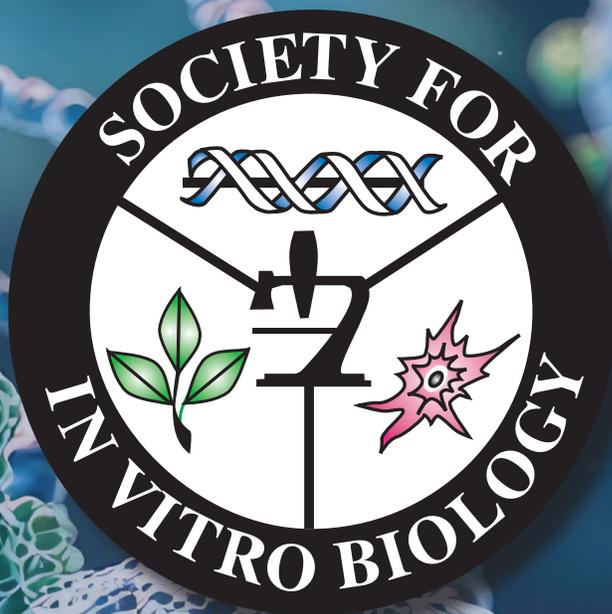


SIVB ANNUAL REPORT

2024 SOCIETY FOR
IN VITRO BIOLOGY

PLANT AND ANIMAL BIOTECHNOLOGY AND GENOMICS
SIVB.ORG



**FOSTERING THE EXCHANGE OF KNOWLEDGE
OF IN VITRO BIOLOGY OF CELLS, TISSUES AND ORGANS**

PRESIDENT'S REPORT

My first year as President of our Society has flown by in a whirlwind of activity and discovery. Reflecting on these past twelve months, I am amazed at how much growth and change have taken place—both for the Society and in my own journey. Transitioning from President-Elect to President was more than a change in title; it was a day-by-day educational process. Throughout this experience, the wisdom, encouragement, and advice of many colleagues and mentors were invaluable, and I remain profoundly grateful for their support.

A special debt of gratitude goes to our former Presidents, **Addy Alt-Holland** (2022–2024) and **Allan Wenck** (2020–2022). Their thoughtful leadership served as a solid foundation long before I officially stepped into my current position. By watching how they skillfully balanced immediate needs with long-term objectives for the Society, I discovered the importance of making decisions that address both pressing priorities and the organization's broader vision.

The collaborative spirit fostered by the previous (2022–2024) Board of Directors has easily carried over to the current (2024–2026) Board. In laying the groundwork for constructive governance, they demonstrated the power of ensuring each member feels supported, trusted, and motivated to participate. Building on that foundation, our current Board remains committed to inclusivity, openness to new ideas, and respect for every perspective. From brainstorming fresh initiatives to coordinating Society-wide activities, each Board member's dedication has been vital to our ongoing success.

Working closely with the Standing Committees offered me significant insights into their crucial role in the Society's overall health. Their responsibilities range from financial management and fundraising to publication oversight and member engagement. This Annual Report includes their detailed committee reports, highlighting the remarkable progress achieved in various areas. I encourage you to review these accounts for a clearer picture of the Society's strategic endeavors. If any specific project or mission resonates with you, feel free to reach out to the respective committee chairs. We are always looking for new voices, new contributions, and fresh perspectives to enrich our work.

A well-deserved acknowledgment goes to the operational core of our Society — Innovative Essentials (**Michele Schultz, David Olsher, and Sally Dodson**). Their behind-the-scenes work keeps the Society running smoothly from one day to the next. From coordinating the annual meeting to managing an array of administrative tasks year-round, they are the unsung heroes who keep our endeavors moving forward. Their logistical and organizational expertise is essential — like a heartbeat — to our Society's vitality. Because of their tireless coordination and commitment, the rest of us can stay focused on strategic growth, creative projects, and membership engagement.



Finally, I extend my sincere appreciation to all of you for your membership in our Society. Your participation is the cornerstone of everything we do — every idea, conversation, and collaborative goal helps shape our collective success. Indeed, an organization's strength comes from its members, and we thrive because of your enthusiasm, dedication, and willingness to contribute. By lending your unique voices and creativity, you ensure our shared vision continues to flourish and evolve.

As I look back on this first year, I am both proud and humbled by how much we have accomplished together. The support system around me — encompassing past and present leaders, committee members, our dedicated Business Office, and each of you — remains a steady source of inspiration. I look forward to seeing how much more we can achieve in the coming year as we drive our Society toward an ever-brighter future defined by growth, innovation, and community.



Piero Barone, President

PIERO BARONE
President

piero.barone@corteva.com

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SECRETARY'S REPORT



Mae Ciancio
Secretary

The 2024 year hosted a successful meeting in St. Louis, MO. The Board Members, in collaboration with the Business Office, worked diligently to facilitate an exciting in-person meeting with a virtual component for those unable to attend or desiring virtual access. The Board is continuing their efforts to identify and implement measures to support meeting attendance, membership, community outreach, and student/Post Doctoral development. There are multiple ways to contribute to the success of the Society as well as the annual meetings. If you are interested in getting involved and don't know where to start, please contact one of the Board Members directly and we will be happy to help you identify an opportunity to meet your interests. Thank you for your support of the Society.

MAE J. CIANCIO
Secretary

mcianc@midwestern.edu

TREASURER'S REPORT



Barbara Doonan
Treasurer

The SIVB has had to work through many hard challenges over the past few years, as have many other organizations both nonprofit and for-profit. For us, adjusting to virtual and hybrid meetings with their associated demands for the most up-to-date technological capabilities, dealing with increased meeting costs, and a number of other items, has definitely put a strain on finances. The projected year-end financial picture for 2024 shows an estimated deficit of \$65,016. This, while an area of concern, must be looked at with an understanding that emerging successfully from the turmoil of the past few years is likely to be a slow process. However, I believe we are moving in the right direction. A close look at our year-end finances shows that the excellent program in St. Louis resulted in a meeting with in-person registration numbers (562 total/357 paid) at the highest level in over 20 years (San Francisco, 2004: 567 total/286 paid). Due to this and the exceptional fundraising and grant campaigns, the World Congress showed a significant profit. These accomplishments are our first steps in the right direction but should help us keep in mind that we still have a long way to go.

Our accounting firm, Thompson, Price, Scott, Adams & Company, PA, has continued to provide superior service with respect to handling all our specific accounting needs as a nonprofit organization. They are working closely with the Business Office as we review, analyze, and verify all aspects of the Society's finances, e.g., determining proper allocation of assets such as the temporarily restricted accounts which help make it possible for us to carry out our mission. During a meeting with Morgan Stanley in May 2024, the current investment plan for the organization was carefully reviewed and it was determined that the allocation of funds to an ultra-short conservative growth program has been a good move for SIVB and is working well for us.

As we move forward into 2025, I cannot emphasize enough that much greater efforts from each and every one of us who care about the SIVB and its future are needed. I believe we all know what must be done: (1) With respect to membership, we are virtually static and must do more to encourage rejoining by lapsed members and to seek new members from students, colleagues, and invited speakers, (2) With respect to funding support, Chairs and Committee Members have successfully sought and gained new sources of funding and a number

of individual members have provided increased monetary support. This is to be applauded — keep up that good work — but we must do all possible to expand these efforts and, (3) Since our journals play a very important role with respect to our financial health, again a plea that we who are members actively publishing research results not only consider submitting our own manuscripts to *In Vitro – Animal* or *In Vitro – Plant*, but also encourage our colleagues to do so. The upsurge in attendance at the recent meeting in St. Louis should motivate us to believe we can not only meet this goal but that we can and will exceed it as we share the news that — **The SIVB Annual Meeting is the place to be — where you will see, hear, and be able to benefit from experiencing In Vitro Biology in action!**

The Treasurer's Summary Report can be found at the end of this Annual Report.

BARBARA B. DOONAN
Treasurer
doonanbb210@aol.com

BUSINESS OFFICE REPORT



Michele Schultz
Managing Director

2024 marked the Business Office's first full year under the leadership of Managing Director **Michele Schultz** and her team at Innovative Essentials. As the SIVB's Business Office, they provided consistent support of the day-to-day activities of the Society. This included coordinating the SIVB's annual meeting, publications, membership, and Board and Committee initiatives. The SIVB returned to St. Louis for our highest-attended meeting in over 20 years, confirmed agreements for SIVB meeting venues from 2025–2029; designed and released the new SIVB Membership portal (<https://members.sivb.org>); assisted in the transition of the IAPB to their new Canadian Secretariat Office and Editor-in-Chief; began the revision of the IVP Instructions for Authors to allow the journal to become compliant to apply for PubMed; assisted in the preparation and processing of multiple grant applications; organized the logistics to hold the first Bob V. Conger Plant Biotechnology Student Oral Presentation Competition and the Trevor A. Thorpe Symposium; and managed the organization's publications and website. Due to current expectations for SIVB to offer recorded programming, the Society has incurred much higher event expenses to support these additional services. The Business Office continued to work tirelessly to find ways to support and build the organization's financial health, while being mindful of the physical, mental, and emotional health of our collective membership.



2024 World Congress on In Vitro Biology

SIVB returned to St. Louis, Missouri for the 2024 World Congress on In Vitro Biology, a special event which occurs once every 4 years. The event took place from June 8 – 12, 2024, at the Hyatt Regency St. Louis at The Arch. The initial planning for the World Congress began in 2021 with **Marietta Wheaton Saunders** performing site inspections and organizing contract proposals, and plans began in earnest at the 2023 Annual Meeting in Norfolk to prepare the program and set final details with the hotel. SIVB members from Missouri, Illinois, and other nearby regions were contacted and became part of the Local

Organizing Committee (LOC). With support from the 2024 Program Committee. The LOC held monthly meetings and spread the word to universities and companies in the area as well as to post-doctoral and other biotechnology programs throughout the USA. The Development Committee also met monthly to discuss local and national companies and universities who would benefit by participating in the event as supporters or exhibitors. Both groups distributed materials prepared by the Business Office to spread awareness and information about the World Congress. Through the exceptional efforts of the Local Organizing, Program, and Development Committees working together, SIVB was able to achieve the highest registration numbers we have seen in 20 years!

The program featured Keynote speaker **A. Mark Settles, PhD**, Synthetic Biology Investigator at the National Aeronautics and Space Administration (NASA) Ames Research Center and Emeritus Professor at University of Florida, Plant Molecular and Cellular Biology Program and Horticultural Sciences Department. Dr. Settles presented a talk on **"Synthetic Biology to Support Human Exploration of Deep Space."** Highlights also included a full day of Saturday workshops, a Tuesday lunch workshop presented by Viscon and the inaugural events for both the Bob V. Conger Plant Biotechnology Oral Presentation Competition and the Trevor A. Thorpe Symposium. We were also treated to a donation of apple slices from Artic Apples, which were provided to attendees as part of our Opening Ceremony reception.

SIVB was pleased to present numerous awards to well-deserving members in St. Louis. During the Opening Ceremony on Sunday, June 9th, the Society presented the 2024 Lifetime Achievement Awards to **Todd J. Jones, PhD** and **Lucy E.J. Lee, PhD**, honoring them for their significant contributions to their fields during their respective careers. For their extra effort in support of the Society's programs and endeavors, SIVB President **Addy Alt-Holland, PhD** recognized **Michael K. Dame; Barbara B. Doonan, PhD; Michael J. Fay, PhD; Cynthia L. Goodman, PhD; Todd J. Jones, PhD; Michele G. Schultz; Dwight Tomes, PhD; Veena Veena, PhD; and Allan R. Wenck, PhD**, with Distinguished Service Awards. She also presented the President's Award to the following people in recognition of their support of the Society: **Piero Barone, PhD; Anissa Belfetmi-Stone, PhD; Raj Deepika Chauhan, PhD; Ahmad A. Omar, PhD; Hong Luo, PhD; Lori Marcum; Daylan Pritchard; and Joyce M. Van Eck, PhD**. Additional awards were presented at the IVACS Section Meeting to Distinguished Scientist Award Recipient, **Richard Heller, PhD**; and Fellow Award Recipient, **Brad L. Upham, PhD**; and during the Plant Biotechnology Section Meeting to Distinguished Scientist Award Recipient, **Prakash K. Kumar, PhD**, and Fellow Award Recipients, **Hong Luo, PhD**, and **Raj Deepika Chauhan, PhD**. In addition, the Society was pleased to present numerous Student Awards and prizes for the winners of the Student and Post-Doctoral Oral Presentation Competitions.

On Saturday, June 8, the full program of the 2024 World Congress officially began with the 16th International Conference on Invertebrate and Fish Cell Culture. This 1-day conference, traditionally held on the first day of the World Congress on In Vitro Biology, focused on current advances in cell/tissue culture technologies and their applications in fish and invertebrate cell culture systems. We also offered several special workshops including an interactive workshop presented by PlantGENE on "Mastering Plant Transformation Vector Design," which helped better equip attendees with the knowledge to design vectors that can significantly advance their research. The afternoon brought a workshop on "Back to Basics: Media Formulations & Preparations" which revisited the fundamental principles of selecting appropriate media components, along with the media preparation and quality control processes pertinent to media formulation. The last session of the day was a roundtable called "The Culture Club: Unraveling the Complexities of Media Formulation," with a primary focus on exploring the complexity of media formulation in the context of both plant and animal/invertebrate tissue culture applications.



Our members dancing away the evening at the Monday night Joint Sections Social.

A number of social activities were offered during the 2024 World Congress, including The River City Silent Auction, the Saturday Night Welcome Reception, the post-Keynote Opening Ceremony Reception on Sunday, a special exhibitor refreshment break on Sunday, and the Monday evening Joint Sections Social. On Tuesday evening, SIVB hosted the "Making Music at the National Blues Museum" dinner event, where guests enjoyed traditional St. Louis BBQ and live jazz music while having exclusive access to explore this iconic musical museum. On Wednesday afternoon we offered a choice between two specially curated scientific tours. Attendees had the option to visit the offices of the Donald Danforth Plant Science Center and Bayer Crop Science for "A Firsthand Look at the Past, Present, and Future of Agriculture" or MilliporeSigma and the McDonnell Genome Institute at Washington University for "Human Genomes, Development and Therapeutics."

The Student Program continued to grow with the student members convening their own symposia and workshops based on their needs and interests. The 2024 program included a networking luncheon on "The Proper Use of English in Scientific Writing," and a workshop on "Single Cell RNA Sequencing." Special social events included a Student Social and Pizza Party to meet with the Board and Officers, and a student- and Post Doc-only networking event. For 22 years, SIVB has offered our Student Initiative Program, encouraging the educational and professional growth of our youngest members by providing them with discounted abstract fees, free in-person or on-demand registration to attend the meeting, and a year of free membership. Hundreds of students have benefitted from this program, and the Society has benefitted as many continue their membership after their free year. We encourage all members to support the Student Initiative by contributing to the Sponsor-A-Buddy program. A contribution of \$25.00 can make a huge difference in the career development of a student. SIVB is proud to continue to support the careers of our new and up-and-coming scientists.

The On-Demand Limited Access Program, which is offered to in-person attendees as well as those unable to attend, has been a positive way for attendees to see the highlighted sessions they might have missed, as well as offering ways to rewatch sessions that they attended. The On-Demand program was offered in 2024 through grant support from the National Science Foundation, United States Department of Agriculture/NIFA, and Department of Energy. Through the Mobile App and event website, recordings of entire sessions, including Q&A from selected key symposia and workshops, were made available. Providing this service required an onsite recording team and a rehearsal in advance of the Opening Ceremony. The On-Demand program was released exactly 2 weeks after the meeting and remained available for over three months, through September 30. After that time, most of the recorded sessions were released on SIVB's YouTube channel where they currently reside. In St. Louis, attendees were able to view both in-person and virtual poster presentations uploaded by authors unable to present in person due to health or financial restrictions.

The Local Organizing Committee, Program Committee, and Development Committee worked in tandem to provide a dynamic outreach approach to local companies and institutions. Due to their coordinated efforts, attendance in St. Louis was the highest on record in over 20 years. Much of this was due to the opportunity to offer discounted group registration rates, and ten (10) organizations took advantage of

this opportunity. Combined final in-person and on-demand registration totaled 629 which included 133 member, 161 group, 15 nonmember, 18 research technician, 23 member Post Doc, 7 nonmember Post Doc, 124 student, 10 one-day, 4 emeritus, 4 guest, 12 volunteer, and 53 speaker registrants. There were also 3 staff, 4 accompanying guests, and 35 exhibitor registrants.

As SIVB looks to be environmentally conscious, we have discontinued offering printed handouts of meeting information. All event details are included in the Mobile App and event website. A Virtual Conference Bag is available through the Mobile App. This includes offering downloadable forms to attendees that can be completed and emailed to the Business Office for processing. A few exhibitors and supporters provided physical handouts which were placed in the conference bag that attendees were given to use during the meeting. The Mobile App and event website also offered networking opportunities where participants could connect to each other through real-time messages as well as share information on social media. Those using the app could receive push notifications to remind them of upcoming events and special opportunities, complete the meeting evaluation, be eligible for the door prize online, and easily reference a color-coded 'schedule-at-a-glance'. Over 35% of all registered participants used the Mobile App and over 51% of all registrants accessed the event website.

To be more cost- and environmentally-conscious as well as allowing for the latest possible deadline for abstract submissions, the SIVB now utilizes the Mobile App for on-site access to the program during the meeting. After the meeting, an online Proceedings of all abstracts was published, remaining freely available in perpetuity. Since the program remains available online, attendees will only receive the print copy of the proceedings if they actively choose that option. Approximately 20% of attendees requested the print copy book of abstracts.

The Business Office thanks the team of volunteers at the 2024 World Congress who provided much needed Audio Visual and registration support throughout the event. The meeting could not have been successful without their assistance, and we are happy and gratified to see so many return each year.



2025 In Vitro Biology Meeting

The SIVB is returning to Norfolk, Virginia, for the 2025 In Vitro Biology Meeting from June 7–10, 2025, at the Hilton Norfolk The Main. The initial planning for the meeting began in 2022. At that time Marietta renegotiated a new agreement with the Hilton applying the same 2023 contract terms for our 2025 In Vitro Biology Meeting. This negotiation process allowed us to recoup significant funds charged as a cancellation fee for not holding the 2021 meeting. The Hilton is a beautiful location and was popular with our attendees, and so we are excited to return there in 2025. Plans began in earnest starting in June of 2024 in St. Louis to prepare the program and set the final details with the Hilton. The Program Committee has prepared an exceptional program with varied and fascinating sessions offering timely perspectives on plant and animal biotechnology and genomics.

SIVB members from the Mid-Atlantic and other nearby regions were contacted and agreed to become part of the Local Organizing Committee (LOC). With support from the 2025 Program Committee, they have been spreading the word to universities and companies in the area as well as to post doctoral and other biotechnology programs throughout the USA. The Development Committee has met monthly to discuss local and national companies and universities who might

benefit by participating in our event as supporters or exhibitors. Both groups distributed materials prepared by the Business Office to spread awareness and information about the event. In addition, the Program Committee held monthly meetings to review the current program as well as bimonthly Convener's Corners to address any speaker questions that arose during the planning process.

