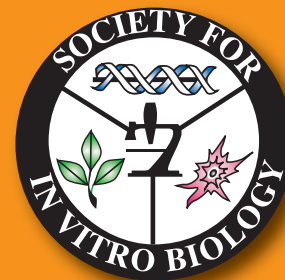


SIVB ANNUAL REPORT 2018



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



PRESIDENT'S REPORT

The annual report is an opportunity to reflect on the past year and accomplishments of the SIVB. The first annual meeting as president is a time of some apprehension to successfully fulfil the many duties of the office and follow in the successful traditions of past presidents. I had no idea how many committee meetings the president attends during the four days of our annual meeting. It was also an opportunity to appreciate how many people come together to make the meeting successful. The Saint Louis meeting was a tremendous success from both the scientific and social perspectives.

David Songstad and the program committee as well as the local organizing committee deserve our sincerest congratulation on the program they prepared. The choice of “Gene Editing” as the meeting focus was very timely for both the plant and animal focus of the SIVB. Following that focus, we were able to have **Dr. Rachel Haurwitz** (President and CEO of Caribou BioSciences) as our Keynote speaker. Her insightful and stimulating presentation was one of the meeting high points. The posters and presentations are always a major part of the meeting. Being a judge for the poster and presentation competitions reminds me how strong the new science is at the annual meeting. The social side of our scientific meeting is also critically important. The social venues provide the opportunity



2018 Keynote Speaker, Rachel Haurwitz, is thanked for her presentation on CRISPR Genome Editing by President John Harbell during the Opening Ceremony on June 3, 2018.

to establish collaborations, develop mentoring relationships, and provide insights not available from simply reading the literature. I discussed the role of the SIVB in mentoring in a past President's Letter. It is a tradition in the society and one I hope we continue to foster. Over the past years, the social events have also brought the two sections closer together as a unified society.

Sponsors and exhibitors are crucial to the success of a scientific meeting. We thank each of them and hope they will return in 2019.

One role of a scientific society is to lend its scientific expertise to the formation of public policy and programs. This effort should be independent of partisan politics and focus on application of sound science to the issues at hand. One part of this effort is spearheaded by **Wayne Parrott** and the public policy committee. Another has been the series of publications on good tissue culture practice which appeared in *In Vitro – Animal* in 2017. This collaboration between SIVB members and the American Type Culture Collection provided a compendium of collective expertise to promote sound science. These issues have become even more important with the change in focus of the US regulatory agencies from a strict reliance on whole-animal (usually rodent) test systems to human cell/tissues-based in vitro test systems for the prediction of human health effects. The change is based on a 2007 report prepared National Research Council, Committee on Toxicity Testing and Assessment of Environmental Agents titled “Toxicity Testing in the 21st Century: A Vision and a Strategy”. The committee was headed by **Dr. Melvin E. Andersen** and some will remember his presentation of the committee finding to the SIVB in 2009. The goal is to understand how chemicals, of all types, alter specific cellular metabolic pathways. These deleteriously altered pathways are termed Adverse Outcome Pathways (AOP). Many of these will be species-specific. Understanding these AOPs will allow prediction of toxicity to specific cells and tissues. Much of the focus over the past ten years has been on drug development and pesticide safety. As the understanding of how to use these approaches grows, their application is likely to broaden. Right now, much of this work is being done at the federal level and it seems likely that industry and academic will join the effort. As we know, the data are only as good as the test systems and endpoint

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EXECUTIVE COMMITTEE



JOHN HARBELL
President



ALLAN WENCK
President-Elect



DWIGHT TOMES
Past President



SUKHPREET SANDHU
Vice President



BARBARA DOONAN
Treasurer



HAROLD TRICK
Secretary

probes employed. As individual scientists and as a society, I believe there is a role for us to play in working to have the program produce consistence and meaningful data. There will also be a need for neutral arbitrators to review commercial test systems as they are developed.

I am a dinosaur. LinkedIn is as far as I go in social media. That said I understand that we need to use the tools of social media to promote our science, our meetings, and our society. I would like to appeal to members who use social media for guidance in first identifying applications and sites that would be useful to our purpose and secondly instructions on how to actually access those tools.

Finally, I'd like to thank those who have volunteered to help with the numerous committees we have and on behalf of our membership we thank **Marietta Wheaton Saunders** and **Michele Schultz** (New Beginnings Management) whose experience and diligence benefit us every single day. We look forward to the 2019 meeting in Tampa and hope to see as many members as possible in attendance.

JOHN W. HARBELL, SIVB PRESIDENT
johnharbell@sbcglobal.net

SECRETARY'S REPORT

I am honored to be elected for a second term as secretary of the Society. With the new election year came new faces to our board and section officers. However, we also maintained continuity with the initiatives that were ongoing. Over the past year the board was busy with a number of initiatives such as increasing the visibility of our society, attracting new members, submitting comment on behalf of the Society in response to Agricultural Marketing Service (AMS) Proposed Rule: National Bioengineered Food Disclosure Standard, and exploring venues for future meetings to name a few. This coming year will probably be just a busy but also rewarding.

Elections are just around the corner and there are many opportunities to be involved in the Society. If you would like to volunteer to help in any capacity, please contact a board member or a committee chair. Member participation is the best way to maintain an active and healthy Society. I look forward in seeing everyone at our meeting in Tampa!

HAROLD TRICK, SECRETARY
hnt@ksu.edu

TREASURER'S REPORT

It is a pleasure as Treasurer to be able to report that our financial position remains sound. Due to the diligence of our Officers, Board Members, Committee Chairs, and Committee Members plus the constant efforts toward cost cutting made by the New Beginnings Management staff, we remain in the black. The ups and downs of the financial markets worldwide have certainly not settled down to any great degree, but, in spite of this situation, the SIVB investment profile is also doing well.

The major financial support areas for the society continue to be the annual meeting and our journals. Although some costs associated with the 2018 annual meeting were somewhat higher than our level of comfort, it proved to be profitable and the increases in the revenue stream from both IVA and IVP journals is quite encouraging. However, on another note we have seen another slight decrease in membership numbers. This makes it necessary to remind ourselves of the need to focus more of our attention on increasing membership – convincing lapsed members there is reason to rejoin and by seeking new members.

Each year brings new challenges requiring major efforts in identifying creative means of gaining and increasing the number of donors to provide the funding support for our society and its goals. As we move toward our next annual meeting in Tampa, I'm pleased to report that all who have been involved in this particular effort are doing an excellent job and we beginning to see some very positive results!

We are a unique society, with members from a broad range of disciplines who care deeply about it, who want the Society for In Vitro Biology to thrive. Let us all, therefore, continue as members to do everything we can to keep the SIVB alive and growing!

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

BARBARA B. DOONAN, TREASURER
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BUSINESS OFFICE REPORT

2018 was a busy and productive year for the SIVB's Business Office. The major projects that occupied the staff focused on managing the 2018 In Vitro Biology Meeting, planning the 2019 In Vitro Biology Meeting, venue research and negotiations for the 2020 World Congress and 2021 In Vitro Biology Meeting, addressing membership retention, and managing SIVB's publications.

2018 IN VITRO BIOLOGY MEETING

Attendees joined SIVB for the 2018 In Vitro Biology Meeting from June 2 – 6, 2018 at the Hyatt Regency St. Louis at The Arch in St. Louis, Missouri. Highlights from St. Louis included the Keynote presentation on "CRISPR Genome Editing: Hacking the Genome to Transform the Future of Medicine, Animal Health, and Agriculture" from **Rachel Haurwitz**, President and CEO of Caribou BioSciences, and a special presentation by **Adam Bogdanove** from Cornell University, regarding an upcoming CAST issue paper on "Genome Editing in Agriculture: Methods, Application and Governance."

There were several special awards presented during the Opening Ceremony on Sunday, June 3rd. The 2018 Lifetime Achievement Awards were presented to **John J. Finer, PhD**, and **Sandra L. Schneider, DrPH, EMBA, FCT**, honoring the significant contributions each have made during their respective careers. For their support of the Society and its activities, SIVB Past President, **Dwight Tomes, PhD**, thanked **Addy Alt-Holland, PhD**; **Raj Deepika Chauhan, PhD**; **Michael Dame, PhD**; **Gregory Davis, PhD**; **Eugene Elmore, PhD**; **Thomas Flynn, PhD**; **John Harbell, PhD**; **Maria Jenderek, PhD**; **J. Denry Sato, DPhil**; **Shubha Subbarao**; **Brad L. Upham, PhD**; **Veena Veena, PhD**; and **Mary Welter** by awarding them Distinguished Service Awards. Additional awards were presented during the Plant Biotechnology Section Meeting to **J. Pon Samuel, PhD**, who received the 2018 Distinguished Scientist Award; **Fredy Altpeter, PhD**, and **Randall P. Niedz, PhD**, recipients of the 2018 Fellow Awards; and **Esther E. Uchendu, PhD**, who was presented with the 2018 Young Scientist Award.

The program for 2018 started on Saturday, June 2, with an all-day workshop, "Grow with the Flow: Flow Cytometry for Genome Sizing, Editing, and RNA Targeting," which focused on various topics for targeting and gene editing with plant specific applications. Both animal and plant sections offered Oral Presentation Competitions for the students and Post Docs and a student poster competition was held which involved all student poster presenters at the meeting. Other special events included the "Meet Me in St. Louis Silent Auction," a relaxing Tuesday evening social event, "Horses, History, and Fun: An Evening at the Anheuser-Busch Grant's Farm," and two Wednesday afternoon scientific tours: the "Heart of Biotechnology" Tour visiting the Donald Danforth Plant Science Center, KWS Gateway Research Center, BRDG Community College, and Monsanto Company, and



The 2018 In Vitro Biology Meeting was held just in the shadow of the famous St. Louis Arch at the Hyatt Regency St. Louis at The Arch.

an "R&D Innovation" tour of MilliporeSigma. There was also a Joint Sections Social held on the top of the hotel with great views of the Arch and even better conversation amongst the attendees.

St. Louis' attendance was higher than at the 2017 meeting due to SIVB's strong presence in St. Louis and the significant biotech community to which SIVB was able to reach out in both industry and academia. This was the second year that group registration was offered, and 4 different companies utilized this reduced registration rate opportunity. Final registration came to 421 which included 136 member, 65 group, 10 non-member, 25 research technician, 22 post doc, 71 student, 1 one-day, 1 emeritus, 5 guest, 11 volunteer, and 51 speaker registrants. There were also 4 staff, 2 accompanying guest, and 17 exhibitor registrants.

SIVB continues to work toward finding better ways to provide information at the meeting while being environmentally conscious. Instead of including numerous paper handouts in the registration bag, SIVB utilized the mobile app's Virtual Conference Bag and placed pdfs of all the materials within reach of each attendees' phone or tablet. Information found in the app was enhanced to include the addition of social events and meetings, the names of conveners and moderators, and the exhibitors ability to upload their logo and a more detailed company description. Posters were available in the app through the main program as well as on a special separate button which allowed quick access to the content. Usage of the mobile app is continuing to grow since we began offering it in 2014, with more participants activating accounts and sending messages directly through the app each year.

The meeting would not have gone so well, if it weren't for the assistance of the volunteers who supported the registration and audio-visual aspects of the meeting. We are grateful to each of them, many of whom return year after year, for their helping make the process so smooth.



2019 IN VITRO BIOLOGY MEETING

SIVB hopes you are ready for some fun and sun during the 2019 In Vitro Biology Meeting. This year's annual meeting runs from June 8–12, 2019 in Tampa, Florida at the Tampa Marriott Waterside Hotel & Marina. While initial planning for this meeting began in 2017, efforts to shape the program and set all the final details began in earnest during the summer of 2018. The Program Committee was incredibly enthusiastic and worked hard to set the program and speakers before the fall.

The Local Organizing Committee (LOC) included members and nonmembers from Florida, Georgia, Alabama, and beyond who spread the word about the program and helped organize two scientific tours at some of their venues. The LOC, Program, and Membership Committees worked together to create and utilize a Google document where they coordinated outreach to companies and universities by sharing information on the SIVB, our annual meeting, and how their organizations could become part of the experience. The Committees provided flyers created by the Business Office to their potential contacts. In addition, the program was listed with Nature Events and the Business Office created a poster that was presented at the January PAG meeting to encourage participation in Tampa.

June Medford, PhD, of Colorado State University is this year's Keynote Speaker who will be presenting her talk on "Synthetic Biology for Engineering Plant Genetic Circuits: from Predictable Electronic-like Functions to Innovative Desalination." We are pleased to announce that the Lifetime Achievement Award will be presented to both **Tetsuji Okamoto, DDS, PhD**, and **Barbara M. Reed, PhD** on Sunday, June 9. There are also several awards being presented at the Plant Biotechnology Section Meeting, including **Jeffrey Adelberg, PhD**, and **C. Neal Stewart, Jr., PhD**, who will receive the SIVB Fellow Award; **Harold N. Trick, PhD**, the Distinguished Scientist Award; and **Raj Deepika Chauhan, PhD**, the Young Scientist Award. Distinguished Service Awards, student awards, and student and Post Doc competition winners will also be announced throughout the meeting.

