

The Post-y

Newsletter for the SOT Postdoctoral Assembly

Spring 2020



2020 Annual Meeting Canceled

By now we are all aware that SOT leadership made the decision to cancel the 59th Annual Meeting and ToxExpo, which was scheduled for March 15-19, 2020 in Anaheim, CA. This difficult choice was made to alleviate health and safety concerns during 2019 coronavirus (COVID-19) outbreak. Frequently asked questions about the meeting cancellation—including information on registration refunds, housing and awards—can be found on the 2020 Annual Meeting website, under “General Information” > “[Cancellation FAQs](#)”.

New SOT Virtual Meeting!

Have you seen this logo on Twitter, LinkedIn, Facebook or the SOT website?



SOT has launched an online platform for researchers to share their latest work! If you were disappointed that SOT was cancelled and were looking forward to specific sessions, it's probably not too late to attend these events virtually. To continue the commitment to deliver cutting-edge toxicological science, scientific sessions, workshops, and symposia are being held online into June 2020. The most up-to-date information about each of these webinars can be obtained through the SOT “[Virtual Program](#)” on the SOT website.

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Best Postdoctoral Publication Awards

While we were unable to present the Best Postdoctoral Publication Awards (BPPA) at the SOT Annual Meeting this year, we still want to recognize the outstanding work by these award recipients in this newsletter. Additionally, recipients will be formally recognized at next year's meeting at the 2021 Postdoctoral Luncheon.

Each year we recognize outstanding published works by our SOT postdoctoral members through the BPPA Awards. Applications were reviewed by the PDA Board and outside reviewers with matching scientific expertise using the NIH conflict of interest, confidentiality, and nondisclosure rules. Out of the outstanding pool of applicants, three recipients were selected. *Congratulations!*

Best Postdoctoral Publication Award Recipients

Thyroid Receptor Antagonism as a Contributory Mechanism for Adipogenesis Induced by Environmental Mixtures in 3T3-L1 Cells

Christopher D. Kassotis, Duke University

Christopher D. Kassotis, Erin M. Kollitz, Kate Hoffman, Julie Ann Sosa, Heather M. Stapleton. *Science of the Total Environment*. 666 (2019) 431-444. <https://doi.org/10.1016/j.scitotenv.2019.02.273>



Integration of Food Animal Residue Avoidance Databank (FARAD) Empirical Methods for Drug Withdrawal Interval Determination with a Mechanistic Population-Based Interactive Physiologically Based Pharmacokinetic (iPBPK) Modeling Platform: Example for Flunixin Meglumine Administration

Miao Li, US FDA/NCTR

Miao Li, Yi-Hsien Cheng, Jason T. Chittenden, Ronald E. Baynes, Lisa A. Tell, Jennifer L. Davis, Thomas W. Vickroy, Jim E. Riviere, Zhoumeng Lin. *Archives of Toxicology*. 93 (2019) 1865-1880. <https://doi.org/10.1007/s00204-019-02464-z>



A Common Wood Smoke Exposure Alters Human Inflammatory Responses to Viral Infection in a Sex-Specific Manner. A Randomized, Placebo-Controlled Study

Meghan E. Rebuli, University of North Carolina at Chapel Hill

Meghan E. Rebuli, Adam M. Speen, Elizabeth M. Martin, Kezia A. Addo, Erica A. Pawlak, Ellen Glista-Baker, Carole Robinette, Haibo Zhou, Terry L. Noah, and Ilona Jaspers. *American Journal of Respiratory and Critical Care Medicine*. 199:8 (2019) 996-1007. <https://doi.org/10.1164/rccm.201807-1287OC>



Actionable Advice from the “Transitioning to Independence” PDA Academic Webinar Series

Sarah Carratt, Oregon Health & Science University

Over the last year, the Postdoctoral Assembly Executive Board worked with experts to put on a three-part academic career development webinar series. The purpose of the series was to provide actionable advice on the early career transition to independence. Here are some of the highlights from these webinars:

Webinar 1: Interviews with early career investigators

Moderators: Sarah Carratt and Pam Lein

- 1. On setting yourself up for success in your postdoc:** In regard to starting your own lab, I think the best advice I would give to a transitioning postdoc would be to try to get some pilot data (or specimens) necessary for your early grant submission before leaving your postdoc (but always remember to have a discussion with your postdoc PI about it). There is a quite lengthy period between the move to the new job and the first real experiment in your new lab and having those biobanked samples allow you to get some work done while waiting for the lab to be fully set-up. -Alessandro Venosa, University of Utah.
- 2. On expectations:** Have a clear vision for your future research, with a REALISTIC timeline for your research goals. Things took MUCH longer to get up and running than I had anticipated! -Karilyn Sant, San Diego State University.
- 3. On gaining an edge on your competition:** Since I only recently transitioned to independency, I still have very vivid memories of my process. There are a lot of things that helped me gain an “edge” over other applicants. Some items require years (i.e., scientific service or networking), some others are easy fixes. I think the best advice I could provide is to have your science (and non-science) friends look at your material to ensure your goals are well outlined. Along with that I think ensuring the application packet is tailored to the specific department you are applying for, is a very important step as well. -Alessandro Venosa, University of Utah.
- 4. On how finding the right fit affects job satisfaction:** Know yourself. You will be successful as long as you are in a place to thrive and that makes you happy. The interview is about FIT—not just whether or not you are a good candidate. Make sure that you can see yourself at the institution for many years (hopefully). In my case, balance between mentoring, teaching, and research was important—despite that many of us are told to heavily prioritize research during our training. I don't think I would be as happy if I hadn't found such a great fit. -Karilyn Sant, San Diego State University.
- 5. On patience and passion:** The transition is a journey. It doesn't happen overnight. Use it as an opportunity to interview, meet people that inspire you and foster collaborations. Make yourself competitive academically by being engaged, involved, and putting out rigorous, impactful science. Show your passion and collegial spirit during your interviews. And it never hurts to express that your research is funded or highly fundable. -Jamie Bernard, Michigan State University.

Webinar 2. Best practices for the academic job hunt

Moderators: Sarah Carratt and Kim Keil

1. **On whether it is appropriate to negotiate as a young investigator:** My opinion on this has changed as I have gained more experience and participated in the hiring process. You do have the power to negotiate as a young investigator, and you should do your research and come prepared to negotiate for the resources you will need to be successful. -Karen Vasquez, University of Texas at Austin.
2. **On having successful one-on-one meetings during site-visits:** Keep details about the people you are meeting with—and questions you have for them—on your phone or in a notebook and use your breaks between meetings to refresh your memory. Be prepared with enough questions that you don't run out of things to say at the end of the day. -Patrick Allard, University of California-Los Angeles.
3. **On whether a K99 and/or high impact paper are needed to land an assistant professor position:** Regarding K99, it is not required, but it definitely helps to push the application toward the top. High impact papers are also helpful to make an application stand out. If you don't have any high impact (factor) papers, try to emphasize the impact of the actual work described in your papers on the field – how many citations for the actual paper, examples of how the paper led to other discovery, etc. For K99, a well-crafted research statement and cover letter that bolster confidence in your ability to obtain a R01 in the near future should help. -Xinxin Ding, University of Arizona.
4. **On writing a diversity statement:** This is a tough one, unless there are clear diversity attributes, such as an underrepresented minority, etc. However, I think that the idea of the diversity statement is to include information about your own unique attributes and experiences that may contribute to making a well-rounded faculty or department, etc. It could be in efforts toward research, education, service, etc. -Karen Vasquez, University of Texas at Austin.
5. **On how many applications to submit and where to find job postings:** In terms of your questions, I think the number is not necessarily the important metric, if you are a good fit for many ads, then I would say to go for it! But applying to a large number of ads, even the ones that you are not a good fit for, just for the sake of it may not be strategically advisable and probably setting yourself up for disappointment. As to where to find the right position: scientific journals, the higher education website (<https://www.hercjobs.org/>), conferences, and then also through word-of-mouth (i.e. through networking). -Patrick Allard, University of California-Los Angeles.