S. Eliza Lockwood, PhD, MD, FACMT, Medical Affairs Lead, Senior Science Fellow, Bayer U.S. Crop Science is this year's Keynote Speaker. She will be presenting a talk on **"One Health: From Plague & Pestilence to Pharmaceuticals, Pesticides & Public Health."** We are pleased to announce that **Wayne A. Parrott, PhD**, and **Guy Smagge, PhD** have both been named as recipients of the 2025 SIVB Lifetime Achievement Award. We are also thrilled to be presenting the first Presidential Honor of Distinction to **Barbara B. Doonan, PhD**. Their awards will be presented during the Sunday Awards Ceremony after the Keynote Symposium. Awards will also be presented at the IVACS Section Meeting to Early Career Award Recipient, Nguyen (Nathan) Vo, PhD, and during the Plant Biotechnology Section Meeting to Distinguished Scientist Award Recipient, **Joyce Van Eck, PhD**. In addition, the Distinguished Service Awards, student awards, and student and Post Doc competition winners will be announced throughout the meeting.

On Saturday, June 7, 2025, we have a full program beginning with an interactive workshop on "Fundamentals of Modular Cloning," sponsored by PlantGENE, designed to help attendees understand the fundamentals of a modular cloning strategy for vector design for successful cloning experiments in addition to providing troubleshooting tips to improve cloning workflow. The afternoon brings a panel discussion on "The Role of Regulations on the Development of and Stewardship of Transgenic and Edited Plants and Animals," which discusses the effect of regulatory decisions on the direction of research and development, whether genome editing will eclipse or complement traditional transgenic approaches, and how stewardship and traceability will evolve in an increasing complex world regulatory and trade situation. The next session, "Optimizing Plant Tissue Culture Media Formulation: Modern Problems Require Modern Solutions," offers academic and industry leaders discussing practical approaches to optimize culture media and improve plant tissue culture systems. The final session of the day, "The Culture Club: Unraveling the Complexities of Media Formulations," offers a collaborative dialogue and shared expertise to drive forward the advancement of in vitro biology, fostering innovation and excellence in the field.

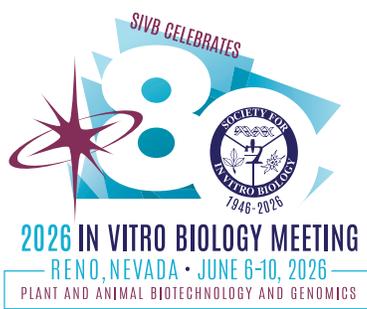
We have also planned a number of fun and informative activities, such as the 2025 Hampton Roads Silent Auction, which will run from Saturday evening through Tuesday morning in the Exhibit Hall. Additionally, on Tuesday evening, SIVB will host a dinner event where we cruise the Elizabeth River and on Wednesday afternoon we are offering our first all-day scientific tour of the Hampton Roads area. This event will visit Lifenet Health; the arboretum, herbarium, and greenhouses at William and Mary; and the Michael and Kimthanh Lê Planetarium at Old Dominion University.



The 2024 World Congress was the highest attended SIVB annual meeting in over 20 years and we thank the Program, Development, and Local Organizing Committees for their efforts in supporting this event.

We are honored to be able to continue offering SIVB's Student Initiative Program, encouraging the educational growth of our youngest members by providing them with discounted abstract fees, free in-person or on-demand registration to attend the meeting, and a year of free membership. Since its inception, hundreds of students have benefitted from this program. Many continued their membership after receiving the year of free membership. The Student Program has grown each year with the student members creating their own symposia and workshops based on their needs. This year's program and events include a networking luncheon on "Tips and Tricks on Orally Presenting Your Research" and a workshop on "Synthetic Biology: Bottom-up/Top-down Molecular Engineering of Unique Biosystems;" a Student Social and Pizza Party to meet with the Board and Officers; a separate student- and Post Doc-only event where they can network with each other; and a Post Doc Mentoring session with the participants of SIVB's new MATCH mentoring program. We are pleased to support the careers of our up-and-coming new scientists. If you would like to support the Student Initiative, you can contribute to the Sponsor-a-Buddy program. It only costs \$25.00, but it can make a huge difference in a student's career.

2026 and 2027 In Vitro Biology Meetings



Celebrate 80 years of SIVB during the Society's 2026 In Vitro Biology Meeting in Reno, Nevada, at the Peppermill Resort and Spa from June 6–10, 2026. Beginning in 1946 as the Tissue Culture Association and transitioning into the Society for In Vitro Biology in 1995, the SIVB has a long history of fostering the

exchange of the knowledge of in vitro biology of cells, tissues, and organs from both plants and animals. We are looking forward to welcoming members both old and new to join us for a special celebration event during the program.

SIVB is raising support from our members to help us make the anniversary a resounding success. If you would like to help us by supporting this special event, SIVB has created a fund specifically for this purpose. Visit <https://members.sivb.org/donations/> or contact me at the Business Office to make a donation in support of this once-in-a-lifetime gathering of the SIVB! Counting on You: Your Support Makes the Difference.

In addition, we are thrilled to share that our Keynote Speakers for 2026 will be **Indra Vasil, PhD**, and **Delia Bethell, PhD**, both SIVB Lifetime Achievement Award Winners and long-time members, who will share the history and their memories of this exciting organization that we all love as we look forward to where we are headed in the future.

Initial planning for the 2026 Meeting began in 2023 when Michele traveled to Reno to perform a site inspection of the various locations available to hold our event. She continued negotiations to hold SIVB's 2026 In Vitro Biology Meeting at the Peppermill Resort and Spa, a AAA 4-Diamond Resort surrounded by the beauty of the Reno/Lake Tahoe region. By negotiating early, we have been able to secure terrific room rates for our members and attendees. Our meeting will run from June 6–10, 2026 and we hope you will join us for the first time at this gorgeous and luxurious setting near Lake Tahoe!

Due to the success of the 2024 World Congress, the Business Office worked out terms with the Hyatt Regency St. Louis at The Arch to hold our 2027 Meeting at their venue. Due to its popularity, SIVB negotiated larger meeting space and an enhanced room block and concessions to assure a superior experience for our attendees. By securing the hotel contract and AV pricing this early, we have been able to arrange for the best possible rates to hold our meeting in the heart of the Heartland.

Membership

SIVB membership has held steady compared to the years immediately following the pandemic. This is partly due to the 2024 initiative encouraging Post Docs to join SIVB and receive discounted rates to attend the annual meeting. Through this program, Post Doc Membership increased from 4 to 25 members, an increase of over 500% in one year. We also showed substantial growth in our student membership through an initiative from our collaboration with the Regeneron ISEF Science and Engineering Science Fairs. SIVB provides an award which includes 1 year of free membership in the SIVB. This new offer began in 2023 with most new members being provided with 2024 membership. Some of these members have attended the SIVB meetings presenting their research and have transitioned to active members of the SIVB.

In addition, the Business Office continued to reach out to regular members who may have let their membership lapse as well as worked with our various committees to initiate outreach to encourage the return of previous members, bring in new members, and retain current membership. The number of members who are taking advantage of the discounted 2-year renewal option is stable and many who attended the 2024 World Congress utilized the combination membership and meeting registration option. Invitations to join at a discounted rate were extended to non-member speakers from the World Congress and authors who published in the IVA and IVP journals.

In the second half of 2024, the SIVB's Membership Committee began to actively review new ways to engage our members. Teams within the committee reviewed numerous possible opportunities including creating a mentorship program for our younger members, revisiting the current matrix categories of our membership, enhancing our website presence, reactivating the SIVB webinar program, and more. Their efforts created a special offer provided to PlantGENE members who are not current SIVB members to join the SIVB. Other initiatives were still in process at the end of 2024 and will begin to produce results in 2025.

While we endeavor to encourage new membership at an organizational level, it is individual members who are most effective at spreading the word about the benefits of being part of this society. A personal connection is the best way to encourage your friends and colleagues to join and enjoy the benefits of membership. If you'd like to share a testimonial about how you have benefitted from membership in SIVB, you can submit it to the Business Office. Additionally, you can share your experiences directly with colleagues and help them join through the Member-get-a-Member program. Through this program, you can go to our website at <https://sivb.org/sivb-membership/membership-opportunities.html> or email the Business Office to recommend a new potential regular member. If that person has not been a member before and they join, they will receive \$10 off their membership dues for the first year and you will be entered into a drawing for a \$100 gift card.

SIVB also offered a special prize drawing for those who renewed their 2024 membership by December 2023. The drawing was held during the 2024 World Congress, and we are pleased to announce that the winners were **Laura Rhodes**, who was awarded free registration to the 2025 In Vitro Biology Meeting, and **Mireia Bordas Baliu**, who received free 2025 membership. If your 2025 renewal was sent in by December 31, 2024, you could win membership in 2026 or registration to the 2026 In Vitro Biology Meeting.

SIVB is grateful to our long-time members who continue to be actively involved in the organization even after they have retired from full-time employment. In addition to participating as Officers and members of various committees, many also give back to the Society through personal contributions and estate planning, such as establishing future gifts and/or endowments. The SIVB is deeply grateful to those extraordinary members who made charitable gifts or estate contributions via their Qualified Charitable Distribution (QCD) in 2024. We acknowledge **Addy Alt-Holland**, **Piero Barone**, **Delia Bethell**, **Barbara Doonan**, **Dave Ellis**, **Raziel Hakim**, **Barbara and John Harbell**, **Indra Harry**, **Richard Heller**, and **Prakash Kumar** for their exceptional generosity. To learn

more about how you can make a charitable contribution to the SIVB, please contact the Business Office at michele@sivb.org. Even if retirement isn't yet in your plans, there are many other ways you can give back to the SIVB. You can contribute \$25.00 to the Fund for the Future when you renew your membership each year, support SIVB through company contributions made via yourcause.com, or donate items to the Silent Auction held during the Annual Meeting. Finally, but perhaps most importantly, you can help the organization grow stronger by offering your valuable time and expertise through serving on a committee. It is important to hear the voices of all of our members, and this is a great way to get more involved.

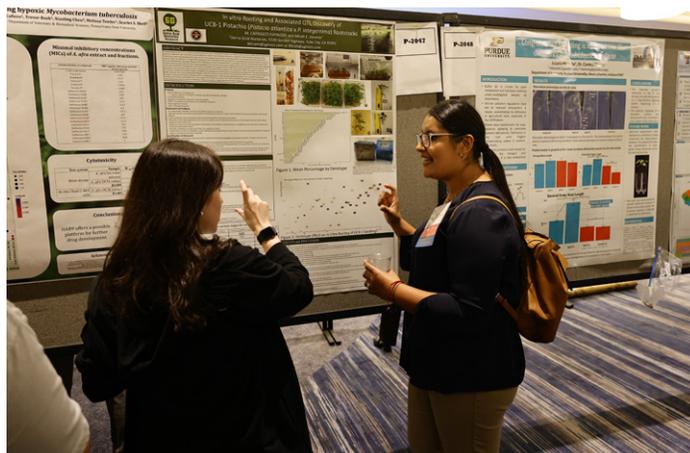
In addition to the projects mentioned previously, in 2024 the Business Office supported numerous SIVB Board and Committee projects including: finalizing the first draft of the review and revision of SIVB's governance documents to address current protocols; disseminating and beginning the analysis of the "Today's Voices" survey to reframe the SIVB's presence within the scientific community; assisting the Treasurer in historical review and more comprehensive understanding of the organization's finances; assisting the *In Vitro — Plant* Ad Hoc Committee to analyze and revise the Instructions for Authors to make it compliant with PubMed; coordinating activities with the Social Engagement Committees; assisting in logistics for the release of the PlantGENE website housed on SIVB's site; preparing content on SIVB's YouTube pages; publishing the post-meeting Proceedings; designing prepared documentation for discussion regarding revising the Meeting Program format; coordinating the efforts of the Terminology Committee; and coordinating historical research to provide data to the Constitution and Bylaws Committee.

The organization is sad to share news of the passing of long-time members **Joseph Feder, Arthur E. Greene, Lenoard A. Hayflick, Marvin A. Karasek, George M. Martin, Carlton Nadolney, and Shyamal K. Roy.**

Publications

SIVB's Publications Department oversees activities supporting the Society's physical publications as well as our online publications and presence. The Business Office manages the *In Vitro Cellular and Developmental Biology — Animal* journal, the *In Vitro Cellular and Developmental Biology — Plant* journal, and the *In Vitro Report* newsletter. It also maintains SIVB's website and monitors our presence on social media.

Work began with Springer in 2022 to ensure that IVP was compliant to apply to PubMed. In March of 2023 we completed the first step of updating the Editorial Board of both SIVB and IAPB to list full names, affiliations, and locations of all board members. The next step required a full revision of our Instructions for Authors including significant updates to the general guidelines and rules for publishing in the journal. SIVB established an Ad Hoc Committee to review the current Instructions for Authors against the requirements to be eligible for PubMed and



Poster Presentations are a dynamic way to share your research with your fellow attendees and this year's sessions were very well received.

update the instructions with specific content necessary for publishing in our journals. In 2024, the Committee created a merged document including both *In Vitro Plant* and PubMed compliance requirements. This document was sent to Springer for review to finalize and implement. This process continues into 2025.

SIVB is continuing work in earnest on preparing an updated version of the 1990 terminology article (<https://sivb.org/education/terminology.html>). This information is planned to be published in Springer as separate *Animal* and *Plant* versions with terms specific to each journal, and a combined version to be placed with open access on our website. The Ad Hoc Terminology Committee is currently reviewing and revising current terms found on the page as well as adding new terms that have become part of the *in vitro* biology and biotechnology lexicon.

SIVB has established a number of Special Collections on Springer's website where multiple articles on highlighted topics are available for easy search and usage. The current locations can be found at: <https://link.springer.com/journal/11626/collections?filter=Open> for *Animal* and <https://link.springer.com/journal/11627/collections?filter=Open> for *Plant*.

As publication content has shifted to mostly online distribution, the focus of publication has changed from physical page budgets to numbers of papers. The number of papers listed in the Table of Contents has become the industry standard to reflect the value of a publication. In 2024, while *In Vitro — Plant* fell short of the contracted paper budget goal, *In Vitro — Animal* exceeded the required budget, mostly due to the exceptional efforts of **Tetsuji Okamoto**, *In Vitro — Animal* Editor-in-Chief and the numerous special issues he organized for publication.

In Vitro — Plant journal's Impact Factor decreased slightly from the 2022 level of 2.6 to 2.3 in 2023, which is still an exceptional number. Through the guidance from Editor-in-Chief, **David Songstad**, the journal is currently working on a special issue on Plant Biotechnology for Africa which should publish before the June 2025 Meeting. In addition, the IAPB Editor-in-Chief, **Samir Debnath** is looking to organize a special issue to support their publication efforts.

The *In Vitro — Animal* journal's Impact Factor saw a decrease from 2 in 2022 to 1.5 in 2023. Despite this, the journal is still performing well. To address the slowing of submissions, Editor-in-Chief Tetsuji Okamoto organized numerous special issues which published in 2024 and is organizing additional issues for 2025. He accepts suggestions for new special issue topics that would be of interest to our readers.

Both new and senior members of the SIVB are encouraged to submit their work to the *In Vitro — Animal* and *— Plant* journals whenever possible. The benefit is doubled as you can share research directly with colleagues at SIVB who understand the importance of your research and, at the same time, support your journal and your Society.

Out of all of SIVB's publications, the *In Vitro Report* is the one that most consistently reflects our membership. SIVB's online newsletter is your "meeting when not at the meeting" and provides an exceptional way to connect with your colleagues, share your news, and keep abreast of our community and organization. Published quarterly, the *In Vitro Report* offers updates from your fellow members; information from various SIVB Officers, Committee Chairs, and members of the organization; news and updates; and acknowledgements of SIVB Award Winners. We invite you to make this publication truly yours by submitting articles about news or items of interest in your field or sharing your professional news with the Editors-in-Chief **Michael Fay, Sylvia Mitchell, and Addy Alt-Holland**. We especially encourage you to provide updates of your accomplishments along with your picture so we can include them in the next Members News update. Your news is important and of interest to your colleagues! Contact the Editors by using the links found on the "Submissions" page (<https://sivb.org/InVitroReport>) or reaching out to me at michele@sivb.org.



The exhibition held during the SIVB annual meetings is a great opportunity to learn more about services and materials available for your research.

The 2025 In Vitro Biology Meeting website was released in August 2024 with registration options available in October 2024 to coincide with the release of the new membership portal. This website design is mobile-friendly using current layouts and provides the Business Office with the ability to make more agile updates to the content. The design offers expandable session listings for the program, highly visual content pages, links to hotel videos, a welcome message from Norfolk, social media links, future meeting details, and both top and bottom navigation options.

The Social Engagement Committee creates dynamic content and monitors the Society's social media channels including Facebook, LinkedIn, Instagram, and YouTube. In 2024, SIVB chose to discontinue posting on X (formerly Twitter) due to posting difficulties by the committee. The committee continues to review and consider other social media channels for the organization. The current team includes **Christopher Bagley (leader)**, **Daylan Pritchard**, **Aimee Malzahn**, **Javier Dalmendray**, **Xiaotong "Stone" Chen**, **Joyce Van Eck**, **Sarbesh Das Dangol**, and **Anissa Belfetmi-Stone**. Together they design content on recurring themes of interest to our members and share highlights, awards, news, and other points of interest. The Business Office provides content and links with calls to action about event deadlines and membership reminders. We share articles of scientific interest from our journals, by our members, and about our upcoming speakers. Within all journal highlights, we include a link allowing readers to view the content even if they don't have a subscription to the journal. We also distribute broadcast emails focused on our membership with reminders for upcoming deadlines, pending renewals, and urgent news of interest.

Recordings from Saturday Workshops at the 2024 World Congress are available on our YouTube channel (<https://youtube.com/@societyforinvitrobiology>) and we will continue to release additional content as it is available. We encourage you to view the content, comment on it, "like" the videos and subscribe to our channel so you are notified as soon as we post new content. By doing any or all three of these actions, you provide a measurable positive impact on the ability of SIVB's content to be seen by more people, especially as the large social media platforms continue to alter the behavior of their algorithms.

We encourage you to follow SIVB through your preferred social media outlet and share our posts: @SIVBiology for the organization; **#SIVB2025** for the 2025 In Vitro Biology Meeting in Norfolk; **#SIVB2026** or **#SIVB80YEARS** for the upcoming 2026 In Vitro Biology Meeting and 80th SIVB Anniversary celebration in Reno; **#SIVBIVAN** for In Vitro – Animal, **#SIVBIVPL** for In Vitro – Plant, and **#inVitroReportSIVB** for the SIVB Newsletter.

Please feel free to reach out to me in the Business Office at michele@sivb.org if you have suggestions on how to enhance the membership experience in the SIVB. We are here to help the Society be the best it can be, and we look forward to serving you for many more years to come.

MICHELE G. SCHULTZ
Managing Director
michele@sivb.org

On behalf of the entire team of Innovative Essentials, I offer my most sincere thanks to the entire SIVB membership who have supported us in our efforts to provide you with the best possible experience. We thank you again for your faith in us and your devotion to strengthening SIVB by volunteering your valuable time in support of its efforts and future. I deeply appreciate the commitment and guidance provided by the Executive Committee, Board of Directors, Committee Chairs, and Section Officers, all of whom volunteer endless hours creating programs, initiatives, and publications that enhance SIVB and what it means to the scientific community. They are the heart of SIVB, and this organization simply wouldn't exist without their dedication to the mission, vision, and guiding principles of the Society. We look hopefully to the future and SIVB's potential achievements in the years to come.