On Saturday, June 8, 2019, we are offering a special follow up workshop to last year's Flow Cytometry workshop entitled "Advanced Flow Cytometry Applications and Data Analysis," which

will focus on various advanced areas in flow cytometry and fluidics for targeting and gene editing with specific biological applications. If you wish to participate in this session, don't forget to register early as advance registration is required.

There are several fun opportunities being planned for the upcoming meeting, such as the "2019 Big Guava Silent Auction" which will run from Saturday evening through Tuesday morning in the Exhibit Hall. Additionally, on Tuesday evening, SIVB will host an "Evening at the Florida Aquarium," and, on Wednesday afternoon, will be offering two specially-created scientific tours: the "Gulf Coast Research and Education Center Tour" visiting many of the labs at University of Florida's Gulf Coast Research and Education Center, and the "Conservation and Transformation in the Sunshine State Tour" visiting Bok Tower Gardens and University of Florida's Citrus Research and Education Center.



Sunny Tampa, Florida, awaits the arrival of the participants for the 2019 In Vitro Biology Meeting.

In advance of the program planning, the Business Office spent the summer discussing the abstract submission process with the Program Committee and mobile app company to simplify how abstracts are placed in the program. We also adjusted the submission process for student authors, so their supervisor or professor must now approve each student's submission. This alleviates concerns that work is being submitted without co-author's knowledge or permission.

SIVB believes strongly in focusing on students and student growth. The Student Initiative program established in 2003 was created to help support student participation at the meeting, affording discounted abstract submission fees and free registration to students attending the meeting, as well as free membership to students the year after they attend our meeting. The Student members, both undergrad and graduate, have been active as well, planning a program that addresses their specific needs. They have scheduled a Student Workshop on "Hands-on RNA-Seq Workshop Using the CyVerse Computational Infrastructure," a Networking Luncheon on "Employer Engagement," and a Non-competitive Oral Presentation Symposium as part of this year's program.

If you would like to support the Student Initiative, you can contribute to the Sponsor-a-Buddy program. It only takes \$25. Contributors will receive a special ribbon to wear during the meeting and have an opportunity to personally mentor a student attendee in Tampa.

2020 WORLD CONGRESS ON IN VITRO BIOLOGY AND 2021 IN VITRO BIOLOGY MEETING

Negotiations regarding the venue for the 2020 World Congress and site searches for the 2021 Meeting location continued throughout the 2018 calendar year. The 2020 World Congress on In Vitro Biology will return to San Diego, California, which has been a very popular city with attendees. The meeting will run from June 6–10, 2020 at the Town and Country Resort. The SIVB has been reviewing a number of potential cities to hold the 2021 In Vitro Biology Meeting and expects to finalize a venue and contract in 2019.

MEMBERSHIP

While membership numbers dropped in 2018, SIVB continues to focus on ways to retain current membership while attracting new members to the organization. In 2018, we offered a special discounted membership rate for non-member Invited Speakers who presented at the 2018 Meeting. We have a Member-get-a-Member program, which allows a current member to recommend a new potential regular member. If they join, the current member is entered into a drawing for a gift card and the new member gets \$10 off their membership dues. Lastly, a drawing is held during the annual meeting for all members who renewed their membership by December 31 of the prior year. The 2018 Winners were **Kathryn Kamo**, who received free registration to the 2019 meeting, and **M. Keith Redenbaugh**, who received free 2019 membership. If you renewed for 2019 by December 31, 2018, you could win membership for 2020 or registration to the 2020 World Congress, and you don't need to be present to win!

We want to thank a number of senior members who have made charitable gifts or estate contributions to the organization through Qualified Charitable Distribution (QCD). We acknowledge **Barbara Doonan**, **John Harbell**, and **Dwight Tomes** for their exceptional generosity. If you would like to learn more about how to make a charitable contribution to the SIVB, please contact me at sivb@sivb.org.

Individual contributions can be made through our website. Just click the "Donate" tab at sivb.org and choose one of the funds listed to support the future of the organization. You can also support the SIVB by contributing \$25 to the Fund for the Future when you renew your membership dues each year.

In 2018, we sadly learned of the passing of long-time member **Agnes N. Stroud-Lee**.

The Business Office focused much of their time facilitating Board of Directors' and Committees' initiatives. Special projects this year included working with the Education Committee in organizing and designing a web page linking our site to an "Issues in Biotechnology" online lecture series from the University of Rhode Island and preparing various mailings and materials for the

Membership and Program Committees. Another project involved researching the archive regarding those Honorees for whom the SIVB Student Awards are named and including that information on our website. This additional information allows those considering donating or applying for each award to have a better understanding about whom the award is honoring and why they are important to the SIVB. The Business Office is also currently working on revising the current SIVB Code of Ethics to a more detailed Code of Conduct for the organization in hopes it will address professional behavior expected from its members and potential repercussions should those behaviors not be respected.

In 2018, the Business Office completed their work with **John Harbell** and **Brad Upham** coordinating SIVB's participation in the Society for Toxicology's 57th Annual Meeting and ToxExpo which ran from March 12–14, 2018 at the Henry B. Gonzales Convention Center in San Antonio, Texas. The Business Office prepared the final exhibition materials, organized the shipment and return set up of the SIVB exhibit, finalized printing of flyers and handouts, and set details with the exposition services company and the Society for Toxicology. After the meeting, they organized the drawing for the winner of free 2019 combination membership and meeting registration and reached out to both the winner and other participants in the drawing to encourage their attendance at the meeting. It is hoped that SIVB may gain some additional members, meeting attendees, and exhibitors from the 2019 ToxExpo participants.

PUBLICATIONS

The Publications Department focused on numerous activities addressing both the online presence and print publications for the Society. This includes online and print issues of the two *In Vitro* journals, the online *In Vitro Report* newsletter, SIVB's website, and the Society's social media presence.

Working closely with the Publications Committee, Springer, and the respective journal Editorial Offices, the Business Office reviewed the format of the *In Vitro* journals and the publications process to assure that our journals are in keeping with similar publications in the plant and animal biology and biotechnology fields. All new manuscripts are submitted online through Editorial Manager and that review process is regularly updated as the industry's requirements change. In 2018, this included updating to a new "Large layout format" that Springer was implementing with all their journals and provided, among other changes, a different, but clean header font throughout the published articles and the addition of the SIVB logo on all pages of the hard copy article pdfs and print outs. Additionally, the Business Office worked with Springer to adjust the checklist authors must complete when submitting their manuscript to *In Vitro – Animal* to encourage early submission of Copyright Transfer paperwork and to reduce publication delays once a paper is accepted.

Another project was the preparation of a survey reviewing how our members access our journal content, which was implemented based on a request from the Membership Committee and Board of Directors. The Business Office worked with the Publications Committee in creating an updated version of the survey which was last sent out in 2013 to learn how SIVB members access and use the hard copy journal versus the online content. The board approved the new survey and it is being disseminated in 2019. This survey will review our member's preferences to see if there have been any changes in how print copies are perceived versus online access to the journals.

Both new and senior members are encouraged to submit their work to the *In Vitro – Animal* and *– Plant* journals whenever possible. The benefit is two-fold as one can share research directly with fellow members and, at the same time, support the long-term health of the journal and the Society.

Issues for *In Vitro – Animal* were published a little below our page budget for the year as the flow of manuscripts was a bit slow in early 2018. This did start to change toward the end of the year when the 2017 Impact Factor came out in July 2018 at 1.447, which is almost double the 2016 number and the highest it has been in over 15 years, if not longer. Papers published have been of a high quality, which allows for citations of articles to have a greater effect on the impact factor. Editor-in-Chief, **Tetsuji Okamoto**, worked to highlight papers of significance, including the series of “Best Practices” papers which were published at the end of 2017 and addressed how one should handle a cell line from its initial receipt through the publication of data. If you have not read these cell culture “how-to’s” from some of our long-time members, make sure to check them out! Dr. Okamoto accepts suggestions for new special issue topics that would be of interest to our readers.

The 2017 impact factor for *In Vitro – Plant* went up slightly to 1.057. **David Duncan** worked hard with the Associate Editors to come up with options to increase the flow and quality of papers submitted to the Plant journal, especially the 4 SIVB issues. Due to his efforts, the 4 SIVB issues were published at near to or above page budget during 2018. One of the ways he achieved this was to replace the standard cover image of the *In Vitro – Plant* hard copy issue with interesting images submitted from accepted papers in their respective issue.

In August 2018, the IAPB Secretariat transitioned from Ireland to Korea after their quadrennial meeting. SIVB thanks **Ewen Mullins** for his service as the IAPB Editor-in-Chief over the last 4 years and welcomes Dr. **Yong Eui Choi** from Kangwon National University in Chuncheon, Gangwon-do, South Korea as the new IAPB Editor-in-Chief for the next four years.

Toward the end of 2018, SIVB released of a new design for the *In Vitro Report* online newsletter. The new layout was created to provide a more modern and user-friendly look to the publication

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which is highly responsive to screen size. It allows readers to be able to more easily access the last issue, follow SIVB's Twitter Feed, or contact the Editors using the top right-side widget. It is also highly graphic, and, because of its more visual nature, the Editors are encouraging members to include photo submissions with their content whenever possible. The newsletter layout offers repeated

content in both the right-side widgets and footer to facilitate how readers look for information, reduces previous oversized graphic links, and provides quick links to the Annual Report and past content.

This quarterly publication includes information about and for the SIVB Membership. It contains articles about specific members and news from SIVB's Committee Chairs, Editors-in-Chief, Board, and Section Officers. This publication is yours and we hope that you will actively participate in it by sharing your personal achievements and news when we email you to request submissions for the Member News section. Share personal and professional achievements, such as new positions or publications, births, marriages, retirements, or other personal successes you would like your colleagues to know about. Remember to include a jpg picture of yourself along with your news and send it to the Co-Editors-in-Chief, **Michael Fay** and **Sylvia Mitchell**. Also, if you have article suggestions or other information to share, please reach out to them through the links found on the “submissions” tab on the new website (<https://www.sivb.org/InVitroReport/>) or contact me at sivb@sivb.org.

In 2018, it was discovered that web searches using “SIVB” as the search term were no longer pulling up our site as the first link, due to a new financial company using the letters “SVB” on the stock exchange. Over the year, the Society has worked on different ways to address our loss of visibility in searches, including updating the Search Engine Optimization and how it reacts to Google and Bing, which has been somewhat successful. In 2019, SIVB is looking to add some additional website redirects to enhance the Society's visibility through online searches even more.

Outreach to current and potential members now relies heavily on social media and SIVB is looking for better ways to use these systems to our benefit. Facebook and LinkedIn postings continue to show content on both scientific and social topics including Throwback Thursday images, meeting deadlines and notices, links to articles in our publications, and occasional links regarding scientific issues in the news. Broadcast emails and Twitter posts have been tailored to specific purposes, with emails addressing deadlines and items of interest for the meetings or membership and Twitter now focusing on sharing articles from our journals. By disseminating similar, but separate, information through these various outlets, SIVB has allowed our members to focus on the specific content they are most interested in receiving. This may potentially increase our viewership to each service, as members won't feel content is being

repeated if they follow us through different media. Remember to like us on Facebook, join the SIVB group on LinkedIn, and follow us on Twitter (@SIVBiology). Share posts of interest and remember to use our name and hashtags at the beginning of your relevant posts: @SIVBiology for the organization, #SIVBiology2019 for the 2019 In Vitro Biology Meeting; #SIVBIVAN for *In Vitro – Animal*, and #SIVBIVPL for *In Vitro – Plant*.

Privacy became a major news item in 2018 and the requirements to protect the privacy of those in our database were adjusted to accommodate the new General Data Protection Regulations (GDPR). The GDPR is legislation passed by the European Union (EU) Parliament, focusing on the protection of the personal data of EU residents and sets forth regulations for any business which controls or processes EU resident data, regardless of the organization's location. To become compliant, the Business Office updated SIVB's privacy and cookie policies and included this information on our database pages where members input their data to purchase membership, meeting registration, and contributions to the organization. Screens are now added that request consent to retain/share data and the SIVB has now reduced the amount of information provided in the membership directory and on meeting attendee lists. New members are required to confirm their consent before they purchase items and let us know how they wish to be contacted. In addition, if a person is a minor in their country of residence, they are required to provide us with their guardian's name and email address so that we may reach out to the guardian should there be any concerns. There are also mechanisms added to address someone's "right to be forgotten" and have their data removed from our system.

Since 2004, SIVB's Business Office has been maintained by the management company, New Beginnings Management, Inc., which handles day-to-day operations of the organization. As the owner of New Beginnings, I offer my thanks to all SIVB's members who support the Society by volunteering their efforts on its behalf, especially the Executive Committee, Board of Directors, Committee Chairs and Section Officers, who take on the responsibility of guiding the SIVB's future. Their efforts are what keeps this membership society running. I also offer my personal thanks to each of you for your support of New Beginnings Management and its goal to provide you with the best service possible. I hope that SIVB continues to grow stronger as we work together for a successful and continued partnership in years to come.

If you have ideas or suggestions on how to encourage new membership growth or enhance the organization's future, please feel free to reach out to me at the Business Office directly by sending your suggestions to elliswheat@aol.com.