Webinar 3: How to get the most out of your mentoring relationships

Moderators: Sarah Carratt, Jamie Young, Kym Gowdy

1. **On the definition of a mentor:** A mentor is more than a formal job title. Mentors emerge from people whose advice you value most. When you start off in your career, you're going to need a lot of mentors. You will need people who can advise you on navigating HR, budgeting, submitting a grant, etc. Peer-to-peer mentoring is also important, not just for your own career but also for your trainees. As a mentor, it is important for you to create a positive lab environment where students will talk to each other. -John Pierce Wise, Sr. University of Louisville.
2. **On creating a safe space:** Walk into a relationship listening. If a trainee is scared or nervous, you need to make them feel comfortable. This is particularly important at the beginning of the relationship. Follow up with trainees to make sure your approach and communication strategy is successful. -Debra Laskin, Rutgers University.

Webinar 3: How to get the most out of your mentoring relationships (cont.)

Moderators: Sarah Carratt, Jamie Young, Kym Gowdy

- 3. On defining success:** Set up expectations early and clarify the mentee's definition of success, which may be different than yours. Think about what milestones are needed to be successful and set clear goals. -Laura Van Winkle, University of California-Davis.
- 4. On advising international students:** In many ways, the lab becomes a second family for students/postdocs that are far from home. Create an environment where they feel comfortable and supported. Acknowledge their unique cultural differences. For instance, if your lab brings food to meetings, consider dietary restrictions and encourage trainees to bring food from their home. -Debra Laskin, Rutgers University.
- 5. On navigating transitions:** Transitions are a critical period in mentorship. Your mentorship obligations are highest when you begin a new mentoring relationship, and even when a trainee is preparing to leave your lab. You will continue to be important to your mentee as she/he becomes more independent. Communication with trainees is critical at all stages of a mentor/mentee relationship, but especially at these transitions. -Laura Van Winkle, University of California-Davis.
- 6. On taking initiative as a mentor:** A PI should take the initiative to check in with their mentees and maintain the relationship. Mentees may feel confused about how the relationship will change after they leave a lab, and the PI can help ease the transition by initiating conversations during the transition and throughout the mentee's career. -John Pierce Wise, Sr., University of Louisville.

Cultivating a Greener Future with Opportunities to Engage in Green Chemistry: As Told by Co-Fellows

Natalie O'Neil, Beyond Benign

Andrea R. Hindman, AAAS

Training the Next Generation of Scientists to Advance Green Chemistry

[The Advancing Green Chemistry Fellowship](#) is a year-long opportunity for early career researchers from the fields of green chemistry/engineering and environmental health sciences to learn from each other through peer-to-peer-learning and interaction with the media. Fellows harness communication skills, translating their science to diverse audiences and building a credible 'science brand' that colleagues and the public can trust to deliver science accurately and in accessible ways. These skills focus on using plain and engaging language (and pictures!) to convey important and relevant research findings across interdisciplinary fields and effectively to members of the media to feed information to the masses. Fellows also serve as a support network for one another, brainstorming approaches and strategies covering a wide range of topics, including career transitions, mentor-mentee relationships and difficult conversations.

Another major benefit of the Fellowship, is gaining a wider world-view and making important connections with one another and with new scientific ideas. Dr. Natalie O'Neil, a green chemist and Dr. Andrea Hindman, a molecular biologist were brought together through this Fellowship program. The pair recognized the strengths each of them had from their respective fields, leading them to discuss approaches to understanding and mitigating the toxicological effects of chemicals. Both recognized that each of their disciplines approach the problem of human and environmental impact of chemicals differently and that training gaps underserve those impacts. Combining strengths and networks is powerful!

Training the Next Generation of Scientists to Advance Green Chemistry (cont.)

The breadth of expertise that the Fellowship program crafts in their fellows cohorts creates rich opportunities for professional collaboration and growth. Dr. O'Neil serves as Program Manager for Higher Education, with the non-profit organization, [Beyond Benign](#). Dr. Hindman supports the Chemical and Material Risk Management Program of the Department of Defense, Office of Environment through her position as a [Science and Technology Policy Fellow](#) through the [American Association for the Advancement of Science](#). Each scientist brings unique perspectives from their current roles to inform improved training and approaches for the next generations of chemists, engineers, biologists and many more.