THE INNOVATIVE ESSENTIALS TEAM



David C. Olsher
*Meetings and
 Administrative
 Coordinator*



Sally A. Dodson
*Administrative
 Assistant*

IN VITRO ANIMAL CELL SCIENCES SECTION



Sarah Poynter
*In Vitro Animal Cell
 Sciences Section Chair*

SIVB 2024: The 2024 In Vitro Biology Meeting in St. Louis, Missouri was made an "over-arch-ing" success by the collaborative efforts of many diligent and passionate team members including: **Michele Schultz** (Meeting Secretariat), **Addy Ali-Holland** (President), **Kolla Kristjansdottir** (Program Chair), **Kenneth Kandarar** (IVACS Program Chair), **Ahmad Omar** (PB Program Chair), **Carlos Hernandez-Garcia** (PB Sr. Co-Chair), **Heqiang "Alfred"**

Huo (PB Jr. Co-Chair), **Prasanna Valavanur Shekar** (PB Student Co-Chair), **Christina Yevtushenko** (PB Student Co-Chair), **Babak Senfi** (IVACS Student Co-Chair), **Jasmyn M. Hoeger** (IVACS Student Co-Chair), and **Brad Upham** (Education Chair).

This comprehensive event brought together experts and enthusiasts in plant and animal biotechnology to discuss advancements, share research, and foster collaborations. The Keynote Speaker was **A. Mark Settles**. Dr. Settles is a geneticist leveraging synthetic biology to advance aerospace technology. His research explores the genetic and cellular responses of microorganisms to the stresses of spaceflight, with a focus on optimizing microbial bioproduction. Additionally, his work contributes to the development of biological solutions for in situ resource utilization, aerospace manufacturing, and food production. With a background in plant and microbial genetics, breeding, and biotechnology, Dr. Settles specializes in multi-omics analysis, cellular and developmental biology, and non-destructive phenotyping techniques such as computer vision and near-infrared reflectance spectroscopy. He delivered an engaging and innovative keynote on "Synthetic Biology to Support Human Exploration of Deep Space" on Sunday, June 9, at the Opening Ceremony.

The conference commenced with the 16th International Conference on Invertebrate and Fish Cell Culture, focusing on advancements in cell and tissue culture technologies for aquatic species. Two preconference workshops titled "Mastering Plant Transformation Vector Design" and "Back to Basics: Media Formulations & Preparations" were delivered.

A roundtable discussion entitled “The Culture Club: Unraveling the Complexities of Media Formulation” was facilitated by **Piero Barone** and was a lively joint panel discussion with eight expert panelists.

Four plenary sessions were delivered surrounding relevant and timely themes in both the animal and plant fields. These included the Michael E. Horn Emerging Technologies Plenary Symposium: “From Cells to Solutions: Unlocking the Secrets For 21st-Century Bioprocesses”, “Fast Forward > Feeding Tomorrow”, “Advances in Epigenetics and Epitranscriptomics to Advance Crop Production and Human Health”, and “Risks and Benefits of Biotechnology and Anti-Microbials in Plant and Animal Production”. The animal symposia focused on applied techniques, including “Cryopreservation and Biobanking: a Bridge between In Vitro and In Vivo” and the applications of in vitro research to human health, such as “Expert Corner: From Signaling Molecules to Diverse Cell Cultures, at the Forefront of Host-Pathogen Interactions”.

SIVB strives to create an inclusive and beneficial environment for students. There were two educational workshops, including “Student Networking Luncheon: The Proper Use of English in Scientific Writing” and “Single Cell RNA Sequencing”. The IVACS trainee presentation competition was the In Vitro Animal Cell Sciences Student Oral Presentation Competition and included an impressive diversity of student research topics. All students presented engaging and clear research projects. **Sophia Letcher**, Tufts University, took first place for her presentation “Establishment & Scale-Up Potential of Embryonic Insect Cells for Cell-Cultivated Meat.” **Shayne Oberhoffner**, Wilfrid Laurier University, won the 2nd place award for his presentation “Enhancing dsRNA Delivery and Uptake in Salmonids using Liposomes and Nanophytoglycogen.” **Gregory I. Robinson**, University of Lethbridge, won the 3rd place award for his presentation “Combined Psilocybin and Eugenol Synergistically Reduce Inflammation via the Gut-Liver Axis.” Additionally, **Anissa Belfetmi-Stone**, Harvard University, won the SIVB’s inaugural IVACS Post-Doctoral Oral Presentation Competition award for her presentation “Towards a Better Understanding of TNFα Membrane-bound Form Properties with TNFR2 Receptor”. The IVACS poster presentation winners were **Trevor Bush** with his poster “Fibrotic Responses Differ after Treatment with Artemisia sp., Artemisinin, and Its Derivatives” and **Rebekah Boos** with her poster “Development of Polyethylene Glycol Hydrogel Drug Delivery Device to Study Intramuscular Adipose Tissue Signaling”.

The 2024 SIVB meeting offered several special events including a “Special L(A)UNCH: a Complimentary Lunch Filled with Innovative Ingredients”, sponsored by Viscon Plant Technology, where attendees were able to see the outcome of agriculture innovation in action. There were three events occurring to explore and appreciate the rich culture of St. Louis, this included a night of Making Music at the National Blues Museum, and two scientific tours exploring the Human Genomes, Development and Therapeutics, and A Firsthand Look at the Past, Present, and Future of Agriculture.



IVACS members Ray Hakim, John Harbell, and Guy Smagge catch up at the Welcome Reception of the 2024 World Congress after a successful 16th International Conference on Invertebrate and Fish Cell Culture.

A special congratulations to the 2024 Distinguished Scientist Award winners, **Richard Heller**, University of South Florida, and **Prakash P. Kumar**, National University of Singapore. Further congratulations to the Fellow Award winners, **Raj Deepika Chauhan**, Pairwise, **Hung Luo**, Clemson University, and **Brad Upham**, Michigan State University. Congratulations to the President’s Award Recipients: **Piero Barone**, Corteva Agriscience, **Raj Deepika Chauhan**, Pairwise, **Ahmad A. Omar**, University of Florida, **Hong Luo**, Clemson University, **Lori Marcum**, Corteva Agriscience, and **Joyce M. Van Eck**, The Boyce Thompson Institute. And a heartfelt cheer to our two 2024 Lifetime Achievement Award winners, **Lucila E. J. Lee**, University of the Fraser Valley, and **Todd J. Jones**, Corteva Agriscience.

IVACS recognizes the tireless efforts of the 2024 IVACS team. Our members also volunteer their time on behalf of the SIVB and support its future. We thank the Executive Committee, Board of Directors, Committee Chairs, and Section Officers. This Society could not exist without their support and commitment to the organization and its mission.

SIVB 2025: The Society for In Vitro Biology (SIVB) is excited to host the 2025 In Vitro Biology Meeting, scheduled from June 7–10, 2025, at the Hilton Norfolk the Main in Norfolk, Virginia. This in-person event aims to unite leading academic and industry professionals to discuss the latest advancements in plant and animal biotechnology, genomics, and related fields.

There will be two IVACS Preconference Workshops on June 7. The first workshop: “The Role of Regulations on the Development and Stewardship of Transgenic and Edited Plants and Animals” will explore the impact of regulatory decisions on research and development in biotechnology. The second workshop will be “The Culture Club: Unraveling the Complexities of Media Formulations – Panel Discussion” where collaborative dialogue and shared expertise will drive forward the advancement of in vitro biology, fostering innovation and excellence in the field.

There will be three plenary sessions certain to spark inspiration and innovation: “Biotechnology Approaches for Animal and Crop Improvement and Environmental Risk Assessment of Genetically Engineered Organisms”, “Living on the Edge: Engineering/Preparing for Life in Shifting Environments on Earth and in Space”, and “Michael E. Horn Emerging Technologies Symposium: AI Technological Applications within Design, Discovery, and In Vitro Implementation”. The keynote address will be delivered by **S. Eliza Lockwood**, MD, FACMT, Medical Affairs Lead, Senior Science Fellow, Bayer U.S. Crop Science, who will be providing a symposium on “One Health: From Plague & Pestilence to Pharmaceuticals, Pesticides & Public Health”.

The meeting will feature symposia, oral presentations, lightning talks, and poster sessions, providing attendees with numerous platforms to present their research and engage with peers. Students and postdoctoral researchers can benefit from workshops, competitions, and networking events designed to support their professional development. The educational workshops offered include “Student Workshop: Synthetic Biology: Bottom-up/Top-down Molecular Engineering of Unique

IVACS COMPETITION WINNERS

Student Oral Presentations



1st, Sophia Letcher



2nd, Shayne Oberhoffner



3rd, Gregory I. Robinson

Student Poster Presentations



1st, Trevor Bush



2nd, Rebekah Boos

Post-Doctoral Oral Presentation



Anissa Belfetmi-Stone

Biosystems” and “Student Networking Luncheon: Tips and Tricks on Orally Presenting Your Research.”

We anticipate another exceptional turnout at SIVB 2025, thanks to the dedicated efforts of the meeting leadership and session organizers. We are exceptionally grateful for our 2025 Program Committee: Michele Schultz, Meeting Secretariat, **Allan Wenck**, Program Chair, Meiwenti AgBio Ops and IP Strategies LLC, **Ahmad Omar**, Program Vice Chair, University of Florida, **Zoe Zhu**, IVACS Program Chair, Tufts University, **Carlos Garcia**, PB Program Chair, CTC Genomics, **Heqiang “Alfred” Huo**, PB Sr. Co-Chair, University of Florida, **Jon Mahoney**, PB Jr. Co-Chair, Ball Horticultural Company, **Brad L. Upham**, Education Chair, Michigan State University, **Hannah Levensgood**, PB Student Co-Chair, Purdue University, **Ava Vaillant**, IVACS Student Co-Chair, University of Iowa, **Prasanna Valavanur Shekar**, PB Student Co-Chair, Clemson University, and **Christina Yevtushenko**, IVACS Student Co-Chair, McGill University. And we sincerely appreciate the efforts of our local organizing committee: **Matthew Willmann**, Co-Chair, Terrana Bioscience, **Christopher J. Osgood**, Co-Chair, Old Dominion University, **Addy Alt-Holland**, Tufts University, **Raj Deepika Chauhan**, Pairwise, **John Cordts**, Cordts Consulting LLC, **Sadanand Dhekney**, University of Maryland, Eastern Shore, **Pal Maliga**, Rutgers University, **Yiping Qi**, University of Maryland, College Park, and **Margaret Young**, Elizabeth City State University.

SARAH POYNTER

In Vitro Animal Cell Sciences Section Chair

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PLANT BIOTECHNOLOGY SECTION



Yiping Qi
Plant Biotechnology
Section Chair

The 2024 Society of In Vitro Biology meeting was held Saturday, June 8 to Wednesday, June 12, in St. Louis, MO. This annual event brought together a few hundred participants from academia and industry, to share their latest research discoveries in plant transformation, genome engineering, synthetic biology, in vitro technologies, etc. As usual, the gathering of scientists from plant research and animal research facilitated a dynamic exchange of knowledge, ideas and experience. This was vividly reflected from the Joint Sections Social event on Monday

evening, held on the top of the venue, Hyatt Regency St. Louis at The Arch. The success was largely attributed to the meticulous planning by the Program Committee that consists of **Kolla Kristjansdottir** (Program Chair, Midwestern University), **Kenneth Kandaras** (IVACS Program Chair, International Foundation for Ethical Research), **Ahmad Omar** (PB Program Chair, University of Florida), **Carlos Hernandez-Garcia**, (PB Sr. Co-Chair, CTC Genomics), **Heqiang “Alfred” Huo** (PB Sr. Co-Chair, University of Florida), **Brad L. Upham** (Education Chair, Michigan State University), **Babak Senfi** (IVACS Student Co-Chair, Tufts University), **Prasanna Valavanur Shekar** (PB Student Co-Chair, Clemson University), **Jasmyn M. Hoeger** (IVACS Student Co-Chair, University of Iowa), and **Christina Yevtushenko** (PB Student Co-Chair, McGill University). The program was strongly supported by the Local Organizing Committee consisting of 30 members, co-chaired by **Cynthia L. Goodman** from Cryocrate, LLC and **Veena Veena** from the Donald Danforth Plant Research Center.

The Plant Biotech Program started with two preconference workshops on Saturday. The morning workshop “Mastering Plant Transformation Vector Design” aimed to introduce the vector design basics and resources to wide ranges of users. This workshop was organized and convened by PlantGENE, an NSF-funded RCN. The four panelists were **Veena Veena** from Danforth Plant Science Center, **Keunsub Lee** from Iowa State University, **Katie Toomey** from University of Georgia, and **Joyce Van Eck** from Boyce Thompson Institute. The afternoon workshop “Back to Basics: Media Formulations & Preparations” focused on tissue culture basics, convened by **Piero Barone** from Corteva Agriscience



Danyel Fernandes Contiliani (3rd place winner of Student Oral Presentation Competition), Josh Clem, Yiping Qi, and Innocent Byiringiro (2nd place winner of Plant Student Poster Competition).

and **Kenneth Torres**, former CEO of PhytoTech Labs. The panelists included three experienced plant tissue culture experts: **Charles L. Armstrong** from Plastomics, **Max P. Jones** from University of Guelph, and **Kenneth Torres**. Both workshops attracted many participants and were well received. The afternoon program ended with a joint panel “The Culture Club: Unraveling The Complexities of Media Formulation” with panelists from the Plant Biotechnology and In Vitro Animal Cell Sciences Sections, convened by **Piero Barone**. The evening reception provided a welcoming environment to new SIVB members and conference participants.

Sunday’s program started with a plenary “Michael E. Horn Emerging Technologies Symposium: From Cells to Solutions: Unlocking the Secrets for 21st-Century Bioprocesses”. This plenary was convened by **Pon Samuel** from Corteva, **Mayandi Sivaguru** from UIUC, and **Zoe Zhu** from Tufts University. Three speakers (**Steven Webb** from Global Institute for Food Security, **Bruce Fouke** from UIUC, and **David Morris** from BD Life Sciences) collectively covered interesting topics on innovative partnership and breakthroughs in food and medicine biotechnologies. Two plant symposia were held concurrently in the morning. The symposium “Applications and Challenges of Gene Editing in Difficult and Non-model Crops and Prospects in Food Security” focused on plant biotechnology and crop improvement. It was convened by **Raj Deepika Chauhan** from Pairwise and **Marceline Egnin** from Tuskegee University. The four speakers were **Getu Beyene Duguma** from Danforth Plant Science Center, **Anindya Bandyopadhyay** from CIMMYT, **Fredy Altpeter** from University of Florida, and **Myeong-Je Cho** from UC-Berkeley. They covered forefront genome editing research in tef, maize, pigeonpea, sugarcane, cassava, and cacao. The concurrent symposium was “Unlocking The Power of Synthetic Apomixis: A Paradigm Shift In Plant Breeding.” Conveners **Todd J. Jones** from Corteva and **Alfred Huo** from University of Florida had chosen three excellent speakers. **Peggy Ozias-Akins** from University of Georgia presented decades of research in discovering apomixis mechanism in natural systems. **Imtiyaz Khanday** from UC-Davis presented an overview and update of their research on clonal hybrid rice seed production using synthetic apomixis. **Marissa Simon** from Corteva presented exciting progress toward engineering synthetic apomixis in hybrid sorghum.

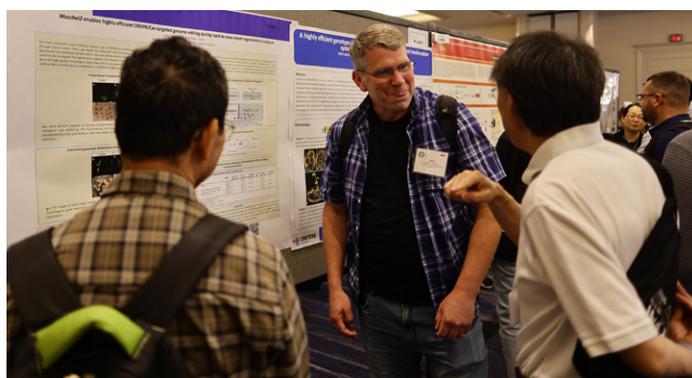
On Monday, the program started with a plenary symposium “F(E)ast Forward-Feeding Tomorrow” focusing on next-generation foods, presented by speakers **Michael Saad** from Tufts University, **Amit Dhingra** from Moolec Bioscience, and **Kathleen L. Hefferon** from Cornell University. Plant symposium “Innovative Delivery Approaches for Transgene-Free Gene Editing” highlighted the forefront research based on different delivery approaches including viral delivery (by **Jose-Antonio Daros** from CSIC-Universitat Politecnica de Valencia), In planta particle bombardment (by **Ryozo Imai** from NARO), encapsulated dsRNA (by **Sep Zomorodi** from Agrospheres), and Agrobacterium (by **Nian Wang** from University of Florida). In the afternoon, two sessions of Plant Lightning Talks were carried out concurrently, one themed “Innovative Strategies and Assessments in Plant Tissue Culture and Genetic Engineering”, and the other themed “Plant Biotechnology: Studies on Disease Management, Conservation,

Regeneration, and Genetic Innovation". Each session had eight diverse talks. The subsequent sessions continued to have a strong genome editing theme, with a poster session "Combating Climate Change with Gene Editing and Metabolic Engineering of Plants", a joint symposium "Templated Editing In Eukaryotic Systems For Gene Therapy and Agriculture", and two Plant Contributed Paper sessions "Advancements In Plant Transcriptomics and Genome Editing for Stress Resilience and Disease Resistance" and "Breakthrough Technologies: Gene Editing".

Tuesday's program started with a Plenary Symposium "Advances In Epigenetics and Epitranscriptomics to Advance Crop Production and Human Health" with speakers covering both plant research (**Jon Schmuke** from Aferna Bio and **Keith Slotkin** from Danforth Plant Science Center) and animal research (**Gabor Egervari** from Washington University). Subsequent Plant Symposia included "Biomanufacturing and Bioprocessing Cell Free Technologies", and "Trevor A. Thorpe Symposium: Advances in Plant Transformation Methods to Accelerate Crop Improvement". Two concurrent Plant Lightning Talks followed, on "Advancements in Genome Editing Tools" and "Advances in Plant Biotechnology: Molecular Mechanisms to Agricultural Innovations", with each having eight presenters. The afternoon program ended with two concurrent Plant Symposia. The first one "Advancing Phytochemical and Nutritional Enhancement in Crops for Human Health Through Plant Biotechnology" featured speakers **Li Tian** from UC-Davis, **Jeongim Kim** from University of Florida, and **Bing Yang** from University of Missouri. The second one "3D Cell Biology Concepts And Its Applications In Life Science" featured **Ross Sozzani** from NC State University, **Glenn R. Gaudetee** from Boston College, and **Ram Dixit** from Washington University.

Wednesday offered a half-day program, starting with a Plenary Symposium "Risks and Benefits of Biotechnology and Anti-Microbials in Plant and Animal Production", with speakers including **Dan Jenkins** from Pairwise and **Michael Fruci** from Agriculture & Agri-Food Canada. It was followed by two concurrent Plant Symposia "Advances In Automation and Lab Designs to Accelerate Plant Biotechnology Research" and "Integrating New Breeding Technologies and Traditional Approaches for Advancing Ornamental Crops". There was a good mix of speakers for both sessions, e.g. **Micah E. Stevens** and **Sunran Kim** from industry, and **Katie Murphy** and **Alfred Huo** from academia. The conference concluded with two ticketed, optional tours, including "A Firsthand Look at the Past, Present, and Future of Agriculture."