MARIETTA WHEATON SAUNDERS

SIVB Managing Director
elliswheat@aol.com

IN VITRO ANIMAL CELL SCIENCES



Kolla Kristjansdottir,
IVACS Chair

The 2018 In Vitro Biology Meeting, held June 2–6 in St. Louis, was a success, thanks to the diligent efforts of the Program Committees, Local Organizing Committee (LOC), and the SIVB Business Office: **David D. Songstad** (Program Chair), **Joshua Gasiorowski** (IVACS Program Chair), **Sadanand Dhekney** (PBS Program Chair), **Piero Barone** (PBS Sr. Co-Chair), **Raj Deepika Chauhan**, (PBS Jr. Co-Chair), **Albert Kausch** (Education Chair), **Tristen D. Wright** (IVACS Student Co-Chair), **Foaziatu Bukari** (PBS Student Co-Chair), **Marietta Wheaton Saunders** (Meeting Secretariat and Managing Director for Society for In Vitro Biology), **Michele Schultz** (Publications Manager), and the Local Organizing Committee, **Charles L. Armstrong**, **Piero Barone**, **Mike Boyer**, **Brad Castanho**, **Raj Deepika Chauhan**, **Kevin Cook**, **Jean Layton**, **Mary Ann Saltarikos**, **Sukhpreet Sandhu**, **Vladimir Sidorov**, **David Stanley**, **Shubha Subbarao**, **Nigel J. Taylor**, **Veena Veena**, **Dannette Ward**, **Ningning Zhang**, and **Zhanyuan J. Zhang**. Over seventy IVACS members attended the meeting, representing a unique cross-section of universities and industries, both local to the meeting venue and from around the world.

Rachel Haurwitz, President and CEO of Caribou BioSciences, delivered an outstanding Keynote Address titled: CRISPR Genome Editing: Hacking the Genome to Transform the Future of Medicine, Animal Health, and Agriculture. She captivated the audience with her work on gene editing using CRISPR technology and its applications for therapeutic development and animal breeding. The meeting commenced with a Saturday workshop conducted by Beckman Coulter experts, Flow Cytometry for Genome Sizing, Editing and RNA Targeting. Meeting presentation topics included: Frontiers in Translational Tissue Modeling, Genome Editing Technology Development: Cas9 and Beyond, Commercial Applications of Genome Editing, Specialized Detection and Analysis in the -Omics Age, MicroRNAs and Cellular Differentiation, Consumer Biotech, Next Generation Approaches in In Vitro Toxicology, Cell and Molecular Engineering Using Programmable DNA Binding Proteins, and Ethics and Societal Implications of Genome Editing. In all, there were 15 IVACS symposium presentations and 4 plenary presentations. IVACS Contributed Papers broke out into 2 sessions to make room for 6 presentations. Other posters included 4 interactive posters, 8 posters, and 3 silent abstracts. Students are an important component of the SIVB meetings. They presented an enjoyable and vigorous interactive evening symposium, Publishing Academic Work: Unmasking Predatory Journals; a networking luncheon, Employer Engagement; an Ad Hoc Student Committees Breakfast; and a non-competitive student oral presentation session. Student and postdoctoral IVACS oral competition were judged by **Adity Alt-**

Holland, Kolla Kristjansdottir, Mae Ciancio, Michael Dame, Joshua Gasiorowski, Barbara Doonan, Michael Fay, John Harbell, and Brad Upham. **Lana Elkins** (Arkansas State University) received 1st place for *Recombinant Production and Bioactivity of Catfish Interleukin-22 as a Natural Immune Stimulant for Improved Aquaculture Fish Health*; **Laura Knighton** (UNC Charlotte) received 2nd place for *The Role of Kar2/Scj1 Complex in the DNA Damage Response*; and **Antony Ketner** (Midwestern University) received 3rd place for *Role of the Retinoblastoma Gene in Maintenance of Osteoblast Function and Communication*.

THE IVACS ANNUAL BUSINESS MEETING HELD JUNE 4, 2018 AT THE IN VITRO BIOLOGY MEETING, ST. LOUIS HYATT REGENCY ST. LOUIS AT THE ARCH. The meeting started with the recognition of the IVACS elected officers for 2018/2020 term:

Kolla Kristjansdottir – Chair
Mae Ciancio – Vice Chair – Meeting Program
Andrew Truman – Vice Chair – Membership
Matthew Desrosiers – Secretary

IVACS recognized the leadership and dedication of the Board of Directors:

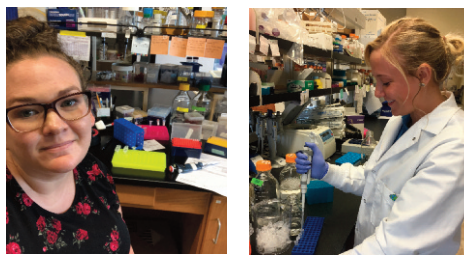
John W. Harbell – President
Allan Wenck – President Elect
Sukhpreet Sandhu – Vice President
Dwight T. Tomes – Past President
Barbara Doonan – Treasurer
Harold Trick – Secretary
Michael J. Fay – Publications Chair
Wayne Parrot – Public Policy Chair
Fredy Altpeter, John J. Finer, Michael Dame, Brad Upham – Members-at-Large

We also recognized and thanked all the IVACS members who helped to raise funds for the 2018 SIVB In Vitro Biology Meeting. We sincerely thanked the following sponsors for their generous financial support. IVACS members – let’s match their example and effort where we can to build our program and future!

Nikon Corporation	JHarbell Consulting LLC
Millipore Sigma	JV Biolabs LLC
Alternatives Research & Development Foundation	National Anti-Vivisection Society
Barbara Doonan	International Foundation for Ethical Research
Delia Bethell	Midwestern University
Beckman Coulter	

One IVACS member, **Sandra Schneider**, was honored with Lifetime Achievement Award for her years of exemplary research, achievements, and pioneering contributions to the field of cell culture. We thanked Nikon Corporation for their special contributions to this award. Eight IVACS members were presented with the Distinguished Service Award, **Addy Alt-Holland, Michael Dame, John Harbell, J. Denry Sato, Brad L. Upham, Eugene Elmore, and Thomas Flynn**. Student awards were recognized: The 2018 SIVB Cellular Toxicology Award to **Lana Elkins** (Arkansas State University); the Wilton R. Earle and Student Travel Award to **Matt**

COMPETITION WINNERS



Winners of the IVACS Post Doctoral and Oral Presentation Competition were: Lana Elkins, Laura Knighton, and Antony Ketner (not pictured)

Desrosiers (Worcester Polytechnic Institute); and the Honor B. Fell and Student Travel Awards to **Laura Knighton** (UNC Charlotte).

THE 2019 SIVB IN VITRO BIOLOGY MEETING, RETURNS TO TAMPA ON JUNE 8–12. We anticipate an outstanding program due to the efforts of the meeting leadership and session conveners: **Fredy Altpeter** (Program Chair), **Mae Ciancio** (IVACS Program Chair), **Pierluigi Barone** (PBS Program Chair), **Raj Deepika Chauhan** (PBS Sr. Co-Chair), **Angela Labrum**, (PBS Jr. Co-Chair), **Albert Kausch** (Education Chair), **Sepideh Mohammadhosseinpour** (IVACS Student Co-Chair), **Adrienne Brown**, (PBS Student Co-Chair), **Marietta Wheaton Saunders** (Meeting Secretariat), and the Local Organizing Committee, **Fredy Altpeter, Thomas Colquhoun, Zhanao Deng, Manjul Dutt, Elsa-Marie Ulrika Egertsdotter, Marceline Egnin, John L. Griffis, Jr., Alfred Huo, Elio Jimenez, Michael E. Kane, David Lawson, Jonathan Meuser, Randall P. Niedz, Ahmad Omar, Vladimir Orbovic, Peggy Ozias-Akins, Saroj Parajuli, Bhuvan Pathak, Cheryl Peterson, Mahipal Singh, Kankshita Swaminathan, Joyce Van Eck, Wagner Vendrame, Nian Wang, and Zhifen Zhang.**

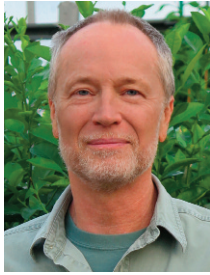
2018–2020 IVACS OFFICERS. We would like to welcome and thank the IVACS officers for their continued dedication and service to SIVB: **Kolla Kristjansdottir** (Midwestern University) for Chair, **Mae J. Ciancio** (Midwestern University) for Vice-chair – Meeting Program, **Andrew W. Truman** (University of North Carolina) for Vice-chair – Membership, and **Matthew Desrosiers** (Worcester Polytechnic Institute) for Secretary. In the same spirit, IVACS would like to sincerely thank **Marietta Wheaton Saunders** (Managing Director), **Michele Schultz** (Publications Manager), and the entire staff of New Beginnings Management for their constant work to execute the daily functions of SIVB and to make possible our annual meetings.

FUTURE ROLE OF IVACS. The 2018 Keynote speaker, **Rachel Haurwitz**, eloquently showed the vital role of continually emerging in vitro discoveries. CRISPR and related technology is revolutionizing gene editing and uses range from basic in vitro biological research, biotechnology development, animal breeding and treatment of diseases. The In Vitro Animal Science Section is ideally positioned to serve as a platform to engage the scientific community with this exciting attention on the field of in vitro biology.

KOLLA KRISTJANSDOTTIR

In Vitro Animal Cell Sciences Section Chair
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PLANT BIOTECHNOLOGY



Randall P. Niedz,
Plant Biotechnology
Section Chair

The 2018 In Vitro Biology Meeting was held June 2–6 in St. Louis, Missouri at the Hyatt Regency St. Louis at The Arch. The Hyatt is in downtown St. Louis within walking distance of the iconic Gateway Arch and Mississippi Riverfront. St. Louis provided the perfect venue for the stimulating presentations, visits with friends and colleagues, establishment of new collaborations, and sharing of ideas that exemplify SIVB meetings.

J. Pon Samuel and **Lama Kdouh** organized a pre-meeting all-day workshop, *Flow Cytometry for Genome Sizing, Editing, and RNA Targeting*, that was presented by Beckman Coulter. Because of the popularity and positive feedback from a previous workshop, *Grow with the Flow: Expand Your Applications in Biological Research with Flow Cytometry* at the 2017 SIVB meeting in Raleigh, NC, this workshop returned to cover additional flow cytometry applications in greater detail. The meeting officially opened with **Rachel Haurwitz** delivering the keynote address. Dr. Haurwitz provided a very stimulating talk on future applications of CRISPR genome editing in agriculture, medicine, and animal health.

The Plant Biotechnology Section Program Planning Committee included **Sadanand Dhekney** (Program Chair), **Pierluigi Barone** (Sr. Co-Chair) and **Raj Deepika Chauhan** (Jr. Co-Chair). The outstanding and diverse Plenary and Plant Symposia included *Genome Editing Technology Development: Cas9 and Beyond*, *Best Practices and Advances in Micropropagation*, *Cell Wall Manipulations Towards Applications*, *Elicitation of Secondary Metabolites in Plants and Metabolite Engineering*, *Commercial Applications of Genome Editing*, *Use of Morphogenic Genes to Improve Genome Modification in Maize and Sorghum*, *Systems to Deliver Genome Engineering Reagents to Plant Cells*, *Consumer Biotech*, *Engineering Photosynthetic Efficiency*, *Opportunities, Challenges and Good Lab Practices in High-Throughput Plant Production Systems*, *Plant*



Attendees travel from all over the world to participate in the SIVB Annual Meetings.

COMPETITION WINNERS



Winners of the Plant Student Oral Presentation Competition were Xiaoting Wang, Lauren A. E. Erland, and Bhuvan Pathak



Winners of the Plant Post Doctoral Oral Presentation Competition were Nguyen Hoang and Ningning Zhang

Hormone and Signal Transduction, *Double Haploid Techniques for Plant Breeding*, *Ethics and Societal Implications of Genome Editing*, and *Recent Advances in Genome Editing for Cassava Improvement*. Two symposia were Cannabis-specific—*Cannabis Micropropagation and Biotechnology and Cannabis Genomics*. **Foaziatu Bukari** and **Tristen Wright** convened a Student Workshop on *Publishing Academic Work: Unmasking Predatory Journals*.

The Plant Biotechnology Section had 35 Plant Symposia Talks, 20 Contributed Papers, 21 Interactive Poster Presentations, and 84 Posters. Student and Postdoctoral Oral Competitions were organized and moderated by **Jeffrey Beringer** and **Geny Anthony**, respectively. **Kyle Mohler**, **Michael Kane**, and **Maren Arling** judged the Student Competition. **Xiaoting Wang** (Arkansas State University) came in first place with her presentation, *Plant Cell-derived Growth Factors for Ex Vivo Mass Production of Red Blood Cells*; **Lauren Elizabeth-Erland** (University of Guelph) came in second place with her presentation, *Tryptophan Mediates Morphogenesis in St. John's Wort (*Hypericum perforatum* L.) Via Interplay Between Auxin- and Indoleamine-dependent and Independent Mechanisms*; and **Bhuvan Pathak** (University of Arkansas) came in third place with her presentation, *Evaluating the Mutation Efficiencies of Two Guide RNA in CRISPR Mediated Transgene Deletion in Rice*. For the Postdoctoral Competition **Nguyen Hoang** (University of California, Davis) came in first place with his presentation, *Development of a Meristem-tip Culture Procedure for Eradication of Cherry Virus-A in Selected Cultivars of Cherry*, and **Ningning Zhang** (Donald Danforth Plant Science Center) came in second place with her presentation, *Acquired Thermotolerance and Heat Stress Memory in *Chlamydomonas reinhardtii**.

