been involved in cryobiology fairly intensively since 1986, I am quite familiar with the groups globally, with the pitfalls of ice growth and/or recrystallisation and with what are fascinating problems currently on the table. My background and passion for education may allow me to be useful in growing interest in Cryobiology in an assortment of arenas, from high schools through to graduate schools. I

would like to do just that and help both the Society for Cryobiology and the branch of science overall.

Declaration of Competing Interest: I have no actual or perceived competing interests in relation to the position for which I am a candidate.

XU, Yi

**Professor; Director, Institute of Bio-thermal Science & Technology;
Deputy Dean, School of Health Science and Engineering
University of Shanghai for Science & Technology**

Biography: Dr. Yi Xu is a full professor at the University of Shanghai for Science & Technology (USST) and the Deputy Dean of School of Health Science and Engineering at USST. Dr. Xu received his B. Eng (in 1999) and M. Eng (in 2002) in Mechanical Engineering from China University of Mining and Technology, and his Ph.D. (in 2005) from USST under the supervision of Professor Tse-Chao Hua (who studied in Professor Cravalho's lab at MIT during 1982-1984, and Prof. Hua has been thought as the pioneer and founder of cryobiology in China), specifically focusing on cryopreservation of artery and thermal stress during the freezing or thawing process. He studied at Professor John C. Bischof's lab at the University of Minnesota in 2013 as a visiting scholar. Recent years, he has led several projects funded by the National Natural Science Foundation of China to investigate the cryo-injury mechanisms or develop novel methods for cryopreservation. During the last decade Dr. Xu has collaborated with many regenerative medicine scientists, clinicians, and microbiologists to cryopreserve biological samples such as living cells,

tissues, organs, and microbial resources. He published over 100 peer-reviewed papers on cryopreservation in scientific journals. He's also been an invited reviewer for many journals including CryoLetters, Cryobiology, Technology in Society, Scientific Reports, Langmuir, International Communication in Heat and Mass Transfer, ACS Sustainable Chemistry & Engineering, ACS Applied Materials & Interfaces, Advanced Science, Advanced Healthcare Materials, etc.

Dr. Xu has been a member of the Society for Cryobiology since 2004. He is an active leader and member of some academic societies in China, such as serving as Governor of the Biological Resource Management and Utilization Branch of the Chinese Preventive Medicine Association, Governor of the Tenth Council of Chinese Association of Refrigeration.

Vision Statement: My first CRYO meeting was CRYO2004 in Beijing, China, which offered me great opportunities to meet with experts all over the world in the field of Cryobiology and exchange ideas with them. That wonderful experience also led me to confirm cryobiology as my research field for my academic career. Since then, I have been working on cryopreservation for more than 20 years. One top lesson that I learned from my research experience is that cryobiology is such an interdisciplinary subject that mostly thrives from the communications and collaborations among scientists from various fields. Especially, the fast developments of cell therapy and regenerative medicine raise an urgent yet unmet demand for cryopreservation technology. Also, the preservation and protection of biological resources have become an essential need

for the sustainability of our nature and human society. Society for Cryobiology (SfC) has been a very important platform for academic communications and exchanges, and I hope it should also become a platform for technology transfer.

If I am elected to be a board member, I'd work with fellow board members to pursue the following goals: (1) Promoting the interdisciplinary communications and collaborations among researchers with different backgrounds, generating more wisdoms to address those scientific mysteries in cryobiology, and developing novel technologies for cryopreservation. (2) Promoting the communications and collaborations between academia and industry, not only transforming the innovative technology into industry for applications, but also bringing the practical problems in industry to scientists and inspiring the innovations in academic research. (3) Encouraging and helping young talents to grow and succeed in this field since they are the future of the cryobiology field. (4) In particular, as a scholar from China, I will work hard with my colleagues to recruit more young talents to the cryobiology field, promote the participation of scholars from China to the SfC, upgrade the communications and exchanges between the Asia-Pacific region and others, and try to build up a working mechanism for better academic exchanges.

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