It is a great tradition to announce SIVB annual award winners during the Opening Ceremony. For the PB Section, we celebrated new awardees including **Prakash P. Kumar**, National University of Singapore, for the Distinguished Scientist Award, **Raj Deepika Chauhan** from Pairwise and **Hong Luo** from Clemson University for the Fellow Award. The 2024 President's Award recipients included **Piero Barone**, **Raj Deepika Chauhan**, **Ahmad A. Omar**, **Hong Luo**, **Lori Marcum**, and **Joyce Van Eck**. Distinguished Service Awards were presented to **Todd J. Jones**, **Michele Schultz**, **Dwight Tomes**, **Veena Veena**, and **Allan R. Wenck**. Notably, **Todd J. Jones** received the prestigious 2024 Lifetime Achievement Award.



Engaging discussions about current research and new collaborations begin with the presentation of research at the meeting poster sessions, lightning talks, and oral presentations.

PLANT COMPETITION WINNERS

Student Oral Presentations



1st, Jacob Botkin



2nd, Hannah Levengood



3rd, Danyel Fernandes Contiliani

Student Poster Presentations



1st, Lizhi Cheng



2nd, Innocent Byiringiro

Post Doc Oral Presentations



1st, Greg S. Goralogia



2nd, Malihe Mirzaee



3rd, Ritesh Kumar



Plant Biotechnology members enjoyed opportunities to engage in scientific connections expanding their future opportunities.

Our conference is very student-friendly. Students were encouraged to take a group photo with the 2024 SIVB Award Winners. Many events were created for students, such as Student Networking Luncheon, Student Affairs Business Meeting Luncheon, student Reception/Pizza Party, and Student and Post Doc Private Networking Opportunity. Students and postdocs were selected to participate in oral and poster competitions. I'd like to acknowledge these competition award winners in different categories. **Paula Perez Sanchez** won the Phillip R. White Award. **Javier Dalmendray** won the first ever Marietta Wheaton Saunders Award. **Xinya Lu** won the Hope E. Hopps and Student Travel Award. **Arcadio Garcia**, **Xiaotong Chen**, **Zhaohui Chen**, and **Isabel Candelaria Velásquez de la Cruz** won Student Travel Awards. Onsite awards included Student Oral Presentation Competition winners: 1st – **Jacob Botkin**, 2nd – **Hannah Levengood**, and 3rd – **Danyel Fernandes Contiliani**; Postdoc Oral Presentation Competition winners: 1st – **Greg S. Goralogia**, 2nd – **Malihe Mirzaee**, and 3rd – **Ritesh Kumar**; and Plant Student Poster Competition winners: 1st – **Lizhi Cheng** and 2nd – **Innocent Byiringiro**.

YIPING QI

Plant Biotechnology Section Chair

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HISTORY AND RECORDS



Sandra L. Schneider
History and Records
Chair

The History Society was established in 1979 at the Seattle Washington Tissue Culture Association (TCA) meeting as the Records and Historical Committee. The charge of the committee is to preserve historical information concerning the growth, maintenance and in vitro experimental use of cells, tissues and organs. The History Society, in conjunction with the Records and Historical Committee, oversees contributions to the SIVB archives located in the main library of the University of Maryland, Baltimore, MD. This archived material is available to all that would

like to acquaint themselves with the history of tissue culture and scientific application to in vitro biology.

Members of the History Society and Records Historical Committee include: **Sandra L. Schneider** (Chair), Research & Clinical Laboratory Systems; **Denry Sato**, Mount Desert Island Biological Laboratory (CO-Chair); **Gertrude C. Buehring**, University of California, Berkeley; **Barbara B. Doonan**, New York Medical College; **Cynthia L. Goodman**, CryoCrate, LLC; **John W. Harbell**, JHarbell Consulting, LLC, Dallas, TX; **Leonard Hayflick**, University of California, San Francisco; **Wallace L. McKeehan**, Center for Cancer & Stem Cell Biology Institute of Biosciences and Technology (IBT) Texas A&M Health Science Center, Houston, TX; **Tetsuji Okamoto**, University of East Asia, Japan; **Shirley A. Pomponi**, Florida Atlantic University, Harbor Branch Oceanographic, Ft Pierce, Florida; **Jon Ryan**, Consultant Wheaton; **Yvonne Reid**, American Type Culture Collection and Global Biological Standards Institute (GBSI) Cell Authentication; and **Guy Smagghe**, Ghent University, Belgium.

The History Society and Records History Committee nominated and supported the 2024 Lifetime Achievement Award for **Guy J. Smagghe, PhD**. Professor Smagghe is Senior Full Professor, University of Ghent, Belgium and Distinguished High Talents' Professor, Guizhou University (GZU), China. Dr. Smagghe received his master's degree in Agricultural Engineering and doctorate degree in Applied Biological Sciences, University Ghent, Belgium. He is internationally known for his pioneering research and contributions to insect physiology and discovery of novel pesticides to control insect pests in agriculture.

Dr. Smagghe's discovery of the insect molting hormone ecdysone, using RNAi biotechnology, led to a novel insecticide application. He established in vitro tissue cultures of the wing discs of caterpillars and beetles to investigate the development and regulation of adult stem cells by hormones, growth factors and mimetic insect control. This research generated a new class of IRAC insecticides (Insecticide Resistance Action Committee) and MACs classification (Molting Accelerating Compounds), that was developed by Rohm and Haas, Philadelphia (now Dow AgroSciences).

Dr. Smagghe serves as a member of the Belgian Superior Health Council for the government's plant protection products and biocides. He is a Fellow of: American Association for the Advancement of Science (AAAS); American Society of Entomology; Royal Entomological Society; and Society for In Vitro Biology (SIVB). His numerous awards include honorary doctorate degrees from the University of Annaba, Algeria; Estonian University of Life Sciences, Estonia; Polytechnic University of Madrid, Spain; and Universidade Federal de Tocantins, Brazil. He holds membership in several prestigious professional biological science organizations and has been recognized by the Belgium King as: Officer, Order of Leopold II; Commander, Order of the Crown; and Commander, Order of Leopold II for his research contributions.



Guy Smagghe, PhD

Dr. Smagghe has 156 peer-reviewed publications, 17 book chapters, 751 artificial intelligence (AI) articles, 8 patents, and is the editor of 8 books. He is Field-Chief Editor of *Frontiers in Insect Science*, Editor for: *Journal of Pest Science*; *Pest Management Science*; *Pesticide Biochemistry & Physiology*. He teaches courses in entomology, animal physiology, insect cell biotechnology and behavior of novel (bio) pesticides. He has mentored more than 200 undergraduates, graduate students and postdoctoral fellows, representing numerous countries.

A society member since 2002, Dr. Smagghe has served as a member and officer of the SIVB Invertebrate Section, IVACS Board of Directors Member-at-Large, and contributor to the 2004 and 2020 International Conferences on Invertebrate Cell & Tissue Culture. Dr. Smagghe received the 2016 Distinguished Science Award. He serves as Reviewer and Associate Editor, *In Vitro Cellular & Developmental Biology – Animal*; and as a valued member of the Program, Education, Publications, History Society & Records and Historical Committee. The Lifetime Achievement Award for Dr. Smagghe was generously sponsored by BASF, CryoCrate, LLC, and Springer Nature.

IN MEMORIAM: LEONARD HAYFLICK, PHD (MAY 20, 1928 – AUGUST 01, 2024)



Leonard Hayflick, PhD

Dr. Leonard Hayflick, a pioneer in cell biology, virus vaccine development, aging research and discoverer of cell senescence known as the "Hayflick Limit" passed away at his Sea Ranch, California home at age 95. He was Emeritus Professor of Anatomy, University of California – San Francisco School of Medicine and Professor of Medical Microbiology, Stanford University School of Medicine. Dr. Hayflick received his PhD from the University of Pennsylvania, followed by a postdoctoral position at the University of Texas Medical Branch, Galveston under

Charles M. Pomerat. In 1958, he was recruited by Wistar Institute virologist **Hilary Koprowski** to head Wistar's core cell culture facility. In 1959, he developed the first inverted microscope for cell culture. The original microscope was accessioned to the Smithsonian Institution in 2009. In addition to his discovery of cell senescence, he determined that walking pneumonia was caused by *Mycoplasma pneumoniae* and not a virus. One of his most important scientific contributions was the development of WI-38—a human fetal tissue, contamination-free cell line that Hayflick used to produce the first oral polio vaccine. WI-38 is still used to manufacture and test viral vaccines including rubella, varicella, mumps, rabies, and other communicable viral diseases. (Wadman, Meredith. *The Vaccine Race: Science, Politics, and the Human Cost of Defeating Disease*. Viking 2016) and (Wadman, Meredith. *Cell Division*. *Nature* Vol 498 27 April 2013).

During his Wistar Institute tenure, Dr. Hayflick made most of his important scientific discoveries. In 1968, he continued his research and distribution of the WI-38 cell line at Stanford University. The events and years of litigation and settlement that followed resulted in the passing of the Congressional Bayh-Dole Act. The Bayh-Dole Act allowed scientists to profit off government funded research and changed the biotech industry. Dr. Hayflick documented the history and timeline of lawsuit events in his 1997 modified and copyrighted paper "A Novel Technique for Transforming the Theft of Mortal Human Cells into Praiseworthy Federal Policy". This published paper was part of his March 6, 1989, lecture on Clinical and Research Applications of Human Cells and Tissues, American Association of Tissue Banks, Arlington, VA. This paper also documented events and his work with **Paul Moorhead** on the phenomenon of aging at the cell level and the role of Alex Comfort in the injustice of Stanford University and the National Institutes of Health (NIH). Of historical record, **Alex Comfort** dedicated the 3rd edition of his landmark book to Leonard Hayflick with the Latin inscription: IN

CIVIVS CALVMNIATORES MINGIMVS (literal translation “we piss on those who malign”) (Comfort, A. *The Biology of Senescence*, 3rd Edition, Elsevier North Holland, Inc., New York, 1991).

Dr. Hayflick received numerous prestigious awards for his achievements across scientific disciplines. In 2014, the John Scott Award, established in 1823 in honor of Benjamin Franklin, was given to Leonard Hayflick and his colleague Paul Moorhead. Previous John Scott Award recipients included: Marie Curie, Thomas Edison, Jonas Salk, Nikola Tesla, and the Wright Brothers among others.

Leonard Hayflick’s obituary in *Nature Aging* best summarized his scientific accomplishments, “Len managed to cram into one lifetime a long series of accomplishments that would be difficult for half a dozen other prolific scientists to accomplish during their careers” (Michael D. West, Joao Pedro de Magalhaes & S. Jay Olshansky. Leonard Hayflick (1928-2024). *Nature Aging* 4,1329-1330, 2024).

Dr. Hayflick was a Fellow of the American Association for the Advancement of Science and received the 1995 SIVB Lifetime Achievement Award. In 2006, he was invited to give the Commemorative Lecture for the 50th Anniversary of the Japanese Tissue Culture Association. Dr. Hayflick was a valued and contributing member of the TCA/SIVB Historical Society and History Committee to the time of his passing. His contributions to pioneering cell biology events and persons were accurate, timeless and leave a void in this generation of in vitro biology scientists.

The research collection of **Philip Marcus, PhD** (1927-2013), a prominent, pioneering virus and interferon researcher of radiobiology, is now part of the TCA/SIVB historical collection archived in the main library of the University of Maryland, Baltimore, MD. Dr. Marcus earned his doctoral degree in microbiology/biophysics from the University of Colorado School of Medicine. In 1954, as a graduate student in the University of Colorado Medical School Biophysics Department laboratory of **Theodore Puck**, he developed the first mammalian cell clonogenic assay using a feeder layer. Up to this point only one mammalian cell line, mouse L929 had been cloned using culture in capillary tubes. The feeder layer cloning technique, and the associated idea of using conditioned medium, allowed the creation and cloning of multitude of mammalian cell lines over the next 30 years. (Boss, Mary-Keara and Dewhirst, Mark. A Tribute to Philip Marcus and the Development of the Clonogenic Assay. *Radiation Research* 183,497-500, 2015 DOI: 10.1667/RR14048.1) and (Sato, Denry, Personal Communication April 8, 2024).

Dr. Marcus was later faculty at Albert Einstein College of Medicine, NY, where he taught tissue culture courses with **Dr. Gordon Sato** at the Cold Spring Harbor Laboratory (CSHL) for 10 years (Sato, Denry. Personal Communication April 8, 2024). He then moved to the University of Connecticut, where he spent the remainder of his career as Distinguished Professor and Director of Molecular and Cell Biology.

The 80th Anniversary of the TCA/SIVB will be held in conjunction with the June 6–10, 2026 SIVB meeting in Reno, Nevada. **Dr. Barbara Doonan** has been working with the local program committee to include special events to celebrate this historical event. Contact Dr. Doonan through SIVB Managing Director **Michele Schultz** at michele@sivb.org to sponsor anniversary events and/or participate in planned program activities.

SANDRA L. SCHNEIDER

Chair, History and Records Committee

drsandra@stic.net

STANDING COMMITTEES



Todd J. Jones
Awards Committee Chair

AWARDS

The SIVB 2024 Awards Committee meeting was held on Monday, June 10, 2024. Attending the committee meeting were **Todd Jones**, Awards Committee Chair, and Committee Members: **Yiping Qi** (PB Chair), **Chris Bagley** (PB Vice Chair), and **Sarah Poynter** (IVACS Chair). Also in attendance were **Piero Barone** (SIVB President), **Cindy Goodman**, and **Dwight Tomes**, the outgoing 2022-2024 Awards Committee Chair. **Michele Schultz** (SIVB Managing Director) attended in a liaison capacity. The committee reviewed the Awards Committee membership, committee member responsibilities, and the timeline for nomination submissions. The committee also reviewed the 2024 Award recipients and thanked Dwight Tomes for his service as Awards Chair for the past several years. The committee further reviewed the criteria for each award and paid special attention to the distinction between the “Fellow” award (where the emphasis is on “active and constructive involvement in the Society”) and the “Distinguished Scientist” award (where the emphasis is on scientific merit). There was general agreement that the criteria were well-understood.

The Committee spent the remainder of the meeting discussing possible nominees for the respective Lifetime Achievement Awards and potential nominators, as well as possible candidates for Fellow, Distinguished Scientist, and Early Career Award nominees. Several excellent candidates were identified for the respective Lifetime Achievement Awards. Nominees for the other awards were less obvious, but several good suggestions were proposed.

The Committee also discussed how to recognize exceptional members with a “special recognition” award to acknowledge their lifetime of support of the SIVB rather than their lifetime of scientific research. The Committee agreed that there are members certainly deserving of recognition, but it was unclear under which current award category those accomplishments would fit as this was of a higher level than the Fellow Award. The option of a special “Presidential Honor” was discussed. Resolution of an appropriate award category was tabled until other options could be explored.

To address this concern, at the subsequent Board of Directors Meeting, the decision was made to create the Presidential Honor of Distinction. This award would be chosen by the Past President, current President, and President-Elect to acknowledge a member who has made a special contribution to the Society. This would not be presented every year but would be available should appropriate circumstances arise. The award would consist of a plaque and \$500 that can be used by the recipient as they wish. The recipient would be provided with 10 minutes to accept the award. The award would be limited to a maximum of one award per year.

The following exemplary awardees were recognized during the Award Ceremony at the 2024 World Congress on In Vitro Biology held in St. Louis:

LIFETIME ACHIEVEMENT AWARDS



Lucila (Lucy) Lee

LUCILA LEE

Lucila (Lucy) Lee’s career spans 35 years of teaching and research at 5 different institutions. Her main research thrust has been in the development of model systems for the evaluation and monitoring of health status in aquatic organisms with minimal vertebrate animal usage, and minimal organismal harm. Lucy has received worldwide recognition for her

research in the establishing novel fish cell lines and fish cell biology. Dr. Lee has presented over 70 invited lectures, received numerous research-specific awards, has maintained a strong publication record (100 articles, 9 book chapters, 268 meeting abstracts), and received over \$3 million in research grants. Dr. Lee has been heavily involved in the in vitro meat industry, where she has assisted in the development and growth of new fish muscle cell lines for several biotech companies (Finless Food, Cultured Decadence, Upside Foods, and Sound Eats). Dr. Lee has been recognized as an outstanding teacher and administrator (Department Chair, then Dean), and has been a mentor to numerous scientists, high school students, undergraduate students, and graduate students. As Dean, she was responsible for an annual budget of ~\$10 million dollars. Lucy has been very active within the SIVB for meeting planning, and she received several awards including a Fellow Award and Service/Distinguished Service awards. Dr. Lee is a preeminent scientist and has given her life to serving others in many tangible ways, including as an outstanding mentor, advisor, and educator in academic circles, as well as in public arenas and in industry settings.



Todd J. Jones

TODD J. JONES

Todd J. Jones received the 2024 Lifetime Achievement Award due to his remarkable achievements in plant science. Todd is recognized as a strategic/vision thought-leader scientist able to identify areas of science that can accelerate the development of new processes and technologies. He has pioneered in vitro plant tissue culture applications in various crops and established many protocols for transformation, regeneration, and in vitro bioassays. As the Director of Crop

Genome Engineering at Corteva, he played a key role in the success of research projects that improved *Agrobacterium* strains, vector designs, and optimized morphogenic genes (Bm and Wus2) for plant genetic engineering and as the Pillar Leader of Corteva's Ag Equity Initiatives, he is leading projects in collaborations with key stakeholders such as USAID, Bill and Melinda Gates Foundation, CGIAR centers, local governments, and NGOs that will increase food security in Africa. Todd's excellence as a researcher is reflected by his impressive record of publications, patents, and awards, including his recent selection as Corteva's Distinguished Laureate. Still, his happy place is on the microscope, observing plant structure and attempting to determine plant development from static 2-D images. He has also been a dedicated member of SIVB, serving as Symposium Convener, Program Chair, President, and Member-at-Large on the Board of Directors (twice). He also participates in other scientific organizations. Todd has mentored and inspired many SIVB members, creating a culture of trust, collaboration, learning, and growth. He is also an effective communicator who can convey scientific concepts to diverse audiences, helping to foster the growth and quality of the scientific knowledge base for the benefit of society, consistent with the Society's mission.

SIVB FELLOW AWARDS



Raj Deepika Chauhan

RAJ DEEPIKA CHAUHAN

During her career, Deepika has made significant contributions in developing plant tissue culture systems in recalcitrant tree species and has established genetic transformation in pomegranate, cassava, tef, fonio, and other consumer crops. She established and developed transgenic and/or gene edited plant production platforms for poplar (at University of Pretoria), cassava (at Danforth Center), and

now row crops, vegetables and berries (at Pairwise). Deepika led the efforts to establish a plant production pipeline for development for first nutrient-dense leafy greens product at Pairwise. Deepika has a proven record of publications and contributions to journals (38 peer reviewed research papers, 3 reviews, 1 book chapter) and she is an Associate Editor for *In Vitro – Plant*. Over the years, she has mentored graduate students, postdocs, staff members, and visiting scientists. Deepika was a Team Leader at the Donald Danforth Plant Science Center and now at Pairwise, where she currently leads a team of 16-19. At the University of Pretoria, South Africa, Deepika worked on Eucalyptus and poplar tissue culture and mentored undergraduate students in the field of plant biotechnology at the Department of Genetics, University of Pretoria.