The 2018 Plant Biotechnology Section Business Meeting recognized five SIVB members. **Ester Uchendu** received the Young Scientist Award. **J. Pon Samuel** received the Distinguished Scientist Award. **Fredy Altpeter** and **Randall Niedz** received Fellow Awards. **John Finer** received the Lifetime Achievement Award for his

contributions to in vitro culture, biolistic transformation technologies, promoter isolation and characterization, and his teaching and mentoring excellence.

Pierluigi Barone reported at the Business Meeting that \$42,080 was raised from industry and personal contributions to support the 2018 SIVB Meeting. There were many personal contributions that were greatly appreciated, but were too numerous to recognize individually. **Sadanand Dhekney** presented Certificates of Appreciation to the supporting organizations which included Bayer Crop Science, Bayer Vegetable Seeds, BASF, Dow AgroSciences, DuPont Pioneer, Meristematic Inc., Monsanto, and Syngenta.

David Songstad invited members to attend a prepublication preview after the Business Meeting of the CAST (Council for Agricultural Science and Technology) #60 Issue Paper, *Genome Editing in Agriculture: Methods, Applications, and Governance*. CAST Task Force Chair **Adam Bogdanove** presented the paper.

The journal *In Vitro – Plant* continues to publish high-quality papers. The journal had 459 submitted manuscripts. **David Duncan** as Editor-in-Chief encouraged members to submit their manuscripts to the journal, and in particular to consider writing a review article of their research area. **Sylvia A. Mitchell** and **Michael J. Fay** are the Editors-in-Chief of *The In Vitro Report* and welcome all submissions.

The 2019 Meeting will be held in sunny Florida on June 8–12, 2019 in Tampa, Florida at the Tampa Marriott Waterside Hotel & Marina. The Plant Biotechnology Section Program Committee of **Pierluigi Barone** (Program Chair), **Raj Deepika Chauhan** (Sr. Co-Chair), and **Angela Labrum** (Jr. Co-Chair) are planning an outstanding program encompassing a broad range of in vitro research areas from molecular to micropropagation. All members are encouraged to attend what will be an exciting meeting.

On behalf of the officers of the Plant Biotechnology Section, I thank all members who have contributed their time and effort in making 2018 a successful year.

RANDALL P. NIEDZ

Plant Biotechnology Section Chair
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Many student and Post-Doctoral attendees become involved through their mentors, such as Ningning Zhang, pictured here with Maureen Dolan.

HISTORY AND RECORDS

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; **Gertrude C. Buehring** (Co-Chair), University of California, Berkeley; **Barbara B. Doonan**, New York Medical College.; **R. Ian Freshney**, University of Glasgow; **Cynthia L. Goodman**, U.S. Department of Agriculture, ARC, Biological Control of Insects Research Laboratory; **Leonard Hayflick**, University of California, San Francisco; **Wallace L. McKeenan**, Center for Cancer & Stem Cell Biology Institute of Biosciences and Technology (IBT) Texas A&M Health Science Center, Houston, TX; **Tetsuji Okamoto**, Department of Molecular Oral Medicine and Maxillofacial Surgery, Graduate School of Biomedical Sciences, Hiroshima University, Japan; **Jon Ryan**, Consultant Wheaton; Yvonne Reid, American Type Culture Collection and Global Biological Standards Institute (GBSI) Cell Authentication; **J. Denry Sato**, Manazar Project Foundation, and **Guy Smagghe**, Ghent University, Belgium.

The History Society and Records History Committee nominated and supported the 2018 Lifetime Achievement Award for **Sandra L. Schneider**, DrPH, EMBA. Dr. Schneider, CEO, Research & Clinical Laboratory Systems, Associate Editor of *In Vitro Cellular & Developmental Biology – Animal* and past President SIVB was honored for her pioneering contributions to the field of in vitro biology and applications to human disease and cancer treatment. Dr. Schneider pioneered the development of drug and radiation-resistant human neuroectodermal and breast cancer cell lines and hybridomas used as a standard for testing surgical tumors prior to patient therapy. These contributions led to the advancement of translational medical research, clinical practice standardization, military healthcare program development and technology transfer. The award for Dr. Schneider was generously funded by the Nikon Corporation.



Professor Toyoki Kozai

Professor Toyoki Kozai, President of the Japan Plant Factory Association (NPO) and Professor Emeritus of Chiba University has published two cutting edge books focused on greenhouse environmental control engineering. T. Kozai, G. Niu, M Takagaki, et. al, eds., *Plant Factory: An Indoor Vertical Farming System for Efficient Quality Food Production*, Academic Press, 2015 is a cutting-edge reference that provides information on a field that is helping to offset the threats of weather, land shortages and natural

resources to provide food supplies. This book represents the only available resource to take a practical and economical approach to the planning, design and implementation of a plant factory (PF), to yield food crops. Toyoki Kozai, Kazuhiro Fujiwara, Erik S. Runkle, eds., *LED Lighting for Urban Agriculture*, Springer, 2016 is a companion text focusing on the commercial production of horticultural crops in plant factories and greenhouses with controlled environments.

Dr. Kozai holds a BS degree in Horticultural Sciences from Ciba University, and Master and Doctoral degrees in Agricultural Engineering from the University of Tokyo. Dr. Kozai's early career was focused on greenhouse environmental control engineering. After establishing computer controlled plant production in a closed system with artificial lighting, his scientific interests extended to in vitro environments under artificial light and controlled for sugar-free medium micro-propagation.

Dr. Kozai served as Dean of Faculty of Horticulture and Director of the Center for Environment, Health and Field Sciences and then as President of Chiba University. In addition to his R&D leadership and international conference lecturer role at the Japan Plant Factory, he is Professor Emeritus, Endowed Chair at the Center for Environment, Health and Field Sciences, Chiba University.

Dr. Kozai's recognitions and awards include: the SIVB Lifetime Achievement Award (2009), 2002 Purple Ribbon Award from the Japanese Ministry of Education, Culture and Sports, Japan Prize of Agriculture Sciences from the Association of Japanese Agricultural Scientific Societies, and many other awards. He has published in English over 200 refereed papers, more than 50 book chapters and more than 10 books.

The History Society recognizes the passing of SIVB members and colleagues, **Roland Nardone, PhD, Arthur McIntosh, ScD, and R. Ian Freshney, PhD**. Dr. Nardone, a longtime professor at Catholic University of America and one of the loudest voices in speaking out against cell-line contamination passed away June 20, 2018 at the age of 90. One of Dr. Nardone's most important career achievements was his workshop on Life Science Techniques and the development of the Center for Advanced Training at Catholic University. Although Dr. Nardone retired in the 1990s, he did not stop working. In 2005, he took up the cause for improving research regarding cell-line contamination and cell line authentication. His 2007 letter to the US Department of Health and Human Services detailing his concerns and outlining solutions is lauded by the cell-line authentication community as having had a critical role in NIH's decision to push for authentication of cell lines, biologics and chemicals used in NIH grant applications.

Dr. Art McIntosh a pioneer in insect culture passed away January 12, 2019 at the age of 84. After receiving his Sc.D. degree in Microbiology at the Harvard School of Public Health, his collaborations with Dr. Karl Maramorosch led him into insect cell culture and insect virology. During his tenure and positions at the USDA/ARS Biological Control of Insect Research Laboratory (BCIRL), Dr. McIntosh developed a unique insect culture medium, a novel technique for cloning insect cells, was one of the first to study insect viruses in insect and vertebrate cell lines and

made significant contributions to understanding baculoviruses. He earned the ARS Invention Award, won the Australian McMaster Fellowship as visiting scientist at the Commonwealth Scientific and Industrial Research Organization and held SIVB Fellow status. Dr. McIntosh was an active TCA/SIVB member, and served as the Chair of the Invertebrate Division and on the Program and Education Committee.



R. Ian Freshney, PhD, a cancer biologist, emeritus pioneer in cell culture techniques, international lecturer, mentor and lifetime friend, and Society colleague, passed away January 6, 2019 at age 80. Dr. Freshney started his research career under the supervision of Professor John Paul in the Department of Biochemistry at Glasgow. He joined the Beatson Institute, then the Cancer Research Department of Medical Oncology at Glasgow University, as senior lecturer and laboratory administrator in experimental pathology, medical biochemistry, immunology, and cancer care until his retirement in 1998. Dr. Freshney's research career spanned nearly 40 years dedicated to tumor cell culture, cellular differentiation and the development of a predictive chemosensitivity test for brain tumors.

A generous man, Dr. Freshney credited a great deal of his research efforts and technology to those he worked with, such as Diana Morgan, Margaret Frame, John McLean, Elaine Hart, Bob Auerbach, Dick Ham, Wally McKeehan, Carol McCormick and Natasha Yevdokimova, as well as to those colleagues he had been privileged to work alongside, and whose help and advice he greatly appreciated, including: Patrick Fottrell, Frank Ruddle, Robert Brown, Nicol Keith, Stan Kaye and Ken Calman.

Dr. Freshney was President of the European Tissue Culture Society, where he received the 1994 commendation for outstanding contribution to tissue culture research. In 2001 he received the SIVB Lifetime Achievement Award in recognition of his exemplary cancer research achievements and pioneering contributions to the field of cell culture. Dr. Freshney also played a leading and critical role in raising awareness to the extensive problems associated with the misidentification of cell lines through cross contamination. His contributions led to the 2010 Register of Misidentified Cell Lines, now curated by the International Cell Line Authentication Committee (ICLAC).

In addition to his contributions to medical oncology, Dr. Freshney's historical and outstanding contributions to the science of cell culture are recognized in his series of works, the most well recognized of which is the text "Culture of Animal Cells – A Manual of Basic Techniques" now in sixth edition. He also edited and co-edited other major works to include: "Animal Cell Culture – A Practical Approach"; "Culture of Immortalized Cells" (co-author Mary Freshney), "Culture of Epithelial Cells", and "Culture of Hematopoietic Cells" (co-authors Mary Freshney and I.B. Pragnell).

SANDRA L. SCHNEIDER

History and Records Committee Chair
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STANDING COMMITTEES

AWARDS

The Awards Committee consisting of **Mary Welter** (Chair, Plant Biotechnology), **Ming Cheng** (Vice Chair, Plant Biotechnology), **Michael Dame** (Chair, In Vitro Animal Cell Sciences), **Kolbrun Kristjandottir** (Vice Chair, In Vitro Animal Cell Sciences) and **Maria M. Jenderek** (Chair) discussed and recommended for approval the 2018 Award winners. The Committee made efforts to inspire all Society members to nominate accomplished colleagues and the response was very positive. The Committee would like to express a deep appreciation to all Nominators and congratulate the 2018 Awardees; job well done and the awards truly deserved. The Society has outstanding members who make our organization successful and of interest to young scientists and students. The awards criteria are posted at the SIVB website <https://sivb.org/awards.html>

2018 Awards Lifetime Achievement Awards

Dr. John J. Finer (PBS) and Dr. Sandra L. Schneider (IVACS) won the 2018 Life Achievement Award.

Dr. John Finer received his PhD from Texas A&M University in 1984, and did a post-doc at Ciba-Geigy with Mary-Dell Chilton before he joined the faculty at the Ohio State University in 1986. His main scientific accomplishments are the establishment of embryogenic suspension cultures systems for many plants, including soybean and cotton. His lab was the first university lab to report consistent generation of transgenic soybean, cotton and maize using particle bombardment of embryogenic suspension cultures. He developed the "10A40N" medium, which later became known as "Finer and Nagasawa" medium for growing embryogenic cultures of soybean. In the early 1990's, he constructed an inexpensive and easy-to-assemble gene gun, which he called the PIG (Particle Inflow Gun). The PIG is in widespread use for gene introduction in labs all over the world. With his post-doc Harold Trick, they developed SAAT (Sonication Assisted Agrobacterium-mediated Transformation), which also remains in widespread use in many plant transformation laboratories. SAAT was patented and licensed, and has become a base technology for many of the commercial transgenics in the field today. While Finer continues to work to improve tissue culture and transformation efficiencies in plants (mostly soybean), his more recent research efforts have shifted to isolation and characterization of promoters using GFP and genome editing approaches. He has developed a toolbox of soybean promoters and has characterized many of them, identifying the regulatory elements within the promoters that contribute to gene expression. A Glycine max ubiquitin (Gmubi) promoter has received the most attention, and elements within both the promoter and the 5'UTR intronic region were identified. Finer published nearly 100 peer reviewed articles. He became a member of SIVB in 1995 and has served the Executive Committee as a Member-at-Large and Secretary; Vice-chair and Chair of the plant division; and Associate Editor, Reviews Editor, and

THE LIFETIME ACHIEVEMENT AWARD

The Lifetime Achievement Award, initiated in 1991, is the highest award given by the Society to those scientists who have achieved academic excellence in their field of study; to honor those who have made significant contributions to the field of in vitro biology and/or in the development of novel technologies that have advanced in vitro biology. The emeritus scientists that have been recognized and received the Lifetime Achievement Award to date include:

NAME	YEAR
Richard G. Ham, PhD	1991
Toshio Murashige, PhD	1991
Judah Folkman, MD	1992
Folke Skoog, PhD	1992
Leonard Hayflick, PhD	1995
Nelly Auersperg, MD, PhD	1997
Katherine K. Sanford, PhD	1997
Joseph Leighton, PhD	1998
Sergey Fedoroff, PhD	1999
James L. Vaughn, PhD	2000
Atsushi Komamine, DSc	2000
Jun Mitsuhashi, PhD	2000
Karl Maramorosch, PhD	2001
June A. Bradlaw, Ph.D.	2001
R. Ian Freshney, PhD.	2001
Sadar S. Sohi, PhD.	2002
Gordon A. Sato, Ph.D	2002
Thomas Grace, PhD	2004
Trevor Thorpe, PhD	2004
Walter Nelson-Rees, PhD	2004
Oluf Gamborg, PhD	2005
Robert Langer, ScD	2005
Wei-Shou Hu, PhD	2006
Bob Conger, PhD	2006
Vimla Vasil, PhD	2007
Indra K. Vasil, PhD	2007
Jack M. Widholm, PhD	2008
Toyoki Kozai, PhD	2009
Glenn B. Collins, PhD	2009
Christopher J. Bayne, PhD	2009
Masayoshi Namba, MD	2009
Peggy G. Lemaux, PhD	2010
Wilf A. Keller, PhD	2010
Donald E. Ingber, PhD	2010
Niels C. Bols, PhD	2012
Wallace L. McKeenan, PhD	2012
William J. Smith, PhD	2013
Paul J. Price, PhD	2013
Michael E. Kane, PhD	2014
David W. Barnes, PhD	2014
Gertrude Case Buehring, PhD	2015
Delia R. Bethell, PhD	2015
Eugene Elmore, PhD	2016
Yvonne A. Reid, PhD	2016
J. Denry Sato, DPhil	2017
Gregory C. Phillips, PhD	2017
Sandra L Schneider, DrPH	2018
John J. Finer, PhD	2018
Tetsuji Okamoto, DDS, DPhil	2019
Barbara Reed, PhD	2019

Editor-in-Chief for the society journal, *In Vitro Cellular and Developmental Biology – Plant*.

Dr. Sandra Schneider is currently the Principle & CEO of Research & Clinical Laboratory Systems (Helotes, Texas). She has been a member of the TCA/SIVB since January, 1985 (33 years). She is past-president of SIVB, Fellow of Cellular Toxicology at the SIVB, SIVB Distinguished Service Awardee, Associate Editor of *In Vitro Cellular & Developmental Biology Animal* and the Chair of History Society/Committee of the SIVB. Dr. Schneider is a well-known and respected member of the international in vitro biology and scientific community as an expert in clinical research trials design and methodology, contributing to advancement of translational medical research as well as military healthcare program development. This included pioneering the development of drug and radiation-resistant human neuroectodermal and breast cancer cell lines and hybridomas used as standards for assessing surgical tumors to formulate patient therapy. The main focus of Dr. Schneider's pioneering *in vitro* biology work was the development of cell lines used as standards for assessing patient tumors to assist in the design of patient therapy and clinical research trial methodology, participated in over 20 clinical trials. Specifically, she developed novel drug and radiation-resistant human neuroectodermal and breast cancer cell lines and hybridomas. Dr. Schneider is affiliated with 18 professional societies, including Women in International Security (WIIS) and the World Affairs Council. She has been a presenter at numerous international symposia including a keynote address at the Tokyo University and 79th Annual Japanese Tissue Culture Association International Conference (2006). Dr. Schneider has served as SIVB President, Vertebrate Section Chair, Developmental Committee Chair, Program Chair, Laboratory Materials & Biosafety Chair and is currently Chair of the History & Records Committee. As President, she was instrumental at forging ties with the Japanese Tissue Culture Society and the Japanese Association of Animal Cell Technologies.

Fellow Awards

Dr. Fredy Altpeter (PBS) and Dr. Randall Niedz (PBS) won the Fellow Award.

Dr. Fredy Altpeter is widely recognized as world expert on the transformation of grasses/turfgrasses and the use of gene editing to enhance the production of value-added products. He uses a wide variety of tools that include precision genome editing, synthetic biology and molecular dissection of regulatory networks. His research focus is on identifying, isolating and engineering limiting factors for genetic improvement for biomass/bioengineering grasses for the generation of next generation of biofuels and chemicals. He has recruited and mentored many students as faculty member of U. of FL. He has mentored 25 Postdoctoral students, chaired 18 graduate student committees, trained 46 undergraduate students and hosted 23 visiting scientists. His outreach to the scientific community includes being associate editor for *The Plant Genome*, *Crop Science*, *Plant Cell Tissue and Organ Culture: Journal*

of *Plant Biotechnology*, and subject editor for *Plant Breeding*. He has also been an active and very supportive member of SIVB for 11 years while serving in many capacities. He has served on Board of Directors for 2 different terms, Program Chair for World Congress (2012), Chair PBS section (2010–2012), Chair, co-chair and Jr-chair of PBS program committee (2007–2009). In addition, Dr. Altpeter has served on the Awards Committee, a member of the Long-Range Planning Committee, a member of the Membership Committee along with chairing numerous sessions over the years. Dr. Altpeter has made efforts to speak to the corporate attendees at SIVB meeting to ensure attendees were getting valued experience to ensure long term corporate funding.

Dr. Randall Niedz has shown developed novel *in vitro* methods for citrus plant improvement. Some of the technologies that he has developed are also useful to the *in vitro* culture and manipulation of other plant species, and his work on *in vitro* mineral nutrition methods has broad implications to any scientific field that utilizes ions—biology, ecology, medicine, chemistry, and physical chemistry. Some of his most significant discoveries include 1) the first demonstration of the green fluorescent protein (GFP) from a bioluminescent jellyfish in plants; 2) the first report that demonstrated the use of an industrial biocide, the isothiazolone compounds, in plant tissue culture to address the problem of culture contamination; 3) the discovery of a new and novel technology to normalize somatic embryogenesis utilizing semi-permeable membranes composed of regenerated cellulose; 4) the development of an algorithm that solves the long-standing problem of ion confounding in experimental biology, plus software to easily implement and use the algorithm in making ionic formulations (e.g., tissue culture media); and 5) the development of a conceptual framework, and software, for treating ions as independent statistical factors, resulting in an improved approach to the design of culture media, that has resulted in commercial products and usage. For the SIVB, Randy has been active with reviewing and editing for *In Vitro Cellular and Developmental Biology – Plant* and has been associate editor since 2003. In addition, Randy has contributed regularly to the annual meetings; both by organizing sessions and by speaking in sessions (attended 16 meetings, presented 29 papers). He has had oral and poster presentations at all attended meetings since 1986. Site Coordinator and Organizer of IAPB meeting *Plant Micropropagation – Technology and Production*, Orlando, FL, May 4-5, 2004. He has convened sessions, symposia, hosted a workshop, been a panel judge for the student oral competition and moderated the poster session. Dr. Niedz publishes in the society journal on a regular basis, thus further supporting SIVB. Randy has published 80 peer-reviewed articles, 6 conference proceedings, 4 software programs, 20 invited lectures, seminar and symposia. In addition, he has been an academic editor of *PLoS ONE* since 2011 and reviewed over 150 manuscripts. He is a member of the ARS National Biotechnology Patent Committee since 1993.

2018 AWARD WINNERS

LIFETIME ACHIEVEMENT



John J. Finer



Sandra L. Schneider

FELLOW



Fredy Altpeter



Randall Niedz

DISTINGUISHED SCIENTIST



J. Pon Samuel

DISTINGUISHED SERVICE



Addy Alt-Holland



Raj Deepika Chauhan



Michael K. Dame



John W. Harbell



Maria M. Jenderek

YOUNG SCIENTIST



Esther Uchendu



J. Denry Sato



Shubha B. Subbarao



Brad L. Upham



Veena Veena



Mary Welter

STUDENT



Mathew Desrosiers



Lana Elkins



Lauren A. E. Elrand



Michelle McKee



Bhuvan Pathak



Tristan Wright



Abdelrahem Yousef

COMPETITION



Winners of the 2018 Student Poster Competition were: Cristofer Calvo (first place), Neha Verma (second place), and Tristan Wright (third place).

Distinguished Scientist Award

Dr. J. Pon Samuel won the 2018 Distinguished Scientist Award.

Dr. J. Pon Samuel is recognized as an innovative research scientist whose breadth and depth of knowledge for plant cell biology and plant physiology has made him the “go to” and “gets things done” scientist at Dow AgroSciences (DAS). His ability to understand complex mechanisms and plant interactions has led to the discovery and development of new crop protection chemicals. The Enlist Weed Control system has been lauded as the most important and large-scale cross-discipline product development in the history of DAS. His innovations in in vitro biology include the development of nanocarrier technology, the use of PEG to develop a very high throughput and robust ZFN cutting efficiency testing assay, the development of novel plant suspension cultures (green maize suspensions and whole host of plant suspension cultures), and development of haploid/dihaploid plant systems. He has often tackled many challenges that were thought to be a high risk for failure. Pon’s passion and deep curiosity for science has often led him to success where many others have failed. His innovations has led to the publication of 22 peer-reviewed journal articles, 19 granted patents and patent applications, four book chapters and eight conference meeting abstracts. He’s also the recipient of three DAS innovation awards that are reserved for scientist’s work with the most impactful research. What cannot be captured in simple words is the impact Dr. Samuel has had as mentor to his students he taught in India and his co-workers at DAS. Even though it was 28+ years ago, many of his former students provided letters of support for his nomination. He’s been known to prevent some of his students from dropping out of school (due to lack of funds) and one that has since become a distinguished scientist at NIH National Cancer Institute. He continues to mentor scientists (at all levels) as Principle Research Scientist at DAS including upper management to educate them on what is and is not possible in the realm of plant biotechnology. To say he is beloved by the folks he has mentored while at DAS would be an understatement. His nomination packet included 18 letters of support of which most, if not all, underscore the impact Pon’s mentorship has had on their careers.

Young Scientist Award

Dr. Esther Uchendu won the Young Scientist Award.

Dr. Esther Uchendu is an emerging leader in plant preservation, a field of critical importance. Of her many contributions to germplasm preservation (medicinal plants, tropical plants, and fruit crops) include her roles as Research Supervisor at the International Institute of Tropical Agriculture, Graduate Research Assistant with USDA-ARS, Postdoctoral fellowship at the University of Guelph, Lecturer and workshop trainer in cryopreservation at University of Ibadan and her current role with Postdoctoral Fellow at the National Center for Natural Products Research at the University of

Mississippi. In establishing standardized protocols for cryopreservation and germplasm preservation she has published 13 peer-reviewed original articles, three book chapters and one conference proceeding. As her role as University lecturer (four graduate courses and 4 undergraduate courses) and the head of Biotechnology Laboratory (Dept. of Agronomy at University of Ibadan) she has mentored 10 master students, two undergraduate and one PhD student. She has received several awards and grants, has been a reviewer for local and international journals and is Chairperson of the Dept. of Crop Museum Committee in Nigeria. Several of her supporters have noted that she has achieved significant scientific achievements in different regions of the world despite her physical limitations and many cultural differences. As such it makes her a strong female role model within SIVB and in her current department at the University of Ibadan.

Student Awards

The evaluating committee this year consisted of **Pamela Weathers** (Chair), **Vivian Dayeh**, **Jessica Rupp**, **Albert Kausch**, 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 2018 meeting. The **Wilton R. Earle** and **Student Travel Awards** were presented to **Matthew Desrosiers**, Worcester Polytechnic Institute, Worcester, MA for “Absorption Distribution Metabolism and Excretion of the Antimalarial Drug Artemisinin Delivered Orally as Dried Leaves of *Artemisia annua*.” The **Philip R. White Award** was given to **Tristen Dewayne Wright**, Arkansas Biosciences Institute, State University, AR, for “Engineering Plant Cell Walls with ‘Designer’ Glycopeptides for Improved Biomass Processability.” The **Joseph F. Morgan** and **Student Travel Awards** were given to **Lauren Alexandra Elizabeth Erland**, University of Guelph, Guelph, ON, Canada for “Tryptophan Mediates Morphogenesis in *St. John’s Wort* (*Hypericum perforatum* L.) via Interplay Between Auxin- and Indoleamine- dependent and Independent Mechanisms.” The **Cellular Toxicology Award** was presented to **Lana Elkins**, Arkansas State University, Jonesboro, AR for “Recombinant Production and Bioactivity of Catfish Interleukin-22 as a Natural Immune Stimulant for Improved Aquaculture Fish Health.” The **Hope E. Hopps** and **Student Travel Awards** were given to **Abdelrahem Yousef**, Agriculture Research Centre, Giza, Egypt for “Effect of Oxalic Acid (OA) Phytotoxins of (*Sclerotium Cepivorum*) Fungi on Onion Plants and Contents of Some Biochemical Compound.” The **Honor B. Fell** and **Travel Awards** were presented to **Laura Knighton** of UNC Charlotte, Charlotte, NC for “The Role of Kar2/Scj1 Complex in the DNA Damage Response.” The **John S. Song Award** was given to **Michelle Casserly McKee**, Worcester Polytechnic Institute Worcester, MA for “Engineering Mammalian Caspase to Develop a Novel Selection System for Paclitaxel-accumulating Cells in *Taxus*

Plant Cell Culture.” **Student Travel Awards** also were given to **Meenakshi Raina**, Central University of Jammu, Jammu, JK India for “Molecular Marker-assisted Pyramiding of Semi-dwarf and Bacterial Blight Resistance Genes in Indian Rice Variety Ranbir Basmati,” and to **Bhuvan Pathak**, University of Arkansas, Fayetteville, AR for “Evaluating the Mutation Efficiencies of Two Guide RNA in CRISPR Mediated Transgene Deletion in Rice.” Certificates were presented at the SIVB Business Meeting on June 5, 2018 to honor these exceptional students.