Hong Luo

HONG LUO

Professor Luo's research excels in molecular biology and plant genetics and has produced many high-quality and impactful publications. He is a phenomenal mentor, instilling deep knowledge and guiding numerous students and postdocs to successful careers, which is reflected in their high-impact citations. He has secured substantial funding for his research program. Additionally, Professor Luo actively engages with professional societies,

including Program Chair of the 2023 SIVB meeting. His organizational skills, attention to detail, and commitment to excellence shine through in this role, securing funding and elevating SIVB's profile. Professor Luo's involvement with SIVB is extensive; he organized the Plant Biotechnology Section meeting in 2016, served on the Board of Directors, and actively participated in several committees. He has also served as an editor/reviewer for several journals. His cross-society activities raise awareness of SIVB within other organizations. Professor Luo's achievements, including the 2023 SIVB Distinguished Service Award, are well-deserved recognitions. His consistent dedication to research, teaching, and service since 1983 is what earned him this award.



Brad Upham

BRAD UPHAM

The committee was delighted to nominate Dr. Brad Upham for the 2024 SIVB Fellow Award (IVACS). Dr. Upham has been an active member of our Society, with outstanding contributions in his areas of specialization, including research and teaching, but has also demonstrated significant involvement with Society activities. He lectures in different courses and directs the Environmental Health

Program. He has made significant contributions in toxicology in relation to gap junctional intercellular communication, and advancements in the field of oxidative stress. Dr. Upham has authored or co-authored 78 peer-reviewed publications, one US Patent, four book chapters, and 189 research abstracts. He secured multiple intramural and extramural funding support, including a current NIH R21 in his expertise area of gap junctional intercellular communication. He served as the faculty advisor and research mentor for a significant number of undergraduate (62) and graduate (27) students, postdoctoral researchers (7) and international scholars (16). Dr. Upham was elected to consecutive officer positions, including IVACS Chair (2012-2014), IVACS Co-Chair – Program (2010-2012), IVACS Co-Chair-Fundraising (2014-2016), IVACS Member-at-Large on the Board of Directors (2016-2020), and as the Chair of the Education Committee (2022-2024). He was recently elected to continue in this role during the 2024-2026 term. Dr. Upham served as a co-convener of multiple Plenary Sessions, and as a co-convener of numerous IVACS-specific sessions and workshops. Dr. Upham has received many awards during his career, including the SIVB's "President's Award" and four "Distinguished Service Awards." Twenty years after joining our

Society, Brad continues to contribute outstanding science to the field and dedicated service to the Society and is a well-deserved recipient for the 2024 SIVB Fellow Award.

SIVB DISTINGUISHED SCIENTIST AWARDS



Richard Heller

RICHARD HELLER

Dr. Heller is a long-standing, dedicated member of SIVB with an exceptional history of scientific contributions. Richard conducted his undergraduate training at the Oregon State University (Corvallis, OR) in 1979. He completed his Master's at Long Island University (Medical Microbiology and Immunology) in 1984. He moved to the University of South Florida to earn a Master's degree in Medical Sciences in 1988, then his Ph.D. in 1989. Dr. Heller received the Honor B. Fell award from the SIVB (1989) as a graduate student. He has published 141 peer-reviewed manuscripts, 25 book chapters, and edited 5 books. One area of focus has been diseases of the skin where he developed technologies to facilitate delivery of genetic material to skin. He also led the first clinical trial utilizing gene electro-transfer to evaluate a potential for treatment of melanoma. Richard made tremendous contributions to the preservation of our Society in the period from 1996 to 2000. As Treasurer, Richard worked tirelessly with the Business Office and the Board of Directors to constrain spending and keep the Society solvent. He worked to develop expenditure policies that maintained our capital and made sure that the Annual Meeting would remain within a defined and sensible budget. His work was acknowledged by Marietta, who complimented Dr. Heller on his unique ability to bring all sides together with an understanding that the Society was greater than the sum of its parts, and that unity should be preserved.



Prakash Kumar

PRAKASH KUMAR

Prakash began his science education in India and did his graduate work with Professor Trevor Thorpe in Calgary, Canada, where he completed his PhD in 1988. He began his career in a faculty position at the National University of Singapore (NUS) in September 1989. He currently remains at NUS as a Professor at the Department of Biological Sciences, NUS. During the past 34 years at NUS, he has managed a successful research program (cumulative research funding of over \$20 million) and contributed to training 30 PhD and 7 MSc students. He is a Life Member and Elected Fellow of the Singapore Institute of Biology and currently serves as the National Correspondent for the International Association for Plant Biotechnology (IAPB) from Singapore. He continues to make significant contributions to plant tissue culture research with 122 research publications, 9 chapters in books, 3 patents, 1 book and over 60 invited talks at international conferences within the field. In 2022 he became the founding Director of the Research Center on Sustainable Urban Farming at NUS for Singapore. Their objective is to increase the percentage of locally grown foods by about three-fold, from the current level of 10%, on Singapore's limited land area. Primary emphasis is intended toward intensive growth of leafy green vegetables in which in-vitro techniques are optimized in different species for this use. A multi-disciplinary approach is envisioned to accomplish this difficult objective.

STUDENT AWARDS



Pamela Weathers
Student Awards
Committee Chair

The evaluating committee this year consisted of **Pamela Weathers** (Chair), **Vivian Dayeh**, **Piero Barone**, **Raj Deepika Chauhan**, and **Cindy Goodman**. The SIVB Student Award Program provides recognition and financial support for students who have contributed and made outstanding achievements in the field of in vitro biology.

The following awards were presented at the 2024 meeting. The **Marietta Wheaton Saunders Award** was presented to **Javier**

Dalmendray, University of Florida, Lake Alfred, FL for "Investigation of Genetic Determinants Responsible for Citrus HLB Disease Development via Genome Editing." The **Philip R. White Award** was given to **Paula Perez Sanchez**, Arkansas State University, Jonesboro, AR for "Engineering Novel Anti-TNF Biomolecules in Tobacco BY-2 Cells for Oral Treatment of Inflammatory Bowel Disease." The **Wilton R. Earle** and a **Travel Award** went to **Trevor Bush**, Worcester Polytechnic Institute, Worcester, MA for "Fibrotic Responses Differ after Treatment with Artemisia sp., Artemisinin, and Its Derivatives." The **Joseph F. Morgan** and a **Travel Award** were given to **Gregory Robison**, University of Lethbridge, Lethbridge, Alberta, Canada for "Combined Psilocybin and Eugenol Synergistically Reduce Inflammation via the Gut-Liver Axis." The **Cellular Toxicology Award** was presented to **Gaurav Gajurel**, Arkansas State University, Jonesboro, AR for "Antioxidant, Anticancer, and Anti-inflammatory Activities of Isoflavone Rich Extracts from Elicited Hairy Root Cultures of Pigeon Pea." The **Hope E. Hopps** and a **Travel Award** were given to **Xinya Lu**, Clemson University, Clemson, SC for "Integrating Histology and Phytohormone/Metabolite Profiling to Understanding of Yellow Camellia and American Chestnut Cutting Rooting." The **Honor B. Fell** and a **Travel Award** were presented to **Caitlin Nicolai** of Midwestern University, Downers Grove, IL for "EGR1, ZNF24 and VEGF Gene Expression are Altered in Response to NSC348884 Treatment in a NLF Neuroblastoma Cell Line." The **John S. Song Award** went to **Prashasti Pandey**, Banaras Hindu University, Varanasi, India for "Unmasking the Divergent Roles of MYB Transcription Factors of Mungbean Under Waterlogging and Heat Stress." The **Gordon Sato and Wally McKeenan Awards** were given to **Sophia Letcher**, Tufts University, Medford, MA for "Establishment & Scale-up Potential of Embryonic Insect Cells for Cell-Cultivated Meat.", and **Shayne Oberhoffner**, Wilfrid Laurier University, Waterloo, ON Canada for "Enhancing dsRNA Delivery and Uptake in Salmonids using Liposomes and Nanophytoglycogen." Additional **SIVB Student Travel Awards** also were granted to: **Xiatong Chen**, Clemson University, Clemson, SC for, "Off target Effects of the Site-specific Recombinases in Plants"; **Zhaohui Chen**, Clemson University, Clemson, SC for "Pyramiding microRNAs Enhances Plant Growth and Broad Abiotic Stress Resistance"; **Greg Luis Connelly**, Saint Leo University, Saint Leo, FL for "Enhancing Solubility of Cytotoxic Peptides Affects Their Efficacy Toward Breast Cancer Cells"; **Brandon T. Groff**, Midwestern University, Downers Grove, IL for "Enhancement of Non-viral Transgene Expression by Photobiomodulation"; **Nicholas Jadaa**, Wilfrid Laurier University, Waterloo, ON, Canada for "Understanding Innate Immune Mechanisms in Nonimmune Cells Using Nanoparticles"; **Isabel Candelaria Velásquez de la Cruz**, UNAM, Benito Juárez, Mexico, DF, Mexico, for "In vitro Culture of Ceratozamia hildae. A Conservation and Toxicity Study." Certificates were presented at the SIVB June 2024 Business Meeting to honor these wonderful students.

The committee thanks Cindy Goodman for her years of service on this committee reviewing so many student applicants. We wish Cindy the very best in her retirement.

TODD J. JONES

Awards Committee Chair

— Todd.j.jones@corteva.com

PAMELA J. WEATHERS

Student Awards Committee Chair

— weathers@wpi.edu

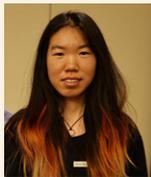
STUDENT AWARDS



Phillip R. White Award
Paula Perez Sanchez



Marietta Wheaton Saunders Award
Javier Dalmendray



Hope E. Hopps & Student Travel Awards
Xinya Lu



Wilton R. Earle & Student Travel Awards
Trevor Bush



Honor B. Fell & Student Travel Awards
Caitlin Nicolai



Cellular Toxicology Award
Gaurav Gajurel



Gordon Sato & Wally McKeehan Award
Shayne Oberhoffner Sophia Letcher



Student Travel Awards
Xiaotong Chen Zhaohui Chen



Greg Luis Connelly



Brandon T. Groff



Nicholas Jadaa



Isabel Candelaria Velásquez de la Cruz

CONSTITUTION & BYLAWS



Michael Kane
Constitution and Bylaws Chair

The SIVB Constitution and Bylaws Committee serves to review all requests by the Board of Directors for amendments to the Constitution or Bylaws of the Society. The 2024 committee members included **Michael Kane** (Chair), **Addy Alt-Holland**, **Esther Uchendu**, **Sylvia Mitchell**, and **John Harbell**. The Society is much appreciative for their valued service.

In 2024, the SIVB Constitution and Bylaws Committee received two requests to review amendments to SIVB documents.

1. Updates to SIVB Handbook

In April 2024, at the request of Piero Barone, SIVB President-Elect, a review was completed on updates made to the section of the SIVB Handbook relevant to the Constitution and Bylaws Committee. A final version, incorporating these updates, was submitted to Michele Schultz, Managing Director.

2. Proposed Bylaws Amendment Review

In August 2024, the SIVB Constitution & Bylaws Committee was requested by the Board of Directors to review the following Bylaws amendment being considered for approval. This amendment was deliberated by both the incoming and outgoing Board Members as well as the IVACS and PB Section Officers during the June 2024 meeting.

3. (Governance of the Society), B (Board of Directors), 5.

Current Language: The terms of office shall commence at the Board Meeting which occurs the day prior to the Annual Meeting or if no Annual Meeting occurs in that year, then at the Board Meeting scheduled for June of that year. The terms of office shall continue for two years or until a successor shall have been duly chosen.

Proposed Revision: The terms of office shall commence immediately after the Annual Meeting following election and shall continue for two years or until a successor shall have been duly chosen.

The Constitution and Bylaws Committee reviewed the proposed revision to the Bylaws and reported to the Board that there were no conflicts in implementing this change.

Should you wish to suggest improvements to our governing documents or serve as a committee member, please reach out to the Committee Chair.

MICHAEL KANE

Constitution and Bylaws Committee Chair

mkane92@gmail.com

DEVELOPMENT



Fredy Altpeter
Development Committee Chair

Under the leadership of **Michael Dame**, who chaired the Development Committee until June 2024, the committee successfully facilitated unprecedented financial support for the 2024 World Congress on In Vitro Biology and SIVB, totaling \$192,252. This represents a remarkable 28% increase over the previous year's fundraising achievements. The financial backing came from diverse sources, including substantial contributions from industry partners, non-profits, and universities amounting to \$94,801, with \$6,000 specifically designated for the Lifetime Achievement Awards. Additional support included \$4,000 from restricted SIVB funds, \$28,200 in personal donations from SIVB members, and \$65,251 from federal grants.

The impressive roster of industry, non-profit, and university supporters included Ball Horticultural Company, Bayer CropScience, Bill & Melinda Gates Agricultural Innovations, BioHeuris, Corteva Agriscience, CryoCrate LLC, CTC Genomics, Donald Danforth Plant Science Center, Global Institute for Food Security, Inari, Innovative Essentials, International Foundation for Ethical Research, National Anti-Vivisection Society, New England Biolabs, Pairwise, MDPI, Schmidt Ocean Institute, Syngenta Crop Protection LLC, Teranana Biosciences, and the University of the Fraser Valley. Federal support came from the National Science Foundation, the United States Department of Energy, and the United States Department of Agriculture - National Institute of Food and Agriculture, while member donors included **Barbara B. Doonan**, **Barbara and John Harbell**, **Dwight Tomes**, **Addy Alt-Holland**, and **Michael J. Fay**.

The Development Committee's success reflects the dedicated service of its members: **Michael Dame**, **Addy Alt-Holland**, **Cynthia Goodman**, **John Harbell**, **Carlos Hernandez-Garcia**, **Jasmyn Hoeger**, **Alfred Huo**, **Kolla Kristjansdottir**, **Hong Luo**, **Annie Saltarikos**, **Joyce Van Eck**, **Veena Veena**, and **Christina Yevtushenko**. Particularly noteworthy were the continuous and dedicated efforts of **Raj Deepika Chauhan**, **Ahmad Omar**, **Michele Schultz** and **Piero Barone** on behalf of the SIVB.

Looking ahead, the Development Committee is actively exploring alternative funding sources for the 2025 and 2026 meetings, with significant efforts underway to secure grants supporting student initiatives, workshops, and cutting-edge sessions for future annual meetings. Those interested in contributing ideas for additional funding sources are encouraged to contact the current Committee Chair, **Fredy Altpeter**.

FREDY ALTPETER

Development Committee Chair

altpeter@ufl.edu



Barbara Gastel presented a student-focused workshop on The Proper Use of English in Scientific Writing and provided prizes to a few participants in the session.

EDUCATION

The 2024-2025 Education Committee was chaired by **Brad Upham**, Michigan State University and was comprised of the following members: **Deepika Chauhan**, Pairwise; **Addy Alt-Holland**, Tufts University; **Sylvia Adjoa Mitchell**, University of the West Indies; **Ahmad Omar**, University of Florida; **Ray Shillito**, Shillito & Associates, LLC; **Allan Wenck**, Syngenta; and **Margaret M. Young**, Elizabeth City State University.



Brad L. Upham
Education Chair

SIVB Student representatives (two-year terms) were: Plant Biology (PB) Student Co-Chairs: **Hannah Levensgood** (1st year), **Prasanna Valavanur Shekar** (2nd year), In Vitro Animal Cell Science (IVACS) Student Co-Chairs: **Ava Vaillant** (1st year), and **Christina Yevtushenko** (2nd year); Delegate of Student Affairs: **Giovanna Moreira**, Post Doctoral Representatives: **Eudald Illa-Berenguer** (PB) and **Easter Syombua David** (IVACS).

The 2024 Student Program was organized by our 2024 Student and Post Doctoral Chairs (**Babak Senfi**, Prasanna Valavanur Shekar, Christina Yevtushenko, **Jasmyn Hoeger**, Eudald Illa-Berenguer, **Anissa Belfetmi-Stone**), mentored by Brad Upham. The program was comprised of a workshop titled, "Single Cell RNA Sequencing," and a student networking luncheon on "The Proper Use of English in Scientific Writing," a non-competitive oral presentation session, and a new and very successful event, namely a Student-Post Doc networking social.



The 2024-2025 Student Program Committee includes: Prasanna Valavanur Shekar, Hannah Levensgood, Easter S. David, Ava Vaillant, Christina Yevtushenko, and Education Committee Chair, Brad Upham.

SIVB STUDENT REPRESENTATIVES



Plant Biotechnology (PB) Student Co-Chairs

Hannah
Levensgood

Prasanna
Valavanur Shekar

In Vitro Animal Cell Science (IVACS) Student Co-Chairs

Ava
Vaillant

Christina
Yevtushenko



Delegate of Student Affairs

Giovanna
Moreira



Post Doctoral Representatives

Eudald Illa-Berenguer
(PB)



Easter S. David
(IVACS)

In Summary: The invited workshop speakers/facilitators, **Drs. Rance Nault**, from Michigan State University, **David Briner** and **Michael Heinz** both from McDonnell Genome Institute – Washington University School of Medicine, presented an overview of single cell RNA sequencing and then facilitated hands-on activities. The networking luncheon was facilitated by **Dr. Barbara Gastel** from Texas A&M University and co-author with **Robert A. Day** for the book titled *How To Write and Publish a Scientific Paper*. Dr. Gastel gave a 15 minute introduction on Scientific English followed by a student competition on avoiding scientific jargon and expressions. Brad Upham, Chair of Education, received numerous positive feedback from the students on these two sessions. Additional student activities included the student business meeting, a pizza social with the Board of Trustees and SIVB leaders, and the inauguration of a "Student-Post Doc Networking Social". This was a two-hour event that included fun and games designed for maximum interactions between the student and postdoc participants. I received numerous compliments for this event, and the students at the business meeting made it clear they wanted this to be a yearly event at our SIVB meetings. The "post-meeting student survey" reiterated the importance of networking among all student activities.

Planning for the 2025 Annual Meeting: As Committee Chair, Brad Upham met weekly with the Student and Post Doctoral representatives. Event planning for the "2025 In Vitro Biology Meeting" began with a survey sent out to the students of SIVB to determine topics of greatest interest. The results of the survey led to organizing a student workshop on "Synthetic Biology: Bottom-up/Top-Down molecular engineering of unique biosystems" and a luncheon on "Tips and Tricks on Orally Presenting Your Research." **Drs. Ronit Freeman**, from University of North Carolina, and **Stanton Gelvin**, from Purdue University, are presenting and facilitating the activities of this workshop designed to also include networking activities. Drs. Ray Shillito, Shillito & Associates, LLC, and Deepika Chauhan, Pairwise, both Toastmasters, were recruited to present and coordinate activities for the student networking luncheon. Drs. Shillito and Chauhan recruited fellow toastmasters to participate in the networking activities on mastering the art of effectively presenting science.

We have also planned for the 2025 In Vitro Biology Meeting. (1) By popular demand, a two-hour Student-Post Doc Networking Social that is open to only students and postdocs and will include activities and games to foster networking and camaraderie of SIVB's young professionals. (2) Pizza party social with the Board of Trustees and SIVB leaders. (3) The non-competitive student oral presentation session. (4) Student business meeting.

Other Education Committee activities included:

Educational Electronic Resources subcommittee chairs Christina Yevtushenko and Jasmyrn Hoeger worked on providing updates of SIVB electronic resources. However, this subcommittee is in need of non-student SIVB members, and we are requesting volunteers. One major effort was to standardize the review process on adding electronic educational materials onto the SIVB website.

The Student Mentorship Development subcommittee, chaired by Addy Alt-Holland, along with the SIVB Membership Committee, chaired by Deepika Chauhan and the invaluable help from Anissa Belfetmi-Stone created a plan for a new postdoctoral mentoring program to be launched in 2025. This Mentoring Opportunity is named **MATCH (Mentoring And Talent Cultivation Hub)**. The SIVB Membership Committee Report provides a more in-depth description of the program.

We are also moving forward with a program to engage students in a Buddy Program where students and postdocs will be paired with SIVB members to visit posters together. We are also planning for the future meetings to develop mentorship activities to help guide young professionals into non-academic careers.

Again, the Education and Student Committee Chairs thank everyone for all their efforts in executing and expanding the educational programs of our society over the last year. We are excited to welcome the new student chairs to be elected at this year's meeting, and also welcome and encourage our members, including students and postdocs, to be involved in the future efforts of the Education Committee. Please contact Brad Upham about your willingness to join the Education Committee.

Special Note: *The student and postdoctoral representatives have been significant leaders for our society's educational activities of which I, Brad Upham, want to especially thank them on behalf of the SIVB for all their very productive efforts.*

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LABORATORY MATERIALS AND BIOSAFETY COMMITTEE

The Laboratory Materials and Biosafety Committee (LMBC) provides a mechanism within the Society for In Vitro Biology (SIVB) to promote laboratory standards, biotechnology practices, laboratory materials, safety equipment, and facilities that constitute biosafety levels 1-4 associated with mammalian in vitro and biotechnology methodology. The goals of the LMBC are: 1) to provide an educational process and format to distribute information regarding potential hazards and risk assessment associated with: the cell culture process, the use and handling of biological

agents, quality control of biomaterials, and updates on federal regulation pertinent to research, industry and clinical biotechnology applications; 2) to recommend laboratory practice, operation, or materials based on risk assessment of the agent or material and the laboratory activity involved; and 3) to promote the interaction of committee members with national and international scientists, professional groups, and manufacturers regarding the design, processing, and use of material for in vitro and biotechnology methodology.

The LMBC committee members represent government, university/academia, and private industry and include: **Sandra L. Schneider** (Chair), Research and Clinical Laboratory Systems; **Yvonne Reid** (Co-Chair), American Type Culture Collection and Global Biological Standards Institute (GBSI) Cell Authentication; **John Harbell**, JHarbell Consulting, LLC.; **John Masters**, University College London; **Tohru Masui**, JCRB Cell Bank, Division of Bioresources, National Institute of Biomedical Innovation, Osaka, Japan; **Glyn N. Stacey**, SSCBIO LTD, Edinburgh, UK and Institutional Stem Cell Biobanking Initiative, UK; and **Alda Vidrich**, University of Virginia Health Sciences Center, VA.

The International Cell Line Authentication Committee (ICLAC), was originally developed and published in 2010 by **Amanda Capes-Davis** and **Ian Freshney** with ATCC Standard Development Organization. ICLAC was formed in 2012 and curates a Register of Misidentified Cell Lines, promoting awareness and authentication testing of cells. SIVB members **Drs. Ian Freshney** (2019), **Roland Nardone** (2018), **John Masters**, and **Yvonne Reid**, serve or have served as active ICLAC contributing members and associates. The latest ICLAC database version 13 was released 23 April 2024 (iclac.org/databases/cross-contamination/). ICLAC supports international databases, resources, education, references and a checklist for manuscript and grant applications. International partner organization databases containing STR profiles and research tools include: Cellosaurus, CLASTR, AuthentiCell, DSMZ STR profile, CLIMA, ATCC STR and NCBI BioSample (<http://iclac.org//databases>).

The last SIVB advanced tissue culture workshop, Foundations of Advanced Applications in Cell Culture (USCD credits), was held in June 2000, San Diego, CA. Laboratory Directors and Post Doctoral fellows are encouraged to utilize the ICLAC educational resources and databases to maintain their scientific expertise with current standards and developing cell line updates.

On June 28, 2024, the US Supreme Court overturned the 1984 Chevron doctrine that deferred to federal agencies on how regulations enacted by Congress are interpreted. Courts can now exercise their own judgement to interpret the law in determining statute meaning, rather than deferring to federal agency interpretations. The implication of this decision potentially weakens the power of federal agencies in developing regulations to protect areas including environmental protection, workplace safety, consumer product safety, etc. The editorial by Theresa Harris and Bashada Alexander "Science in a shifting policy system" calls for the next generation of scientists to have a stronger understanding, new courses, training of regulations and scientific expertise to inform lawmakers and courts regarding legislation, policy, legal interpretation and oversight of the best available science (Science 11 October 2024, Vol 336 Issue 6718 p. 125 DOI:10.1126/science.adt5684).

SANDRA L. SCHNEIDER

Laboratory Materials and Biosafety
Committee Chair
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LONG RANGE PLANNING



Michael J. Fay
Long Range Planning
Committee Chair

As the President-Elect of the Society for In Vitro Biology (SIVB) I serve as the Chair of the Long Range Planning Committee of the organization. A major goal of the Long Range Planning Committee is to support the Strategic Plan of the SIVB. The current strategic priorities of the SIVB include the following: 1) Promote and enhance the knowledge base and information exchange of in vitro science; 2) Promote scientific competencies among professional, educational, and lay audiences; 3) Promote the professional development of members; 4) Ensure that financial practices, annual meetings, and other activities of the society are conducted effectively, and in a fiscally sound manner that allows continuation and expansion of the SIVB; and 5) Ensure continuity of the activities of the Society. The Long Range Planning Committee is working on several initiatives to support and develop the strategic priorities of the SIVB. The committee is reviewing the SIVB Committee structure to create more formalized expectations for Committees. As part of this process a quick reference guide has been created to help incoming committee chairs prepare for their new leadership roles.

Another initiative of the Long Range Planning Committee is the “Today’s Voices, Envisioning Tomorrow” campaign, our first major survey aimed at gathering insights from both members and non-members which successfully concluded on September 30, 2024. We are pleased to report a strong overall response rate, with 73% of participants being members and 27% non-members. During the final quarter of 2024, we began an in-depth review of this extensive feedback with two key objectives: identifying new initiatives that the Society can launch and developing strategies to revamp and strengthen our existing programs. By carefully analyzing the survey results, we aim to ensure that our offerings remain inclusive, forward-looking, and responsive to the diverse interests and needs of our community.

One of the earliest and most significant outcomes of this survey process is a complete makeover of the Society’s website. Guided by your input, this redesign will include multiple enhancements—such as improved visibility for new and updated initiatives, a user-friendly interface, and streamlined navigation—to help visitors easily find the information and resources they need. As we continue refining and expanding our programs, please remember that your feedback is central to shaping the Society’s future.

As the Chair of the Long Range Planning Committee, I invite the membership to share their thoughts and suggestions as we work towards achieving the strategic initiatives of the Society for In Vitro Biology.

MICHAEL J. FAY

Long Range Planning Committee Chair
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MEMBERSHIP



Raj Deepika Chauhan
Membership
Committee Chair

We value the vibrant scientific community that we have established within Society for In Vitro Biology (SIVB). We would like others to benefit from the Society and we aim to witness its continued growth. To achieve this, in June 2024 the newly appointed membership committee chair brainstormed with the membership committee ways to increase SIVB membership engagement, retention, and enhance member experience. To facilitate growth, boost membership size and satisfaction, the goals have been set, and five focus groups were formed. Below is a breakdown of the focus group and the initiatives to increase membership size and satisfaction:

1. Facilitate Collaboration (Reach out to broader audience):

The focus group is collaborating and connecting with other groups that share common interest with SIVB. Dr. Joyce Van Eck and Dr. Raj Deepika Chauhan submitted a proposal for special 25% discounted membership rate for PlantGENE members. PlantGENE is a community-driven initiative that is addressing plant transformation and gene editing related questions through networking, knowledge sharing events and training. The community has over one thousand members worldwide who are working in plant transformation and gene editing. The discounted membership rate proposal was approved by the Board of Directors and implemented at the end of 2024 through June 10th 2025 to allow PlantGENE members to join SIVB at a discounted rate. A total of five members joined SIVB using PlantGENE discounted membership rate in 2024. Dr. Addy Alt-Holland and Dr. Sarah Poynter from the IVACS section are also seeking opportunities to reach associations and societies whose members would benefit from the experience and knowledge that SIVB members and our organization can offer.

Dr. Sarbesh Das Dangol proposed discounted rates of SIVB membership for members living in South Asian Least Developed and Low-Income/Lower-Middle-Income Countries (LDC) as defined by the United Nations. It was approved by the Board of Directors in November 2024. The SIVB Business Office has since created a 66.6% discounted rate off of the regular member rates for this initiative.

2. Learning and mentoring opportunities:

The focus group is creating a mentorship program for SIVB members. **Dr. Raj Deepika Chauhan, Dr. Anissa Belfetmi-Stone, Dr. Addy Alt-Holland, and Dr. Omar Zayed** worked on a plan for a mentorship program “MATCH”– Mentoring And Talent Cultivation Hub in collaboration with the Education Committee. It will be launched in 2025 to retain current postdoc members and increase postdoc membership. The name “MATCH” leverages the word’s double entendre to capture the essence of the mentoring program: the careful pairing of mentors and mentees, and the spark it ignites for transformative personal and professional growth. The MATCH mentoring program involves a focus group creating a forum where members can learn, network, share knowledge and develop skills for professional advancement. The 2025 MATCH mentoring program will be focused on Post Doc members. Monthly online workshops on assorted topics will be part of the program from May through December 2025 with an opportunity to network in-person at the SIVB annual meeting in June. Based on the success of this networking forum, the program will be expanded to include the students and early-stage professionals in upcoming years. We aim to create a supportive learning environment for career development by matching SIVB members with mentoring experiences with SIVB Post Doctoral members, thereby increasing their engagement in SIVB activities. Members are encouraged to join the mentorship program and assist in supporting our post doctoral members.

3. Organize knowledge sharing events:

The focus group comprises of **Dr. Ian Curtis, Dr. Vaibhav Tiwari, and Aileen Qi**. They are restarting the webinar series to retain existing members and attract potential members in collaboration with the Education Committee. The plan is to organize three webinars in a year (January, April, and October, with the first webinar in April 2025). The SIVB membership committee is collaborating with the Council for Agricultural Science and Technology (CAST) to organize a webinar on the topic “AI-Powered Breakthroughs: Transforming Plant and Animal Research”.

4. Enhance engagement:

The goal for this focus group is to amplify the activities of all focus groups in collaboration with the *In Vitro Report* and Social Engagement Committee. The focus group leaders, **Dr. Raj Deepika Chauhan, Dr. Chris Bagley, Dr. Michael Fay, Dr. Kolla Kristjansdottir, and Aileen Qi** coordinated with the Social Engagement Committee to advertise the SIVB membership committee initiatives on social media handles. We are grateful for the support that we have received from the social media engagement committee and PlantGENE to spread the word about our initiatives.

Please consider sharing the SIVB posts and tag SIVB on your posts related to SIVB or the annual meeting for increased visibility.

5. Optimize membership experience: This focus group is finding ways to create better and meaningful experiences for members. To that end, **Dr. Nagesh Sardesai, Dr. Nguyen (Nathan) Vo, Dr. Kolla Kristjansdottir, and Michele Schultz** proposed three ideas: A) Creation of monthly SIVB member/research group spotlights to introduce them to the rest of the Society and to the world. A Google form was created by the focus group leaders which will be sent out to members in 2025. B) Creation of an In Vitro theme of the month to help promote the SIVB meeting month by month leading up to the meeting in June and C) Updating the matrix categories for membership, journals, and abstracts.

The membership goal is to increase regular membership by 9-10 members in the Plant Biotechnology Section (192 total) and 5-6 members in the In Vitro Animal Cell Sciences Section (IVACS) (62 total) by the end of June 2025 while retaining the 2024 members. At the end of 2024, our membership was 612 members, which included: 73 Emeritus Members, 2 Honorary Members, 6 Life Members, 268 Student Members, 25 Post Doctoral Members, and 238 Regular Members. We have observed an increase in membership compared to 2023 since we had 444 members at the end of December 2023. This is an increase of 37.8% for all membership and a 1.7% increase in Regular members. The SIVB has offered an option for 2-year membership since 2020; 18 of the regular members are 2-year renewals that began in 2023 and 32 of regular members are 2-year renewals that began in 2024.

SIVB also offers Life Membership, please contact the SIVB Business Office (sivb@sivb.org), if you are interested in becoming a Life Member of SIVB. Each year the SIVB holds a drawing for members who renew their membership before December 31st of the prior year. The winners of the "Renew SIVB Membership by December 31, 2023 (for 2024) contest" were **Laura Rhodes** who won free registration to the 2025 In Vitro Biology Meeting and **Mireia Bordas** who won free 2025 SIVB Membership. By renewing your membership by December 31, 2025, you will be entered to win 2027 membership or registration to the 2027 annual meeting. We encourage you to consider this incentive when renewing your membership.

As evident from the above, multiple initiatives are in progress and new initiatives are being implemented by the membership committee. None of this would be possible without tireless efforts and support from the SIVB Business Office. The Membership Committee appreciates the work and commitment of the SIVB Business Office while bringing the new Committee Chair up to speed with the committee activities in 2024. We also acknowledge the diligent efforts and dedication of past SIVB membership committee Chair, **Dr. Vivian Dayeh**.

In conjunction with the initiatives by the membership committee, ongoing efforts are necessary to promote awareness and recruit new members. To accomplish the membership goals in 2025, we encourage all our members to share the benefits of joining SIVB with their colleagues, students, and postdocs. Numerous avenues are available to contribute to the Society while staying up to date with the latest research, networking, and establishing yourself as independent investigators. Below are some of the benefits of being an SIVB member:

- **Publications:** Expert-curated readings and topic list insights. Popular topics include organoids, future foods, cryopreservation, and cannabis plant breeding. Unlimited access to articles, journals (two world class journals and newsletter), and on-demand talks.
- **Annual meetings:** Opportunities to share your research at the onsite conference in June.
- **Network:** Networking opportunities with In Vitro Biology scientists, professionals, and leaders tackling the world's most critical plant and animal biology challenges.
- **Discounts:** Reduced fees on all the Society for In Vitro Biology publications including our premier journals, *In Vitro Cellular & Developmental Biology*. Discounts on SIVB meeting registrations

and job placement opportunities. Do you know about Member-get-a-Member, in which the existing member can win a gift card and the new member they recommend can save \$10 on their membership? Please consider referring SIVB to a new member and fill in the referral form to take advantage of the Member-get-a-Member campaign.

- **Volunteer:** Volunteering opportunities with different committees to join the SIVB's mission. This is a wonderful opportunity for early-stage career professionals to achieve career advancement while building a compelling reputation within the scientific community.
- **Recognition:** The Society for In Vitro Biology enhances professional credentials of members with outstanding achievements in the field of in vitro biology on an annual basis through various awards.

Please encourage colleagues in your network to join the annual meeting and consider SIVB membership to experience the thriving scientific community that benefits everyone involved. Let's work together to make our society bigger and stronger!

RAJ DEEPIKA CHAUHAN

Membership Committee Chair

dchauhan@pairwise.com

NOMINATING



Addy Alt-Holland
Nominating Committee
Chair

Are you considering becoming an Officer of the PB or IVACS section of SIVB? Whether you would like to be more engaged in the Society activities, realize an opportunity for professional, personal, and social development, or make an impact in the continued growth and sustainability of the SIVB — **We Need You!**

The next two-year election cycle of the 2026–2028 term will be held in the fall of 2025! In my role as the Past President of SIVB,

it is a great honor and even greater responsibility for me to serve as the Chair of the Nominating Committee, which includes the Chairs of the PB and IVACS Sections, as well as the Past President and President and President-Elect of our Society. I am tasked with submitting a slate of candidates for Elected Board and non-Board positions to the SIVB Board of Directors, which is comprised of IVACS and PB members. Optimally, two or more nominations can be made for each Office, ideally from both sections. However, in certain cases, such as in alternating elections for specific Offices between the IVACS and PB sections, the candidates must be from only one of the sections. One of the positions which alternates between IVACS and PB is the Presidency, which includes the transition between President-Elect, President, and Past President roles over a six year term. This is designed to assure continuity in the functions, knowledge, and historical perspectives of the Society's affairs as a whole. In the upcoming election cycle, the President-Elect position will be cycled to the PB Section. The President may form Ad Hoc Committees, as a need arises. These Committees remain during the President's two-year term, and may continue their work under the next president, if desired. The President-Elect and the Past President also serve as the Long Range Planning Committee Chair and the Nominating Committee Chair, respectively. The President also appoints various other Committee Chairs, with Development Committee Chair defaulting to the Vice President and the Finance Committee Chair defaulting to the Treasurer. Another alternate position between the PB and IVACS Sections is the Program Chair of the Annual Meeting, who is appointed by the President and remains on the Board only for the current year.

The list of positions and their terms of office that are open for elections in the 2026-2028 term is below. The final slate for all offices must be determined and approved by the Board of Directors, so candidates may be approached for their biosketches and platform statements in early Fall of 2025.

CURRENT SLATE – BOARD POSITIONS

- President-Elect (a member of the PB section), 2024–2026 (a total of six years on the Board of Directors including: President/2028-2030 and Past President/2030-2032)
- Vice President, 2026–2028
- Secretary, 2026–2028
- Treasurer, 2026–2028
- PBS Member-at-Large, 2026–2030 (a four-year term)
- IVACS Member-at-Large, 2026–2030 (a four-year term)
- Publications Committee Chair, 2026–2028
- Public Policy Committee Chair, 2026–2028

CURRENT SLATE – NON-BOARD POSITIONS

- Awards Committee Chair, 2026–2028
- Constitution and Bylaws Committee Chair, 2026–2028
- Education Committee Chair, 2026–2028

PLANT BIOTECHNOLOGY SECTION OFFICERS

- PB Chair, 2026–2028
- PB Vice Chair, 2026–2028
- PB Secretary/Treasurer, 2026–2028

IN VITRO ANIMAL CELL SCIENCES SECTION OFFICERS

- IVACS Chair, 2026–2028
- IVACS Vice Chair – Program, 2026–2028
- IVACS Vice Chair – Membership, 2026–2028
- IVACS Secretary, 2026–2028

Who is eligible to vote in the election cycle? Only Regular Members and Post Doc Members are eligible to vote, as well as to hold Elected Office in the Society. Emeritus Members may vote but may not hold Elected Office.

Are you interested in running for one or more positions for the 2026–2028 Offices? Great!!! Please reach out directly to me at addy.alt_holland@tufts.edu, to your PB Section Chair Yiping Qi (yipping.qi@gmail.com), or to your IVACS Section Chair Sarah Poynter (spoynter@wlu.ca) to let us know for what position(s) you are interested in running. If you are not sure, I will be happy to provide you with a clear description of the responsibilities of the position you may consider, answer any questions that you may have, and set up a call to discuss further. If your name has already been mentioned by the Nomination Committee Members, you will soon hear from me, and I hope you will consider running for election!