MARIA M. JENDEREK

Awards Committee Chair
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PAMELA J. WEATHERS

Student Affairs Committee Chair
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CONSTITUTION AND BYLAWS

No items were brought to the Constitution and Bylaws Committee either by the Board of Directors or members of the Society. Should you wish to suggest improvements to our governing documents or volunteer to assist in preparing recommendations, you may reach out to the Committee Chair or Managing Director with your thoughts.

MARIETTA WHEATON SAUNDERS

Managing Director
sivb@sivb.org

THEODORE KLEIN

Constitutions and Bylaws Chair
theomklein@gmail.com

DEVELOPMENT

The Development Committee helps to secure financial support for the Society and its annual meeting. In 2018, the core members of this team included **Piero Barone**, **Raj Deepika Chauhan**, **John Harbell**, **Brad Upham**, **Michael Dame**, and **Sukhpreet Sandhu** (Chair). This core team was supported by IVACS and PBS members who helped to generate contributions for the 2018 In Vitro Biology Meeting. We offer our thanks to Piero and Deepika who made an outstanding effort by actively identifying prospective donors and working with SIVB members to gain support from companies, to **Sadanand Dhekney** for his efforts in grant writing on behalf of the SIVB, and to **John Harbell** for his continued involvement in securing contributions for the IVACS section. We received contributions from 20 companies and 8 individual contributions. We generated \$98,279.24 in contributions. Significant contributions were secured from Bayer CropScience in support of the Plant Program and from Beckman Coulter to support a Flow Cytometry Workshop. This workshop is in its second year and is a great addition to the In Vitro Biology program. Such a partnership with key companies can be a model to generate funding for SIVB in the future.

We appreciate the support from several individual contributors who have been long time members of SIVB. It goes to show their

commitment and belief in SIVB’s mission. We continue to urge SIVB members to help in this pursuit. We appreciate your ideas for alternate sources of funding and relying on your networks. We are trusting on support from all SIVB members to help us secure a thriving future of SIVB.

Support for SIVB came from the following funding sources: Alternatives Research & Development Foundation, BASF Plant Science LP, Bayer CropScience, Bayer Vegetable Seeds, Beckman Coulter, Benson Hill Biosystems, Dow Dupont, DuPont Pioneer and Dow Agrosociences, JHarbell Consulting LLC, JV Biolabs, Meristematic, Inc., Midwestern University, MilliporeSigma, Monsanto, National Corn Growers Association, NAVS/IFER, NIKON Corporation, STEMCELL Technologies Canada Inc., Syngenta, and The Scotts Miracle Gro Company. Individual contributors are Barbara Doonan, Carlos Hernandez-Garcia, Delia Bethell, Dwight Tomes, Kolla Kristjansdottir, Ning Zhang, Robert and Gale Lawrence, and Zhifen Zhang.

SUKHPREET SANDHU

Development Committee Chair
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EDUCATION

The Education Committee has the task to further the educational goals of the Society for In Vitro Biology (SIVB). Over the years, the committee has worked together with the Student Affairs Committee to provide a number of engaging events at the SIVB annual meeting.

The Education Committee includes an outstanding group of participants. The Committee is currently under the chairmanship of **Albert Kausch**, University of Rhode Island, and includes: **Addy Alt-Holland**, Tufts University, **Daniel J. Barnes**, Mississippi State University, **Yinghui Dan**, Syngenta, **Vivian Dayeh**, University of Waterloo, **Michael E. Kane**, University of Florida, **Sylvia Adjoa Mitchell**, University of the West Indies, **Kerri Allison Neugebauer**, Kansas State University, **Valerie C. Pence**, Center for Conservation and Research of Endangered Wildlife Cincinnati Zoo & Botanical Garden, **Jessica L. Rupp**, Montana State University, **Carol M. Stiff**, Kitchen Culture Kits, Inc., and **Margaret M. Young**, Elizabeth City State University. The current Student Committee Chairs were elected at the 2018 meeting and are: **Adrienne Brown**, PBS Student Co-Chair, Tuskegee University and **Sepideh Mohammadhosseinpour**, IVACS Student Co-Chair, Arkansas State University.

In 2018, the SIVB reviewed and is now hosting a video recorded Lecture Series titled *Issues in Biotechnology* on our website under Educational Opportunities. The applications and developments in biotechnology are among the most provocative and socially relevant topics today. This Lecture Series by Dr. Albert Kausch is widely accessible and intended for a broad audience; including members of the general public, those involved in the associated industries (both scientists and non-scientists), teachers, students of all levels and majors and is free to members and non-members of SIVB as an

open resource. This Series provides information on many perspectives for wide-ranging topics in biotechnology today. These lectures can be viewed as an entire series or selected individually. They provide an excellent resource for teachers (HS and up), instructors, and professors. The Series includes Study Guide questions which can be used on assessments, as well as polling questions for discussion purposes.

The events that had been planned for the 2018 meeting last June in Saint Louis were very successful and new plans have been developed for next year and the future. The general focus of the meeting last June was on genome editing and several education events encompassed this theme as well. One contribution from the Education Committee had been the presentation of a featured Plenary Session on this topic in terms of education stewardship, regulatory issues, and governance. This session was co-convened by Addy Alt-Holland and Albert Kausch.

Another outstanding session that was presented and well attended was the student workshop entitled, **Publishing Academic Work: Unmasking Predatory Journals**. The Conveners were 2018 Student Co-Chairs: **Foaziatu Bukari**, Tuskegee University, and **Tristen D. Wright**, Arkansas Biosciences Institute. The workshop allowed for ample discussion about publications in general with contributions by David Duncan, *In Vitro Cellular and Developmental Biology – Plant*; **Barbara B. Doonan**, *New York Medical College*; and, **John Finer**, *The Ohio State University*.

On the afternoon of Monday, June 4, the **Student Networking Luncheon: Employer Engagement** was held and well attended. The conveners were: Foaziatu Bukari, Tuskegee University, and Tristen D. Wright, Arkansas Biosciences Institute. The panelists included: **Allan Wenck**, Bayer CropScience; **Michael E. Kane**, University of Florida; and **Mae J. Ciancio**, Midwestern University. This session was well accepted by the students regarding the various interests for their futures (i.e. academic, industry, etc.).

The evening session on the July publication of the **CAST Issue Paper on Genome Editing in Agriculture: Methods, Application and Governance** was absolutely great. The publication sets a high standard for papers on this topic for the future and complemented the genome editing theme of the conference. The convener was **Kent G. Schescke**, CAST, Executive Vice President, with the talk given by **Adam Bogdanove**, Cornell University, titled **“Genome Editing in Agriculture—Methods, Applications, and Governance.”** This also is a valuable educational resource.

The Student Affairs Breakfast was held on Tuesday morning. The 2018 SIVB meeting included a poster presentation competition with prizes awarded during the Tuesday SIVB Business Meeting. As with all other forms of research presentation, students were judged on the overall quality of their presentation and work.

Lastly, another major contribution towards educational function for SIVB was on Wednesday as a special session titled: **Ethics and Societal Implications of Genome Editing**, also keeping in theme



Student members take an active role in participating in the meeting by making presentations, moderating sessions, and participating in the various workshops, competitions, and social events.

with the 2018 meeting. The conveners: were Albert Kausch, University of Rhode Island, and Addy Alt Holland, Tufts University. This session was well attended (considering that it was on Wednesday of the meeting). It should be noted however that it was very difficult to locate a speaker to contribute to the ethical and societal impacts of genome editing on humans or animals. Albert Kausch, presented a broad talk titled **Public Policy, Societal Impacts, and Considerations for Advanced Biology, Genomics and Gene Editing in Pharmaceutical, Medical and Agricultural Applications**. He since has been asked to speak on this topic elsewhere as a result. **Hector Quemada**, from The Donald Danforth Plant Science Center, presented on **Advanced Breeding Tools: New Opportunity for Developing Countries and Public Sector Breeding Programs**. Hector’s talk focused on the likely regulatory issues associated with genome editing with an emphasis on issues in developing countries.

The Education and Student Committee Chairs would like to thank those who helped to plan and execute the successful student and education programs at the 2018 In Vitro Biology Meeting, especially Student Co-Chairs, Foaziatu Bukari and Tristen D. Wright.

The Educational Program for the 2019 Meeting will begin with a workshop based on **Advanced Flow Cytometry Applications and Data Analysis**. There will also be a solid program focusing on student growth and professional development. In addition to the Oral Presentation and Poster competitions being offered by the sections, the student Co-Chairs, **Adrienne Brown**, Tuskegee University and **Sepideh Mohammadhosseinpour**, University of Arkansas, have developed three sessions for this year’s event, **A Hands on RNA-seq Workshop Using the CyVerse Computational infrastructure** in which **William Bradley Barbazuk** from the University of Florida will provide a hands-on introduction to the software and analysis pipelines using RNA-Seq data. Also, a **Networking Luncheon** which will provide students with a chance to interact with professors and experts from various fields to discuss topics such as: Life after Graduate School (both

academia and industry tracks), Coping Mechanisms (how to handle the stressors of graduate school), Publish or Perish (how important are publications and how to overcome obstacles during your writing period), Dealing with Loss (losing a loved one during graduate studies can increase anxiety), Graduate Life and Family Balance, Finding Resources, How to Build a Better Relationship with Your Advisor, and Developing Your Own Lane (professionals will be present to discuss topics such as intellectual property, patents, developing your own scientific company), and, lastly, a **Non-competitive Oral Presentation** session to help students who are looking to gain experience in presenting scientific information, as well as for those who are developing effective scientific presentation skills.

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LONG-RANGE PLANNING

The Long-Range Planning Committee is a standing committee of the SIVB charged with developing strategic ideas for the long term sustainability of the society. Charing the committee is one of the duties of the President–Elect for the board. As Incoming Chair, I want to re-emphasize the points of the strategic plan previously adopted by the board. The overarching goal: expand, convey and promote the embedded knowledge and experience of in vitro science. I would like to further build on this plan through assured implementation. We as a society must commit to each other and rally around these goals.

1. Promote and enhance the knowledge base and information exchange of in vitro science.
 - a. Build our journals by promoting and choosing to submit publications first to *In Vitro*.
 - b. Volunteer as a scientific reviewer and hold submissions to the rigorous standards of research excellence.
 - c. Encourage and engage in scientific debate and develop the skills of our students and selves through our annual meeting.
2. Promote scientific competencies among professional, educational and lay audiences.
 - a. Strengthen scientific education within our communities.
 - b. Defend scientific standards of excellence.
 - c. Promote educational outreach.
 - d. Mentor our students.
 - e. Promote broader understanding of in vitro technologies.

3. Promote the professional development of members.
 - a. Recognize and reward excellence.
 - b. Challenge each other to actively participate in the annual meeting, the board, and the sections.
 - c. Promote member stories of challenges and successes.
 - d. Provide mentorship and coaching to our students, post docs, and young scientists.
4. Insure the financial practices, annual meetings and other activities of the society are conducted effectively and in a fiscally sound manner allowing for the continuation and expansion of the SIVB.
 - a. Actively support our development committee.
 - b. Pursue new funding opportunities.
 - c. Develop and challenge members to take ownership of the society’s finances and contribute to the society through new program and giving opportunities.
 - d. Develop long range, future proof funding methods.
5. Insure continuity of the activities of the society.
 - a. Recruit and continue to develop and mentor student and post-doc members.
 - b. Recruit new members and maintain current members.
 - c. Challenge all members to take on roles and train for roles within the sections and the board.

These are but a few of the activities that we as a society need to focus on for long term sustainability. We are strong but are constantly being challenged. Corporations merge making funding sources scarcer. Remaining members within these corporations are squeezed by shrinking budgets and closer scrutiny of travel for conferences. Open source literature is both an opportunity for communication, but also a financial challenge. We as a society need to communicate the importance of what we do and live that importance. I challenge all members – starting with the board – to submit stories of how the society has helped you and your career. I challenge all members to share with their corporate boards and departments what the society means to you and how it helps you in your scientific career. I challenge both animal and plant sections to strengthen their efforts at attracting and retaining members. Our members are our talent and our existence!

ALLAN WENCK

Long-Range Planning Committee Chair
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LABORATORY MATERIALS AND BIOSAFETY

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 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: **Linda B. Jacobsen** (Chair); **Sandra L. Schneider** (Co-chair), Research and Clinical Laboratory Systems; **Walter Finkbeiner**, University of California-San Francisco; **Thomas Goodwin**, Sovaris Aerospace; **John Harbell**, JHarbell Consulting, LLC.; **John Masters**, University College London, Institute of Urology-UK; **Tohru Masui**, JCRB Cell Bank, Division of Bioresources, National Institute of Biomedical Innovation, Osaka, Japan; **Colette J. Rudd**, Rudd & Associates; **Lynn Rutsky**; The University of Texas Health Science Center Houston; **Glyn N. Stacey**, National Institute for Biological Standards and Control-UK; and **Alda Vidrich**, University of Virginia Health Sciences Center.

Cell Line Authentication remains a critical in vitro industry issue. With the recent passing of well-respected scientists, Drs. **Ian Freshney** (<https://www.heraldscotland.com/opinion/17394889.obituary-r-ian-freshney-cancer-biologist-and-pioneer-in-cell-culture-techniques/>) and **Roland Nardone** (<https://www.the-scientist.com/news-opinion/roland-nardone--advocate-for-cell-line-authentication--dies-64476>) who spent their careers and voices influencing and advocating for cell line authentication, it is even more important for scientific societies and journals to take a firm stance on setting strict standards. Although commercial cell banks have set “suggested” guidelines, academic research institutions have little concern or interest requiring the training of students, or post doctoral fellows in “best practices.” In an effort to improve the medical and pharmaceutical industry using human cell lines, NIH has responded with new guidelines and requirements for submitting cell-based grant applications. These requirements can be found at the links: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-068.html>; <https://grants.nih.gov/reproducibility/>

<https://nexus.od.nih.gov/all/2016/01/29/authentication-of-key-biological-and-or-chemical-resources-in-nih-grant-applications>; <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-103.html>. NIH has initiated the setting of biological and chemical requirements, but they only respond to pressure from the scientific community, including societies and journals that take a firm stance on Cell Line Authentication Standards.

SanBio Co., founded in 2001 by **Toru Kawanishi** and **Keita Mori**, focused the development and use of SB623 human bone marrow modified stem cells to restore function to patients with traumatic brain and spinal injuries, neurological disorders, Parkinson’s disease, and stroke. In 2013, SanBio moved to Japan to take advantage of Japan’s anticipated pharmaceutical regulatory law revisions to initiate clinical trials. On November 1, 2018 SanBio’s phase 2 SB623 clinical trial demonstrated that patient’s with traumatic brain injury had statistically improved motor function over a control group. Based on these clinical trial results, SanBio anticipates and has targeted January 2020 for Japan to approve marketing of SB623 neuro rescue cells as a regenerative medical treatment.

SANDRA L. SCHNEIDER

Laboratory Materials and Biosafety Committee Co-chair
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MEMBERSHIP

Membership is a key factor in the success of SIVB. There are several benefits to membership including networking with scientists with similar SIVB related interests, access to publications in SIVB journals, and discounts on registration at the SIVB annual meeting. At the end of 2018, total membership of 437 members included 81 Emeritus Members, 3 Honorary Members, 6 Life Members, 274 Regular Members, 68 Student Members and 5 Post Doctoral Members.

Membership saw an increase of 6.12% in 2017 and a 3.32% decrease in 2018. The membership committee met during the 2018 annual meeting to discuss possible strategies to recruit new members. The SIVB office sent out emails and letters to lapsed members to reintroduce them to the benefits of SIVB membership. The 2018 Annual Meeting local organizing committee and membership committee connected with potential meeting attendees to encourage them to join the Society. This endeavour has continued for the 2019 Annual Meeting in Tampa. We expect membership to increase following these two membership drives.

The Society continues to run the Member-get-a-Member campaign to encourage recruitment by current SIVB members. For more information on the Member-get-a-Member campaign please complete the referral form at <https://sivb.org/membership/membership-referrals.html>. This success of this program is determined by the engagement of current members. We encourage you to each find one or two colleagues who would benefit from SIVB membership and speak with them about attending the Annual Meeting and becoming a member.

At the SIVB Business Meeting in June 2018, a drawing was held for all members who renewed their 2018 membership by December 31, 2017. Congratulations go to the two winners: **M. Keith Redenbaugh**, who won free membership for 2019, and **Kathryn Kamo**, who won free registration to the 2019 In Vitro Biology Meeting.

We would love to hear from you if you have a membership initiative idea. Please contact the SIVB office (sivb@sivb.org) with your ideas!

VIVIAN DAYEH

Membership Committee Chair
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NOMINATING

The re-election of Board of Directors, Section Officers, and Committee Chairs will occur this fall. Those who are elected will take office in June of 2020. The Nominating Committee is currently identifying candidates for all of the elected positions. The following is a list of offices that are up for re-election: President-Elect, Vice-President, Secretary, Treasurer, Member-at-large (PBS), Member-at-large (IVACS), Publications Chair, Public Policy Chair, Awards Committee Chair, Education Committee Chair, Constitution and Bylaws Committee Chair. PBS officer positions up for re-election include: PBS Chair; PBS Co-chair; and PBS Secretary. IVACS officer positions up for re-election include: IVACS Chair; IVACS Co-chair for the Meeting Program; IVACS Co-chair for Membership; and IVACS Secretary.

The Nominating Committee includes **Dwight Tomes**, **Kolla Kristjansdottir**, and **Randy Niedz**. The committee also acknowledges the assistance of the "Past Presidents Committee" which consisted of **John Harbell** (current president), **Dwight Tomes**, **Todd Jones**, **Dave Songstad**, and **Eugene Elmore**. We are seeking to identify at least two candidates for each position. If you would like to serve your society in an official capacity or know of a good candidate, please contact one of the members of the Nominating Committee to volunteer for this or future elections. In addition, there are available positions on each committee that could benefit from your participation.

DWIGHT TOMES

Nominating Committee Chair
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PROGRAM

The 2018 Society for In Vitro Biology annual meeting was held from June 2-6, 2018, at the Hyatt Regency at the Arch in Saint Louis, Missouri. Genome editing was the theme for 2018 SIVB meeting as highlighted in a keynote presentation by **Dr. Rachel Haurwitz**, President and CEO of Caribou Biosciences. She presented her talk titled "CRISPR Genome Editing: Hacking the Genome to Transform the Future of Medicine, Animal Health, and Agriculture." During the Opening Ceremony, SIVB President, **John Harbell**, presented the Lifetime Achievement Awards to **John J. Finer, PhD**, and **Sandra L. Schneider, PhD**. Also, Past

President **Dwight Tomes** presented Distinguished Service Awards to **Addy Alt-Holland**, **Raj Deepika Chauhan**, **Michael Dame**, **Gregory Davis**, **Eugene Elmore**, **Thomas Flynn**, **John Harbell**, **Maria Jenderek**, **J. Denry Sato**, **Shubha Subbarao**, **Brad Upham**, **Veena Veena** and **Mary Welter**. At the Plant Biotechnology Section

meeting, **J. Pon Samuel** received the Distinguished Scientist Award and **Esther Uchendu** received the Young Scientist Award. Further, **Fredy Altpeter** and **Randy Niedz** received SIVB Fellow Awards. Special events held at the meeting included the workshop "Flow Cytometry for Genome Sizing, Editing and RNA Targeting"; a Tuesday Evening Dinner and Tour at Anheuser Busch Grant's Farm, and America's Finest Silent Auction. The finale of the meeting included an IVACS tour of the MilliporeSigma R&D campus and a PBS tour of Monsanto, Danforth Plant Science Center and KWS facilities in Saint Louis. The IVACS and PBS Oral Presentation Competitions were held along with a Student Networking Luncheon and the Student Symposium "Publishing Academic Work: Unmasking Predatory Journals."

The 2018 SIVB meeting was a solid success with the focus of many of the Plenary Sessions, Symposia and Contributed Papers focused on genome editing. The repeated success of Saint Louis as a location for the SIVB meeting, in addition to the successful annual meetings in Raleigh, NC (2017), and San Diego (2016), CA, has led the SIVB leadership to focus our future annual meetings on these three cities, beginning in 2020 when we shall convene again in San Diego.

DAVID D. SONGSTAD

2018 Program Committee Chair
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One of the most popular social activities at the annual meeting is the Silent Auction where members and attendees donate all types of interesting items for bids.



The Keynote Symposium on Sunday, June 3, was very well attended and many said it was their favorite session during the meeting.



Keynote Speaker Rachel Haurwitz, and SIVB President, John Harbell, pose with the student members of the SIVB.



The volunteers who support the Registration and Audio Visual needs of the meeting are an essential part of what keeps the SIVB meetings running smoothly. We offer a special thank you to them for their hard work.



Adam Bogdanove presented an upcoming CAST Issue Paper on "Genome Editing in Agriculture: Methods, Application, and Governance" as a special session during the 2018 Meeting.



Publications Chair, Michael Fay, brought first-time student attendees, Ribhi Salomah and Travis Parker, to the 2018 Annual Meeting to benefit from the student activities and networking opportunities available.

PUBLICATIONS

Our society journals, *In Vitro Cellular & Developmental Biology – Animal* and *In Vitro Cellular & Developmental Biology – Plant*, continue to publish important research related to in vitro biology from around the world. The Publications Committee recognizes the hard work and dedication of **David Duncan** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology – Plant*) and **Tetsuji Okamoto** (Editor-In-Chief, *In Vitro Cellular & Developmental Biology – Animal*). The impact factor for *In Vitro Cellular & Developmental Biology – Plant* increased from 1.024 in 2016 to 1.057 in 2017; and the impact factor for *In Vitro Cellular & Developmental Biology – Animal* increased from 0.897 in 2016 to 1.447 in 2017. The SIVB Board of Directors unanimously voted to offer both Editors-In-Chief a 4-year contract renewal, and the Publications Committee looks forward to working with both Editors to ensure the continued success and growth of our journals. Please read the individual journal reports submitted by David Duncan and Tetsuji Okamoto for more detailed information concerning *In Vitro Cellular & Developmental Biology – Plant* and *In Vitro Cellular & Developmental Biology – Animal*. Also, please support our society journals by submitting a manuscript and serving as a manuscript reviewer.

The quarterly online newsletter for the Society for In Vitro Biology, the *In Vitro Report*, has been redesigned to a more user-friendly format. The new design is highly responsive to screen size and allows for easier access to past content. Thank you to the Publications Committee, **Michele Schultz** (Publications Manager), and **Marietta Wheaton Saunders** (SIVB Managing Director) for their efforts in redesigning the *In Vitro Report*. We are in the process of transitioning archived issues of the *In Vitro Report* to the new format.

The Publications Committee and the Board of Directors approved a journal usage survey that was sent out to the SIVB membership. The purpose of this survey is to determine if SIVB members prefer online journal access or the print version of the journal.

To increase our search engine visibility, we have updated our Search Engine Optimization (SEO) with Google and Bing. We are also purchasing a number of additional domains to use as redirects to bring more visibility and traffic to the SIVB website. Our social media presence on Facebook, Twitter and LinkedIn continues to grow. The SIVB's name on Twitter is @SIVBiology, and we have developed hashtags that can be used to tweet updates concerning the 2019 In Vitro Biology Meeting (#SIVBiology2019) and our journals (#IVANSIVB and #IVPLSIVB).

As Chair of the Publications Committee, I want to thank **Marietta Wheaton Saunders** and the following members of the Publications Committee for their hard work and dedication: **Barbara Doonan, David Duncan, John Finer, Cynthia Goodman, John Harbell, Maria Jenderek, Jiarui Li, Sylvia Mitchell, Ewen Mullins, Tetsuji Okamoto, Gregory Phillips, Barbara Reed, Denry Sato, Dwight Tomes, and Michele Schultz**. Remember to talk to your colleagues, students, and postdocs about *In Vitro Cellular & Developmental Biology – Animal* and *In Vitro Cellular & Developmental Biology – Plant* and encourage them to submit their manuscripts and become members of SIVB.

In Vitro – Animal

(For the year 3/1/18 through 2/28/19)

The journal experienced a slight increase (2%) in total submissions of new manuscripts over the comparable period last year (312 compared to 305 in 2017-2018).

The numbers of submitted manuscripts for the past year compared to the prior year were: 296 regular papers (280 in 2016-2017), 8 Reports (12 in 2017-2018), 6 Reviews (13 in 2017-2018), and 2 opinion Letters-to-the-Editor (4 in 2017-2018). Of the 312 submissions, 65 were accepted (20.8% acceptance rate), 128 (41%) rejected, 10 (3.2%) withdrawn, 72 (23.1% were still in review or revision and 37 transferred to other Springer Publications (11.9%).

Thirty-one countries were represented in the submissions received in 2018/2019. Eighty-four percent (84%) of submissions were from China (129), Iran (46), Korea (18), India (30), Japan (27), and USA (11). Average time from receipt to first decision in the review process was 3.4 weeks compared to 2.5 weeks overall last year. All new submissions were received through the online system.

The *In Vitro – Animal* journal publishes 10 individual issues at or around page budget levels and continues to publish on schedule. The 2017 impact factor (IF) for IVA was 1.447, which is a significant increase from the 2016 IF of 0.897, and the 5-year IF of 1.360, which is up from last year's 1.061. More than 96% 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 (67), cell and tissue models (108), cell growth/differentiation/apoptosis (145), cellular pathology/virology (38), cytokines/growth factors/adhesion factors (28), establishment of cell lines (31), product applications (14), signal transduction (42), stem cells (52), and toxicology/chemical carcinogenesis (35).