Are you looking for more information? The requirements for elections are based on the SIVB Bylaws (Bylaws 3,C,1,a): The Nominating Committee shall be composed of the immediate Past President who will serve as Chair, the chairs of the Sections, and, if desired, two additional at large members appointed by the Chair. The Nominating Committee shall make two or more nominations for each office, after announcing, in the Society's Newsletter, a call for applications to become a nominee for one of the elected positions. In this application, respondents are requested to supply a brief career resume, including a list of any previous service to the Society, and a statement of the applicant's platform. From this panel of applicants, plus any additional individuals requested to apply by the Nominating Committee, the Nominating Committee makes its selections of at least two nominees for each position and secures written willingness of the prospective applicants to serve as nominees, for President-Elect, Vice President, Secretary, and Treasurer, Chairs of all elected Standing Committees, as well as for the two Member-at-Large positions up for election in that year (for four year terms). In alternating elections the nominees for President-Elect will be 1) members of the Plant Biotechnology Section or 2) members of the In Vitro Animal Cell Sciences Section. The Nominating Committee must submit the final slate of nominees for all positions to the Board of Directors at or before the fall meeting of the Board occurring

in the year of an election. The Board must ratify the slate of nominees no later than at the fall meeting. If the Nominating Committee fails to present a full and balanced slate of candidates by the fall Board of Directors meeting, the President, at his or her discretion, can select an ad hoc committee to finalize the slate. The ad hoc committee must submit the final full and balanced slate to the Board within twenty (20) days of receiving commissioning.

Some details of the Nomination Process are provided below:

- A final slate of candidates is developed by the Nominating Committee. Additional nominations for office may be made to the Secretary, by petition, over the signatures of at least 10 Regular Members in good standing. These petitions must be received by the Secretary on or before the next succeeding first day of October. Information on Section formation is on file in the Society's Business Office.
- The Secretary shall send to all Regular and Emeritus Members of the Society, no later than the fifth day of November, a final ballot bearing all nominations for office (whether made by the Nominating Committee or by petition), including biosketches. The ballot shall also include nominations, if any, directed by the Board of Directors for Honorary Membership, and any proposed changes to the Constitution and/or of the Society.
- Each member shall transmit his/her ballot in a manner to properly maintain secrecy to the Secretary. In order to be counted, a ballot must be received by the Secretary on or before the next succeeding fifth day of January of the year of the assumption of office.
- The Secretary shall verify the eligibility of all members voting, and deliver all valid sealed ballots to the tellers. The tellers should count the ballots and report to the Secretary who shall notify the nominees and the Board of Directors of the results and shall announce the results in the Society's newsletter.
- The candidates who receive the highest number of votes in each contested office shall be declared elected. In case of a tie vote, majority of the Board of Directors shall decide between the candidates who are tied. A candidate for Honorary Membership shall be declared elected if affirmed by four fifths of the votes cast.

The Nominating Committee is always welcoming input from the members! We look forward to hearing from you and receiving your nomination!

ADDY ALT-HOLLAND
Nominating Committee Chair
addy.alt_holland@tufts.edu

PROGRAM



Kolla Kristjansdottir
Program Committee
Chair

The 2024 World Congress on In Vitro Biology held in St. Louis, MO, June 8–12th 2024 was a tremendous success! There were 562 in-person attendees and 45 virtual attendees, totaling 607 registrants. This represents our largest meeting in 20 years and emphasizes the growing interest in SIVB meetings from a unique cross-section of scientists, educators, and students representing universities, industries, and government agencies all around the world. This was due in no small part to the committed efforts and tireless work of the Business Office, the Board, the Section Chairs, and the Local Organizing Committee. Attendees enjoyed dynamic presentations, engaging discussions, and opportunities to develop and renew friendships and collaborations. Virtual access to select presentations and a poster gallery with prerecorded audio descriptions by authors and silent abstracts was made available to those unable to attend in person and offered opportunities for attending members to revisit sessions of interest. Many thanks to the meeting attendees as well as the many individuals whose tireless efforts and commitment to the success of the meeting made it possible, including: **Michele Schultz** (Managing Director, SIVB and

DISTINGUISHED SERVICE AWARDS

Meeting Secretariat), **Kenneth Kandaras** (IVACS Program Chair), **Ahmad Omar** (PB Program Chair), **Carlos Hernandez-Garcia** (PB Sr. Co-chair), **Alfred Huo** (PB Jr. Co-Chair), **Michael Dame** (Development Committee), **Brad L. Upham** (Education Chair), **Babak Senfi** (IVACS Student Co-Chair), **Prasanna Valavanur Shekar** (PB Student Co-Chair), **Jasmyn Hoeger** (2nd year IVACS Student Co-Chair), and **Christina Yevtushenko** (2nd year PB Student Co-Chair).

Immediately prior to the meeting, the "16th International Conference on Invertebrate and Fish Cell Culture" was held along with a PlantGENE workshop on "Mastering Plant Transformation". A panel discussion bringing together the animal and plant sections of SIVB was also held titled: "The Culture Club: Unraveling the Complexities of Media Formulation".

The Keynote Speaker for the 2024 Society for In Vitro Biology annual meeting was **Dr. A. Mark Settles**, a leader in synthetic biology research, plant and microbial genetics, and plant tissue culture. The Keynote address was titled: "Synthetic Biology to Support Human Exploration of Deep Space".

Dr. Settles is a Synthetic Biology Investigator at the National Aeronautics and Space Administration Ames Research Center. His program at NASA focuses on the application of synthetic biology to deep space exploration and aeronautics. He is also an Emeritus Professor at the University of Florida, Plant Molecular and Cellular Biology program and Horticultural Sciences Department. Dr. Settles's program at the University of Florida focused on genomics, maize seed development, environmental stress tolerance, and synthetic genes for biotechnology applications. His Keynote address highlighted his exemplary work with exciting new discoveries in synthetic biology to support human exploration of deep space and his ongoing efforts to advance research in that field, and was enthusiastically received by the audience, prompting questions and further discussions.



2024 Keynote Speaker
Dr. A. Mark Settles

Outstanding Achievement and Service Awards were presented in-person to members of the Society for 2024 during the Opening Ceremony. **Dr. Todd J. Jones** and **Dr. Lucy E. J. Lee** were awarded the 2024 Lifetime Achievement Award. **Dr. Raj Deepika Chauhan**, **Dr. Hong Luo**, and **Dr. Brad Upham** were honored with the 2024 SIVB Fellow Award. **Dr. Richard Heller** and **Prakash P. Kumar** were awarded the 2024 Distinguished Scientist Award.

The 2024 President's Award was given to **Dr. Piero Barone**; **Dr. Anissa Belfetmi-Stone**; **Dr. Raj Deepika Chauhan**; **Dr. Ahmad A. Omar**; **Dr. Hong Luo**; **Dr. Lori Marcum**; **Daylan Pritchard**; and **Dr. Joyce M. Van Eck**. The 2024 Distinguished Service Awards were granted to **Michael K. Dame**; **Dr. Barbara B. Doonan**; **Dr. Michael J. Fay**; **Dr. Cynthia L. Goodman**; **Dr. Todd J. Jones**; **Michele Schultz**; **Dr. Dwight Tomes**; **Dr. Veena Veena**; and **Dr. Allan R. Wenck**.

Awards were also provided to students in recognition of their contribution to the field of in vitro biology, including: The Wilton R. Earle and SIVB Travel Awards to **Trevor Bush** – Worcester Polytechnic Institute; the John S. Song Award to **Prashasti Pandey** – Banaras Hindu University; the Honor B. Fell and SIVB Travel Awards to **Caitlin Nicolai** – College of Osteopathic Medicine, Midwestern University; the Cellular Toxicology Award to **Gaurav Gajurel** – Arkansas State University; the Hope E. Hopps and SIVB Travel Awards to **Xinya Lu** – Department of Biochemistry and Genetics, Clemson University; the Joseph F. Morgan and SIVB Travel Awards to **Gregory Robinson** – University of Lethbridge; the Philip R. White Award to **Paula Perez Sanchez** – Department of Biological Sciences, Arkansas State University; the Gordon Sato and Wally McKeehan Award to **Sophia Letcher** – Department of Biomedical Engineering & Tufts University Center for Cellular Agriculture, Tufts University and **Shayne Oberhoffner** – Department of Biology, Wilfrid Laurier University; the SIVB Travel



Michael K. Dame



Barbara B. Doonan



Michael J. Fay



Cynthia L. Goodman



Todd J. Jones



Michele Schultz



Veena Veena



Allan R. Wenck

Award to **Arcadio Garcia** – IBMCP-CSIC; **Xiatong Chen** – Clemson University; **Zhaohui Chen** – Clemson University; **Greg Luis Connelly** – Saint Leo University; **Brandon T. Groff** – Midwestern University; **Nicholas Jadaa** – Wilfrid Laurier University; and **Isabel Candelaria Velásquez de la Cruz** – UNAM; and the inaugural Marietta Wheaton Saunders Award to **Javier Dalmendray** – University of Florida.

The IVACS sponsored Student Oral presentation competition winners were: **Sophia Letcher** (First Place), **Shayne Oberhoffner** (Second Place), and **Gregory I. Robinson** (Third Place). PB sponsored Student Oral presentation competition winners were: **Jacob Botkin** (First Place), **Hannah Levensgood** (Second Place), and **Danyel Fernandes Contiliani** (Third Place). PB sponsored Post Doctoral Oral Competition winners were **Greg S. Goralogia** (First Place), **Malihe Mirzaee** (Second Place), and **Ritesh Kumar** (Third Place). This year we brought back the SIVB student poster presentation competition that had been on a pause for the past few years. All student posters submitted for poster presentation were included in the competition. The top two posters for each section were selected based on the judges' scores. For IVACS the winners were **Trevor Bush** (First place) and **Rebekah Boos** (Second place). For Plant Biotechnology the winners were **Lizhi Cheng** (First place) and **Innocent Byiringiro** (Second place). Another new initiative this year was to allow a select number of poster presenters to give a short oral talk, a lightning talk, in place of interactive poster sessions. The change to lightning talks was a great success. Congratulations to all the student and Post Doc awardees. SIVB is always striving to provide meaningful opportunities to promote and develop graduate students and Post Doctoral fellows. The meeting ended with an Evening at the Blues Museum. It was a wonderful way to complete the meeting by enjoying friendship and the beauty of blues music.

Special thanks and appreciation to the Development Committee and the following contributors for their generous financial support of the meeting: Addy Alt-Holland, Alternatives Research & Development Foundation, Arana Biosciences, Ball Horticultural Company, Barbara and John Harbell, Barbara Doonan, Bayer Crop Science, Bill and Melinda Gates Innovations, BioHeuris, Bob V. Conger Fund, Corteva Agriscience, CryoCrate LLC, CTC Genomics, Donald Danforth Plant Science Center, Dwight Tomes, Global Institute for Food Security, Inari, Innovative Essentials, International Foundation for Ethical Research, Michael Fay, Michael E. Horn Endowment Fund, National Anti-Vivisection Society, New England Biolabs, Pairwise, Plants Journal (MDPI), Schmidt Ocean Institute, Syngenta Crop Protection LLC, the Trevor E. Thorpe Endowment Fund, and University of Frasier Valley. Funding from the following grantors is appreciated by the Society: USDA-NIFA, DOE, and NSF.

The Local Organizing Committee, co-chaired by **Veena Veena** and **Cynthia Goodman**, along with local members **Addy Alt-Holland**, **Charles L. Armstrong**, **Christopher Bagley**, **Jeffrey Beringe**, **Raj Deepika Chauhan**, **Yurong Chen**, **Mae Ciancio**, **Kevin Cox**, **Ian S. Curtis**, **Stanton B. Gelvin**, **Carlos Hernandez Garcia**, **Sarah Huss**,

Rachel Helmich, Jasmyn M. Hoeger, Todd J. Jones, Sunran Kim, Keunsub Lee, Jon Mahoney, Murug Mookkan, Shubha Subbarao, Julie Swartzendruber, Jeffrey Staub, Nigel Taylor, Vaibhav Tiwari, Dwight Tomes, Michelle Valentine, Bing Yang, and Cankui Zhang worked tirelessly to facilitate the success of the meeting along with Sally Dodson and David Olsher of Innovation Essentials. Thank you. Special recognition to the leadership and dedication of the Board of Directors: **Piero Barone** – President; **Addy Alt-Holland** – Past President; **Michael Fay** – President-Elect; **Fredy Altpeter** – Vice President; **Barbara Doonan** – Treasurer; **Mae J. Ciancio** – Secretary; **Addy Alt-Holland** – Publications Chair; **Wayne Parrott** – Public Policy Chair; **Cynthia Goodman, Todd Jones, and Hong Luo** – Members-at-Large.

KOLLA KRISTJANSDOTTIR
2024 Program Committee Chair
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PUBLICATIONS



Addy Alt-Holland
Publications
Committee Chair

The Publications Committee is pleased to announce that both of our Society journals continue to be successful due to the dedication and hard work of **Tetsuji Okamoto** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology – Animal*) and **David Songstad** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology – Plant*), for which we are very grateful. Based on available information, in the first quarter of 2024, successful full-text downloads of articles increased 18% for *In Vitro – Animal* and 5% *In Vitro – Plant*, respectively, compared to the same period in 2023. To learn more about each of these journals, please read the individual reports submitted by **Tetsuji Okamoto** and **David Songstad** below.

Special Issues Published in 2024: Committed to the continued growth of our journals, both Editors-In-Chief dedicated special efforts in the organization of special journal issues, as well as creating special collections of historical content for the journals that will be available on the SpringerNature website. Dr. Okamoto has been tirelessly working on multiple special issues for *In Vitro – Animal*. Dr. Songstad has been diligently working with colleagues on several special issues including one on “**Plant Biotechnology in Africa**” that will be released in 2025. These issues help support the growth and long-term health of our journals.

Updating a Terminology Glossary: One of the most popular pages on the SIVB website is an article with an A-Z glossary of terms titled “Terminology Associated with Cell, Tissue and Organ Culture, Molecular Biology and Molecular Genetics”. This article was created by the SIVB Terminology Committee in 1990, which was chaired by Warren I. Schaeffer. An Ad Hoc Terminology Committee co-chaired by Wayne Parrott (PB section), and Michael Fay and Addy Alt-Holland (IVACS section), was created at the 2024 World Congress, with the goal of compiling two updated Terminology articles to be published in *In Vitro – Plant* and *In Vitro – Animal*, respectively, as well as a merged article version that would be placed on the SIVB website. The guiding principle that underlies the editing and updating process of the seminal Terminology article is the inclusion of terms that are solely specific and relevant for Tissue Culture, Genetic Engineering/Editing, and Biotechnology. The Committee’s task force also consists of **Kolla Kristjansdottir, Sarah Poynter** and **Vivian Dayeh** for IVACS, and **Yiping Qi, Piero Barone, and Hong Luo** (PB). Additional support from SIVB and PlantGENE is provided by **Christopher Bagley, Annie Saltarikos, Joyce Van Eck, Keunsub Lee, Mai Trevino, Sarah Partridge, Michael Kane, Barbara Reed, and Kan Wang** to address specific terminology in Plant Biotechnology research.

PubMed: The Ad Hoc Instructions for Authors Review Committee of the Publication Committee, together with David Songstad and the Business Office, continued to work on a simplified version of the *In Vitro – Plant* Instructions for Authors, with the goal to make the journal

eligible to apply for inclusion in PubMed. We provided Springer with a marked-up version of this document for their review to ensure it meets PubMed’s requirements. Upon approval of the final version by Springer and the Publications Committee, the Board will vote to approve the new Instructions for Authors, which will then be implemented. Adherence to the new instructions should be reflected in two complete issues of the journal, after which SIVB will be able to apply for inclusion in PubMed. Once final Instructions for Authors have been implemented in the *In Vitro – Plant* journal, we will work to implement similar changes in *In Vitro – Animal*, with the help of Tetsuji Okamoto and the Publications Committee.

With the transition of the IAPB Secretariat to Canada in 2023, the new IAPB-IVP Editor-In-Chief is **Samir Debnath** (Agriculture and Agri-Food, Canada). The Business Office, Dr. Songstad, and Springer worked with IAPB to address the fulfillment of a required number of accepted manuscripts they are expected to publish in their two annual issues of *In Vitro – Plant*.

SIVB website: In 2024, a new Membership Portal including design of graphics, information flow-down, and event and membership programming has been built and launched. The 2025 *In Vitro* Biology Meeting website with information on the Program, Abstract submission, registration, FAQ, Exhibitor Information, General Information, and Student and Post Doc opportunities was launched. Organize My People, who rebuilt the PlantGENE website now housed on SIVB’s server (<https://plantgene.sivb.org/>), and the current meeting site (<https://sivb.org/meetings>), has been contracted as the website designer for the SIVB home site (

). Analyzing the outcomes from the Today’s Voices – Envisioning Tomorrow survey that was launched at the beginning of 2025 will provide critical information about the expectations of our members and the scientific audience who attend our meetings. This data is key in the ongoing design of the new SIVB website that aims to best fit the Society’s long-term needs and goals.

I would like to thank all the Publications Committee members (**Addy Alt-Holland, Barbara B. Doonan, Michael J. Fay, Cynthia L. Goodman, John W. Harbell, Maria M. Jenderek, Jiarui Li, Sylvia Adjoa Mitchell, Tetsuji Okamoto, Gregory C. Phillips, Barbara Reed, J. Denry Sato, David D. Songstad, and Dwight T. Tomes**), for their dedicated service. We are also tremendously grateful to **Michele Schultz** (SIVB Managing Director), and her team at Innovative Essentials (**David Olsher**, Meetings and Administrative Coordinator; and **Sally Dodson**, Administrative Assistant) for supporting and contributing to the continued success of our publications and our Society. On behalf of the Publication Committee, I also want to express our gratitude to the Ad Hoc Social Engagement Committee that is comprised of **Chris Bagley** (Team leader), **Joyce Van Eck, Sarbesh Das Dangol, Anissa Belfetmi-Stone, Aimee Malzahn, Daylan Pritchard**, and the new members **Javier Dalmendray** and **Xiaotong “Stone” Chen**. This talented and dedicated team oversees the Society’s social media content, creation, and posting on a weekly basis, with a focus on 1) SIVB annual meeting information and content, 2) SIVB business announcements, and 3) *In Vitro* Journal articles. The team is active on four platforms (LinkedIn, Facebook, Instagram, and YouTube) with the purpose of reaching our Society members on the platform of their choice.

Last but not least, we need you!

Become an author in our journals: To maintain the momentum of our journals we need your support and engagement! Please submit your original research manuscripts and review articles to *In Vitro – Animal* and *In Vitro – Plant*. *In Vitro – Animal* publishes original manuscripts reporting results of research in cellular, molecular, and developmental biology that employ or are relevant to organs, tissue, tumors, and cells in vitro. The topics covered include Biotechnology, Cell and Tissue Models, Cell Growth/Differentiation/Apoptosis, Cellular Pathology/Virology, Cytokines/Growth Factors/Adhesion Factors, Establishment of Cell Lines, Signal Transduction, Stem Cells, and Toxicology/Chemical Carcinogenesis. *In Vitro – Plant* publishes peer-reviewed original research and reviews on the latest developments and state-of-the-art research in plant cell and tissue

culture and biotechnology from around the globe. The covered topics are Biotechnology/genetic transformation, Developmental biology/morphogenesis, Micropropagation, Functional genomics, Molecular farming, Medicinal plants, Metabolic engineering, Plant physiology, Cell biology, Somatic cell genetics, and Secondary metabolism.

Become a reviewer for our journals: We welcome SIVB members who are interested in serving as peer reviewers for the Society publications! If you are interested in becoming a reviewer, please contact the respective Editor-In-Chief or Michele Schultz (SIVB Managing Director) at michele@sivb.org.



Tetsuji Okamoto
Editor-in-Chief
In Vitro – Animal

In Vitro – Animal

(For the year 3/1/24 through 2/28/25)

The journal experienced an increase (23.8%) in total submissions of new manuscripts over the comparable period last year (364 compared to 294 in 2023-2024).

The numbers of submitted manuscripts for the past year compared to the prior year were: 329 regular papers (270 in 2023-2024), 23 Reports (9 in 2023-2024), 8 Invited Reviews (12 in 2023-2024), and 4 opinion Letters-to-the-Editor (1 in 2023-2024). Of the 364 submissions, 82 were accepted (22.5% acceptance rate), 11 (3%) rejected, 48 (13.2%) withdrawn, 75 (20.6%) were still in review or revision and 148 transferred to other Springer Publications (40.7%).

Twenty-nine (29) countries were represented in the submissions received in 2024/2025. Approximately ninety percent (88.1%) of submissions were from China (206), Iran (28), India (27), Turkey (15), Japan (24), Korea (10), and the USA (11). Average time from receipt to first decision in the review process was 15.2 days compared to 21.7 days overall last year. All new submissions were received through the online system.

The following five special issues articles have been published in 2024: “Genome Editing” by Profs. Sakuma and Tanihara; “Wnt signaling in development, disease and cancer” by Prof. Kikuchi; “Muscle cell culture” by Dr. Ojima; “Pluripotent Stem Cells” by Prof. Hayashi; and “Current advances in cell culture for cancer research” by Prof. Sakaguchi. A special issue of “Current Advances in Invertebrate and Fish Cell Culture Systems” by Drs. Dayeh, Pomponi, and Goodman will be published soon in 2025.

The *In Vitro – Animal* journal publishes 10 individual issues. This year they published slightly above our article budget and slightly behind schedule. The 2023 impact factor for IVA was 1.5, which is a decrease from the 2022 impact factor of 2.1, and the 5-year impact of 1.8, which is down from last year’s 2.1. More than 97% of the submissions came from outside the US so there is a strong awareness of and a market for *In Vitro – Animal* beyond the US and North American research communities.

In Vitro – Animal continues to publish papers in the areas of biotechnology, cell and tissue models, cell growth/differentiation/apoptosis, cellular pathology/virology, cytokines/growth factors/adhesion factors, establishment of cell lines, product applications, signal transduction, stem cells, and toxicology/chemical carcinogenesis. Submissions to the respective categories in the last year were: biotechnology (87), cell and tissue models (134), cell growth/differentiation/apoptosis (138), cellular pathology/virology (46), cytokines/growth factors/adhesion factors (52), establishment of cell lines (38), product applications (25), signal transduction (69), stem cells (51), and toxicology/chemical carcinogenesis (51).

In the past year several submissions included irregularities (e.g. duplication, manipulation, or misrepresentation of data) that were discovered by editors, reviewers, or readers. IVA will take quick and decisive action in such cases to maintain the integrity of the journal and to retain the trust of its authors. The editorial board will not review any manuscripts with iThenticate similarity scores higher than 40%.



David Songstad
Editor-in-Chief
In Vitro – Plant

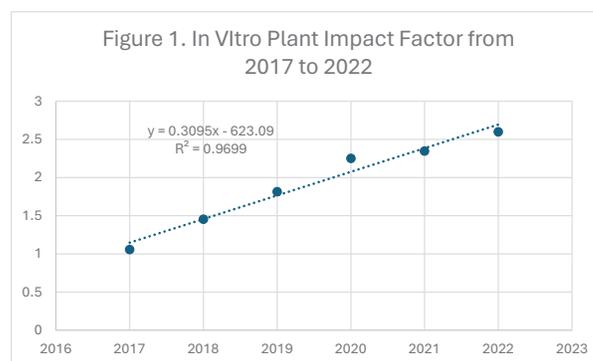
In Vitro – Plant

I have completed my fifth full calendar year as Editor-in-Chief (EIC) of *In Vitro – Plant* and want to thank all the Associate Editors for their support to the journal and timely processing of manuscripts. Thanks also for the many reviewers who took their time to give a critical assessment of the manuscripts submitted to *In Vitro – Plant*. Without your dedication and time, *In Vitro – Plant*

would not be in this promising position for future growth and impact. I also want to continue to thank the past EICs (**David Duncan, Dwight Tomes, John Finer** and **Greg Phillips**) for their encouragement and support. During 2024, several Associate Editors and SIVB members were involved with soliciting manuscripts for the upcoming Special Issue on Plant Biotechnology for Africa. I want to thank **Veena Veena, Nigel Taylor, Marceline Egnin, Albert Kausch, and Sadanand Dhekney**.

Several Associate Editors have resigned either last year or in early 2025 due to retirement or other reasons. I want to thank **Tom Clemente, Max Jones, Jessica Rupp, Zhezhi Wang** and **Marie-Anne Leluw-Walter** for their service over many years to the SIVB and to *In Vitro – Plant*. A special thank you to **Dave Duncan** and **Greg Phillips** who served the SIVB as Editors-in-Chief and also stayed on as Associate Editors for several years until their retirement from their service. Also, there are new Associate Editors that have come on board in 2024/2025 who include **Alfred Huo, Micah Stevens, Frank McFarland, Ahmad Omar, Sadanand Dhekney, and Hong Luo**. I also want to thank **Veena Veena, Mike Mann, Jon Mahoney, and Raj Deepika Chauhan** who also began service as Associate Editors in the recent past and for all of the long-standing Associate Editors (you know who you are) for your service for many years, even decades in many cases.

The impact factor for *In Vitro – Plant* has steadily increased from 1.057 in 2017, to a recent score of 2.6 for 2022, and it slightly decreased in 2023 to its current impact factor of 2.2. The five-year impact factor is now at 2.3. It is noteworthy to recognize that the impact factor has increased over 100% since 2017 (**Figure 1**).



The overall increase in impact factor is likely due to a combination of reasons including the improved quality of manuscripts accepted for publication in *In Vitro – Plant* and ten of the 77 published manuscripts in 2024 being “open access”. This is an increase in the number of published manuscripts compared to 2023 (70). The journal is still benefiting from the Special Issue on Genome Editing, which was published in 2021. For example, one of the fifteen manuscripts in this Special Issue is the paper by Jenkins et al. (Impacts of the Regulatory Environment for Gene Editing on Delivering Beneficial Products) receiving an Altmetric score of 40 with over 8,300 downloads to date. However, genome editing is not an exclusive topic for invited reviews. Currently underway are the solicitation of invited authors to contribute to the *In Vitro – Plant* Special Issue on “Plant Biotechnology for Africa”. At the time of writing this annual report, 14 manuscripts have been received, which completes

the contents for this Special Issue to be released in 2025. There is still interest in a Special Issue on *Cannabis sativa* if there are Associate Editors and members willing to champion this effort. Another area for a Special Issue is in "Plant Biotechnology for the Caribbean and Latin America", although this is not yet fully set in place (let Dave Songstad know if you would like to help with either Cannabis or Caribbean/Latin America Special Issues). At last year's meeting in St. Louis, a Special Issue on Bamboo was proposed and Rakhi Chaturvedi (Associate Editor) and I are looking for others interested in helping with this Special Issue. All Society members are encouraged to submit original research manuscripts or a review concerning the subject of your current research or perhaps the introductory thesis chapter of a graduating student. All of these would be excellent submissions to *In Vitro — Plant*.

A total of 504 manuscripts were submitted to *In Vitro — Plant* in 2024, which is a significant increase compared to 2022 and 2023 where 399 and 438 manuscripts were submitted, respectively. Of those manuscripts submitted, the rejection rate decreased from 79% in 2023 to 74% in 2024, leaving close to 26% still potentially acceptable for publication. Of the rejected manuscripts, about 30% were rejected for plagiarism, a continuing problem for the journal. Approximately 24% were rejected for technical flaws and another 16% rejected based on novelty. About 9% of the rejections were based on "Out of Scope" and 2% were due to submitting to the wrong journal and were redirected to *In Vitro — Animal*. This leaves 19% of the rejections due to a variety of "other" reasons including submitting a PDF, poor writing, improperly submitted, refused to submit revised version, etc.

In 2024 the top 10 countries from which manuscripts were submitted includes India, China, Turkey, Brazil, Iran, USA, Pakistan, Cuba, Egypt, and Indonesia. One of the biggest problems to having a robust journal is the lack of researchers willing to review manuscripts. Please, when asked to review a manuscript do not hesitate to do so. Your effort helps the society, is a perk on your C.V., and helps ensure that when you submit a manuscript there will be reviewers available to quickly assess your work.

Finally, to maintain journal excellence SIVB members are encouraged to publish in *In Vitro — Plant*. Apart from supporting the Society and fellow scientists, there are advantages to publishing in *In Vitro — Plant* such as a rigorous and fair peer review process, free color photograph printing, both online and in the hard copy of the journal, and timely publishing in a respected international journal.



Michael J. Fay
IVR Co-Editor-in-Chief



Sylvia Mitchell
IVR Co-Editor-in-Chief

In Vitro Report

The *In Vitro Report* (IVR) is the quarterly online newsletter for the Society for In Vitro Biology (SIVB). An important goal for the IVR is to serve as a platform for the SIVB membership to communicate and share news beyond the annual In Vitro Biology Meeting. The Co-Editors for the IVR are **Michael J. Fay** (Midwestern University) and **Sylvia Mitchell** (University of the West Indies). The Co-Editors work with **Michele Schultz** (SIVB Managing Director) to solicit and edit the content submitted by the SIVB membership that is published in the IVR. The Co-Editors also receive guidance and support from **Tetsuji Okamoto** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology — Animal*), **David Songstad** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology — Plant*), and the SIVB Publications Committee (**Addy Alt-Holland**, **Chris Bagley**, **Barbara B. Doonan**, **Michael J. Fay**, **Cynthia L. Goodman**, **John W. Harbell**, **Maria M. Jenderek**, **Sylvia Adjoa Mitchell**, **Tetsuji Okamoto**, **Barbara Reed**, **J. Denry Sato**, **David D. Songstad**, **Dwight T. Tomes**, **Nguyen (Nathan) Vo**, and **Michele Schultz**). We also work with the Ad Hoc Social Media Engagement

Committee (**Chris Bagley**, **Dylan Pritchard**, **Aimee Malzahn**, **Javier Dalmendray**, **Xiaotong "Stone" Chen**, **Joyce Van Eck**, **Sarbes Das Dangol**, **Michele Schultz**, and **Anissa Belfetmi-Stone**) to share IVR content on social media platforms utilized by the SIVB.

Routine articles in the IVR include: The SIVB President's Report, editor-selected journal highlights for *In Vitro Cellular & Developmental Biology — Animal* and *In Vitro Cellular & Developmental Biology — Plant*, SIVB annual meeting updates, feature articles on SIVB award recipients, feature articles on student and postdoc presentation and award winners, SIVB committee updates, new SIVB members, section officer and board member election results, student section updates, and member news from the In Vitro Animal Cell Sciences Section (SciNews) and Plant Biotechnology Section (Explants). We introduced a new feature titled "We've Got You!" where SIVB members reflect on how joining the Society enhanced their personal and professional growth.

The IVR Co-Editors, Publications Committee, and Ad Hoc Social Media Engagement Committee encourage all SIVB members to share their news and accomplishments in the IVR. Prior to the publication of each IVR issue, the SIVB membership is contacted by email to solicit submissions. Please consider sharing your news and accomplishments with the IVR and visit the SIVB website to read the current IVR. If you have any questions or suggestions concerning the IVR please contact the Co-Editors — **Michael J. Fay** (mfayxx@midwestern.edu), **Sylvia Mitchell** (sylviamitchell@biotechgmail.com) or Michele Schultz (michele@sivb.org).

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Past Editors-in-Chief and Lifetime Achievement Award Recipients, Greg C. Phillips and J. Denry Sato, continue to enjoy reconnecting at the SIVB Annual Meetings.

PUBLIC POLICY



Wayne Parrott
Public Policy Chair

The Public Policy Committee is a standing committee of the Society for In Vitro Biology (SIVB). Membership is open to all SIVB members interested in biotech policy, though government regulators only serve on an ex officio basis. The Committee assists Society members and the scientific community-at-large to better understand in vitro biology, biotechnology, and the current research and public policy issues affecting the scientific community. The Committee supports the SIVB to interact with members of Congress and other governmental officials for the purpose of giving scientific advice on funding priorities and other issues relevant to in vitro biology and biotechnology.

The year 2025 promises to be an important year for policy formulation, so we always welcome interested members!

Submitted by the SIVB Business Office on behalf of

WAYNE PARROTT

Public Policy Committee Chair

wparrott@uga.edu

REPRESENTATIVES OF THE SIVB

COUNCIL FOR AGRICULTURAL SCIENCE AND TECHNOLOGY (CAST)



Dwight Tomes
CAST Representative

Dwight participates in several activities within CAST. I'm a member of the Food Work Group of CAST in which John Swarthout (Bayer) and I co-lead the group. This group has monthly meetings in which we discuss and solicit manuscripts that are topical for this subject matter area. I've regularly attended the CAST annual meetings which were in Tampa, Florida last winter and will be at the University of Mississippi this winter. The Food Work Group worked on seven potential publications for CAST in the past year, and in 2025 publications were released about (1) Irradiated Food and Feed*, (2) Surfactants in Agriculture, and (3) Microplastics. I attended the 2024 Borlaug CAST Communication Award Ceremony in Des Moines for multiple years, which is a part of the World Food Prize Borlaug Dialogue where I provide photographic services for the event. SIVB members have full access for the wide variety of educational materials that are available online from CAST (<https://cast-science.org>). CAST offers papers, webinars, videos, and/or podcasts on a number of topical subjects during the year. CAST-SIVB webinars are planned for next year including a first webinar tentatively scheduled in April and on the use of AI for technical applications. CAST will be managing the event. A second webinar will be held in October with a student focus, with SIVB's mentoring group focused on resume/CV building. A third webinar is also in the planning stages. CAST also welcomes suggestions for webinars, videos, and podcasts from SIVB. SIVB leader Deepika Chauhan is also a SIVB contact in this area. CAST is in the planning stages for potential attendance and providing subject matter at the SIVB meeting in Norfolk in June.

*SIVB member **Nancy Reichert**

DWIGHT T. TOMES

CAST Representative

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INTERNATIONAL ASSOCIATION OF PLANT BIOTECHNOLOGY



Randall Niedz
IAPB Representative

Founded in 1963, the International Association for Plant Biotechnology (<https://iapb.ca/>) is the largest international professional organization representing the interests of the worldwide plant biotechnology community and has been hosting successful symposia around the world since the early '60s, including a congress held every four years. IAPB members benefit from networking and collaboration opportunities through a global network that promotes sustainable plant biology solutions. Members can post any news or events to share with the IAPB membership on the IAPB website, including anything cross-posted from SIVB.

The 16th International Association for Plant Biotechnology Congress will take place in beautiful downtown Saskatoon, Canada, July 27-31, 2026. This congress will explore the role of plant tissue culture and novel breeding tools in reducing climate change impacts on agriculture and biodiversity, promoting resilient ecosystems, and supporting UN Sustainable Development Goals under the theme of "Plant Biotechnology for Climate Action and Sustainable Development". The Canadian Association for Plant Biotechnology, Discover Saskatoon, Ag-West Bio and the Saskatchewan Ministry of Agriculture will jointly organize the 16th Congress. The IAPB Canadian Secretariat is made up of Pankaj Bhowmik (pankaj.bhowmik@nrc-cnrc.gc.ca), the President, Forrest Scharf (Forrest.Scharf@gov.sk.ca), Secretary, and Brittany Polley (Brittany.Polley@nrc-cnrc.gc.ca), Treasurer. IAPB and SIVB work closely together; SIVB members can join and renew their IAPB memberships by paying dues directly to the IAPB Secretary/Treasurer by wire transfer (contact US Correspondent for IAPB bank payment information). The membership fee is \$25 USD per person per calendar year. Randall Niedz is the US Correspondent, IAPB randall.niedz@usda.gov.

RANDALL P. NIEDZ

US National Correspondent, IAPB

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STAY INFORMED & STAY CONNECTED!

We encourage all members to become actively involved with SIVB and stay connected to us via social media. Find us through any and all methods below and don't forget to Like, Share, and Subscribe to our content to help spread the word about this phenomenal organization!



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YouTube:

<https://youtube.com/@societyforinvitrobiology>



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<https://www.linkedin.com/company/3885623>

Society For In Vitro Biology
Statement of Financial Position
December 31, 2024 and 2023

	<u>12/31/2024</u>	<u>12/31/2023 Comparative Total</u>
Assets		
Current Assets		
Cash	78,110	143,567
Prepaid Expense	47,204	54,949
Total Current Assets	<u>125,314</u>	<u>198,516</u>
Other Assets		
Investments	452,470	429,138
Total Other Assets	<u>452,470</u>	<u>429,138</u>
Total Assets	<u><u>577,784</u></u>	<u><u>627,654</u></u>
Liabilities and Net Assets		
Current Liabilities		
Accounts Payable	14,724	10,728
Credit Card Payable	213	-
Deferred Income	43,693	32,756
Total Current Liabilities	<u>58,630</u>	<u>43,484</u>
Total Liabilities	<u>58,630</u>	<u>43,484</u>
Net Assets		
Unrestricted	2,161	34,071
Temporarily Restricted	516,993	550,099
Total Net Assets	<u>519,154</u>	<u>584,170</u>
Total Liabilities and Net Assets	<u><u>577,784</u></u>	<u><u>627,654</u></u>

Society For In Vitro Biology
Statement of Activities
For the One Month and Twelve Months Ended December 31, 2024 and 2023

	Month Ended 12/31/2024			Twelve Months Ended 12/31/2024 (Combined)	12/31/2023 Comparative Total (Combined)
	Unrestricted	Temporarily Restricted	Total		
Revenue					
In Vitro- Animal	271	300	571	92,979	112,363
In Vitro- Plant	466	480	946	92,652	173,239
Newsletter	165		165	5,677	5,129
Meetings	75	2,260	2,335	341,792	224,497
Administrative	2,853	-	2,853	58,808	42,129
Total Revenue	<u>3,830</u>	<u>3,040</u>	<u>6,870</u>	<u>591,908</u>	<u>557,357</u>
Expenses					
Program Services:					
In Vitro Animal	336	-	336	42,674	15,814
In Vitro Plant	1,176	-	1,176	21,975	56,973
Annual Meeting	-	-	-	217,944	179,058
Total Program Services	<u>1,512</u>	<u>-</u>	<u>1,512</u>	<u>282,593</u>	<u>251,845</u>
Support Services:					
Administrative	42,873	-	42,873	381,054	326,402
Total Support Services	<u>42,873</u>	<u>-</u>	<u>42,873</u>	<u>381,054</u>	<u>326,402</u>
Total Expenses	<u>44,385</u>	<u>-</u>	<u>44,385</u>	<u>663,647</u>	<u>578,247</u>
Change in net assets before unrealized gain(loss) on investments	<u>(40,555)</u>	<u>3,040</u>	<u>(37,515)</u>	<u>(71,739)</u>	<u>(20,890)</u>
Unrealized gain(loss) in fair value of investments	<u>(7,140)</u>	<u>-</u>	<u>(7,140)</u>	<u>6,723</u>	<u>7,498</u>
Change in Net Assets	<u>(47,695)</u>	<u>3,040</u>	<u>(44,655)</u>	<u>(65,016)</u>	<u>(13,392)</u>
Net assets, beginning of period	<u>49,856</u>	<u>513,953</u>	<u>563,809</u>	<u>584,170</u>	<u>597,562</u>
Net assets, end of period	<u>2,161</u>	<u>516,993</u>	<u>519,154</u>	<u>519,154</u>	<u>584,170</u>