In the past year several submissions included irregularities (eg. 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 the iThenticate similarity scores higher than 40%.

In Vitro – Plant

The impact factor for *In Vitro – Plant* increased slightly from 1.024 in 2016 to 1.057 in 2017. A number slightly above the 10-year running average of 1.039 ± 0.251 . One approach to increasing interest in the journal has been to increase the number of review articles published. In 2018 this number, however, decreased to three. This decline partly reflects the resignation from the Editorial Board of our Invited Review Editor John Finer but also an overall decline in submitted reviews. We encourage all Society members to submit a review concerning the subject of your current research or that introductory thesis chapter. Also, half of the reviews published in 2017 were in the special topic issues covering cryopreservation guest edited by **Barbara Reed**. We are looking for our next special topic issue and invite members to contact the Editor-in-Chief if you have a suggestion for a special topic issue and are will to volunteer as a guest editor for the issue.

Although we are pursuing these avenues to increase the relevancy and impact of our journal, 2018 was a challenging year to fill the pages of each issue of *In Vitro – Plant*. Only 424 manuscripts were received, which is 35 fewer than in 2017, but slightly above the 421.10-year running average. Of those 424 manuscripts, almost 74% were rejected leaving a mere 26% acceptable for publication. Of the rejected manuscripts, almost 28% were rejected for plagiarism, a continuing problem for the journal. Only 29.6% were rejected for technical flaws. This low level of rejection due to technical flaws does not reflect an improved quality of manuscripts received but instead reflects an increased number of manuscripts rejected for novelty (22.8%) or being out of scope for the journal (10.6%).

In 2018 there was a diverse array of countries from which manuscripts were submitted to the journal. The top 10 countries were, in descending order, India, China, Brazil, Iran, Mexico, Turkey, Pakistan, USA, South Korea, and Poland. Unlike 2017, only 60% of these countries are also in the top 10 for supplying reviewers. One of the biggest problems to having a robust journal is the lack of researchers willing to review manuscripts. A total of 485 individuals were invited to review manuscripts in 2018 but only 194 (40%) of those invited completed reviews. 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 insure 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



SIVB is grateful to the support of our exhibitors, such as Percival Scientific pictured here, who return each year to help our attendees look for better ways to do their research.

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.

In Vitro Report

The *In Vitro Report* (IVR) is the online newsletter for the membership of the Society for In Vitro Biology (SIVB). The Co-Editors for the IVR are **Michael Fay** and **Sylvia Mitchell**, who work together to represent the In Vitro Animal Cell Sciences (IVACS) and Plant Biotechnology (PBS) Sections of the SIVB. The Co-Editors work with the SIVB Publications Manager, **Michele Schultz**, to facilitate the editing and quarterly publishing of the IVR. The Co-Editors also receive guidance and support from **Marietta Wheaton Saunders** (SIVB Managing Director), **Tetsuji Okamoto** (Editor-In-Chief, In Vitro Cellular & Developmental Biology – Animal), **David Duncan** (Editor-In-Chief, In Vitro Cellular & Developmental Biology – Plant), and the SIVB Publications Committee. The online IVR has recently been redesigned to a more user-friendly format. Routine articles in the IVR include: President’s Report, Journal Highlights, SIVB Meeting Updates, Feature Articles on SIVB Award Recipients, Editor’s Corner, Member Profiles, and Membership News. We encourage all SIVB Members to share their news and accomplishments through the IVR, and don’t forget to read the latest issue of the IVR by clicking on the icon located at the upper right corner of the website for the SIVB (<https://sivb.org>). If you have suggestions for improving the IVR, please contact the Co-Editors (mfayxx@midwestern.edu, sylviamitchell.biotech@gmail.com) or the Publications Manager (Michele@sivb.org).

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The Joint Sections Social was a big hit as attendees got to see a spectacular view of the St. Louis Arch while enjoying refreshments and conversation during this rooftop social event.

PUBLIC POLICY

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. This year could be a very interesting year for policy, so we always welcome interested members!

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.

In 2017, there was a flurry as activity as the committee responded to various calls for comments issued by various regulatory agencies. In contrast, 2018 was much quieter, as regulatory agencies digested comments received. Committee members did meet with USDA regulators to provide input into proposed reforms on genetic engineering regulations for plants.

For 2019, several major issues are on the horizon, which will affect research funding and markets for decades to come:

How will USDA/FDA regulate genome-edited farm animals?

Will the definition of an edited animal as a drug remain in place?

Currently, the USDA is exempting some types of edited plants, but this exemption has yet to be codified into regulations, so it can be withdrawn. Will this exemption be embodied in regulations?

What will proposed regulatory reform for genetically engineered crops look like?

Will the EPA insist that plants edited for disease resistance are pesticides?

In addition, there is an on-going initiative for the development of an SIVB position statement on genome editing and gene drive in animals (e.g., transgenic insects), with a special thanks to **John Harbell** for taking the lead.

Providing feedback to regulatory agencies is just the start. The ability to communicate issues clearly with the public is also important. Look for tips and comments from the Public Policy committee appearing regularly in the issues of In Vitro Explants.

Finally, it is worth mentioning that the SIVB is an associate member of the American Institute of Biological Sciences (AIBS) and the Council for Agricultural Science and Technology (CAST). These collations of scientific organizations support the SIVB Public Policy Committee through their legislative and lobby activities to affect national and international scientific public policy for: federal spending to support scientific research and education, impacts on natural resources and agricultural systems, protection of human rights and the ecosystem, scientific ethics and equity.

WAYNE PARROTT
Public Policy Chair
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It is always a pleasure to reconnect with old colleagues and make new connections during the SIVB receptions and social events.



Mary Welter enjoys meeting one of the world-famous Budweiser Clydesdale horses up close during the special Tuesday event at Grants Farm.

REPRESENTATIVES OF THE SIVB

ATCC

No report was submitted from ATCC for 2018.

INTERNATIONAL ASSOCIATION FOR PLANT BIOTECHNOLOGY (IAPB)



Pictured are the National Correspondents who were able to attend the IAPB's 14th Congress in Dublin, Ireland, held in August of 2018. (Photo from Siva Velivelli)

Dear Colleagues,

I would like to take this opportunity to thank all of our members for supporting IAPB in 2018. Founded in 1963, the International Association for Plant Biotechnology is the largest international professional organisation representing the interests of the worldwide plant biotechnology community and has been hosting successful symposia around the world since the early '60s. The 14th International Association for Plant Biotechnology Congress 2018 (Dublin, Ireland) was a huge success thanks to **Dr. Barbara Doyle Prestwich** and her organizing committee. Following the successful 2018 conference, IAPB is pleased to announce that the 15th IAPB Congress (iapb2018.com) will take place in South Korea (Final location details will be announced soon). Preparations have already begun for the 2022 Congress. **Prof. Jang Liu** is our new president, and he will continue in that role until 2022. His colleague, **Prof. Donghern Kim** is the new treasurer. IAPB members span over 89 countries, ranging from industrial to early career scientists. IAPB offers excellent value for money and is probably the lowest membership rate for any professional organization at \$25 per year. Members will receive a copy of the IAPB newsletter twice yearly and two issues of the journal. In addition, reduced conference rates for IAPB symposia are offered to all members.

IAPB looks forward to good collaboration with its personal members to further improve the impact and the visibility of plant science in the USA and beyond. I encourage all plant scientists to join the IAPB. The two societies, IAPB and SIVB, also work closely together, and members can renew their IAPB membership through SIVB. Interested? Please contact me, and I will send you an application.

SIVA VELIVELLI
US Correspondent, IAPB
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COUNCIL FOR AGRICULTURAL SCIENCE AND TECHNOLOGY (CAST)

The Society for In Vitro Biology is a member of CAST, which is a nonprofit 501(C)(3) organization composed of individual members and representatives from scientific societies, nonprofit and trade organizations, and commercial companies. CAST addresses issues surrounding animal, plant and food sciences, and agricultural technology including biotechnology. Their mission is to “assemble, interpret, and communicate credible science-based information regionally, nationally, and internationally to legislators, regulators, policymakers, the media, the private sector, and the public.” A complete list of their reports, to date: <http://www.cast-science.org/publications/>. Issue papers, commentaries, and one-page quick CASTs are freely available online. **Dr. Nancy Reichert** has represented the SIVB in CAST as a member of their Board of Representatives. She was the president of the Council in 2018. Members of the Board also sit on one or more of the standing working groups. As a new member of the Food Science and Safety Work Group, I am learning the issues generally and those that are germane to the SIVB in particular. As part of that collaboration, the SIVB was presented the opportunity to host the first public presentation of a major CAST Issues Paper “Genome Editing in Agriculture: Methods, Applications and Governance.” This paper was prepared by a team of leading scientists from academia and government headed by **Dr. Adam J. Bogdanove** of Cornell University. His presentation at our meeting was the first of what would be a series of presentations to government agencies and other interested parties. Given the expertise in the SIVB, this was certainly an appropriate venue. Other issue papers include food biofortification lead by Nancy and Omega-3 Fatty Acids: Health Benefits and Dietary Recommendations. Biofortification focuses on the improved nutritional value of crops through agronomic practices, conventional breeding and biotechnology.

JOHN W. HARBELL

CAST Board of Representatives, SIVB
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STAY IN TOUCH

There are so many ways to reach out to SIVB and your fellow members. We welcome your active participation and hope you'll find us through one or more of these outlets.



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Search for *Society for In Vitro Biology*



sivb.org



Society for In Vitro Biology

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Email: sivb@sivb.org



Interactive and Regular Poster sessions are some of the best ways to share your research with attendees at the SIVB Meetings.



We thank all our members and guests who attended the 2018 In Vitro Biology Meeting in St. Louis and hope they enjoyed this experience which is both educational and entertaining. We hope to see you all in Tampa in June 2019!

TREASURER'S SUMMARY REPORT

SOCIETY FOR IN VITRO BIOLOGY

**STATEMENTS OF FINANCIAL POSITION
DECEMBER 31, 2018 AND 2017**

ASSETS

	December 31, <u>2018</u>	December 31, <u>2017</u>
<u>Current Assets:</u>		
Cash	\$ 354,531	\$ 367,213
Accounts Receivable	21,427	-
Prepaid Expense	<u>57,007</u>	<u>53,669</u>
Total Current Assets	<u>432,965</u>	<u>420,882</u>
<u>Other Assets:</u>		
Investments	<u>192,191</u>	<u>196,487</u>
Total Other Assets	<u>192,191</u>	<u>196,487</u>
Total Assets	<u>\$ 625,156</u>	<u>\$ 617,369</u>

LIABILITIES AND NET ASSETS

<u>Current Liabilities:</u>		
Accounts Payable	\$ 585	\$ 317
Deferred Income	<u>28,801</u>	<u>22,383</u>
Total Current Liabilities	<u>29,386</u>	<u>22,700</u>
<u>Net Assets:</u>		
Unrestricted	304,921	367,996
Temporarily Restricted	<u>290,849</u>	<u>226,673</u>
Total Net Assets	<u>595,770</u>	<u>594,669</u>
Total Liabilities & Net Assets	<u>\$ 625,156</u>	<u>\$ 617,369</u>

TREASURER'S SUMMARY REPORT

SOCIETY FOR IN VITRO BIOLOGY

**STATEMENTS OF ACTIVITIES
FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017**

	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Total</u>	December 31, 2017 <u>Total</u>
<u>Revenue:</u>				
In Vitro-Animal	\$ 84,199	\$ -	\$ 84,199	\$ 64,964
In Vitro-Plant	39,481	-	39,481	47,189
Newsletter	5,129	-	5,129	6,955
Meetings	154,358	91,765	246,123	207,354
Horn Endowment Fund contributions	-	110	110	10
Administrative	27,675	-	27,675	32,686
Net assets released due to satisfaction of program restrictions	<u>27,699</u>	<u>(27,699)</u>	<u>-</u>	<u>-</u>
Total revenue	<u>338,541</u>	<u>64,176</u>	<u>402,717</u>	<u>359,158</u>
<u>Program services:</u>				
In Vitro-Animal	4,777	-	4,777	4,193
In Vitro-Plant	10,486	-	10,486	11,293
Annual meeting	<u>129,113</u>	<u>-</u>	<u>129,113</u>	<u>134,289</u>
Total program services	<u>144,376</u>	<u>-</u>	<u>144,376</u>	<u>149,775</u>
<u>Supporting services:</u>				
Administrative	<u>245,964</u>	<u>-</u>	<u>245,964</u>	<u>226,084</u>
Total expenses	<u>390,340</u>	<u>-</u>	<u>390,340</u>	<u>375,859</u>
Change in net assets before unrealized gain/(loss) on investments	(51,799)	64,176	12,377	(16,701)
Unrealized gain/(loss) in fair value of investments	<u>(11,276)</u>	<u>-</u>	<u>(11,276)</u>	<u>4,023</u>
Change in Net Assets	(63,075)	64,176	1,101	(12,678)
Net assets, beginning of year	<u>367,996</u>	<u>226,673</u>	<u>594,669</u>	<u>607,347</u>
Net assets, end of period	<u>\$ 304,921</u>	<u>\$ 290,849</u>	<u>\$ 595,770</u>	<u>\$ 594,669</u>