The fields of chemistry and toxicology are indeed converging, leading to new opportunities in green chemistry and stoking important conversations!

Beyond Benign Develops Green Chemistry Course Materials

Beyond Benign's mission is to provide educators with the tools, training and support to make green chemistry an integral part of chemistry education. Natalie manages the [Green Chemistry Commitment](#) program which unites volunteers across higher education around [Green Chemistry Student Learning Objectives](#), one of which is Toxicology. Volunteers who make the Commitment agree that chemistry students should have an understanding of the principles of toxicology, the molecular mechanisms of how chemicals affect human health and the environment, and resources to identify and assess molecular hazards. This program aims to bridge the knowledge gap around toxicology for chemist trainees.

Beyond Benign aims to further fill this knowledge gap by launching a new curriculum project – Toxicology for Chemists - to bring chemists and toxicologists together to develop green chemistry course materials that adequately cover key fields that influence the way we identify and use chemicals and materials. Materials developed as a result of this project supports current and future scientists (chemists) to be more thoughtful about molecular hazards and include that understanding throughout their design criteria as molecular designers. To teach others about this project, Beyond Benign's Executive Director, Dr. Amy Cannon was set to join us for the first time at this year's SOT annual meeting to share a poster: # 2825 – Toxicology for Chemists: A Curriculum Project Connecting Toxicology to Chemistry Education. Look for it on the meeting app. Hopefully she can introduce herself next year!

The Society of Toxicology (SOT) has a New Specialty Section: Sustainable Chemicals through Contemporary Toxicology

The Sustainable Chemicals through Contemporary Toxicology (SCCT) specialty section was announced late last year in the [SOT Communique Blog](#). The organizing committee introduced this new section aiming "... to address the broader impact of toxicological research to inform decisions that advance safer chemistry throughout the product lifecycle."

Avoiding Regrettable Substitutions through Thoughtful Collaboration

The Fellowship connected Natalie and Andrea through their desire to be better science communicators but also to achieve a sustainable future. On an individual level, they are working to improve the way they translate their fields' research and roles in the lifecycle of chemicals and products used in society and impacts to human health and the environment. More broadly, chemistry and toxicology are making strides to make sure that chemists as molecular designers understand how chemical structures and properties impact human health and the environment, measuring toxic effects and ability of chemicals to move in the environment.

Avoiding Regrettable Substitutions through Thoughtful Collaboration (cont.)

Giving students a deeper understanding of chemistry through a toxicological lens will better equip them to design greener, safer chemical products and processes in both academic research and industry. Likewise, toxicologists conduct research that identify the most critical chemical and physical properties that determine toxicity, thereby advancing safer chemistry throughout the product lifecycle and reducing the likelihood of regrettable substitution. These collaborations and greater awareness across disciplines can have major impacts on product supply chains, changing the ways society selects and uses chemicals and materials, and creatively replacing the need for chemicals and materials with smarter and greener engineering processes. The initiatives above are making significant progress to make the efforts and strengths of seemingly disparate fields more accessible to all.

Collaboration to achieve the Sustainable Development Goals Championed by the United Nations

The Fellowship exposed Natalie and Andrea to other researchers with a wide range of experiences and expertise across diverse disciplines. The need to collaborate now is sobering in the face of the many global challenges that threaten a sustainable future. The United Nations offers a "... blueprint to achieve a better and more sustainable future for all" through their [Sustainable Development Goals](#). With chemistry being the central science (everything we touch is a chemical!) and toxicology being the science of chemical impact on human health and the environment – there are no two better groups of disciplines to work together! Together, Natalie and Andrea will continue to look for ways to work together, improving science communication together, improving tools used for that translation and encouraging others to do the same.

Follow the work and professional journeys of Natalie (@natjoneil) and Andrea (@andrea_hindman) on Twitter.

Remember to Renew your SOT Membership!

Daniel Luo, Membership Committee Postdoctoral Representative

Since 2010, the SOT community has grown from 6,724 members to more than 8,100 members in 2020. One of the great benefits of membership is the many opportunities to serve in leadership roles in the Society by participating as representatives for SOT Regional Chapters, Special Interest Groups, Specialty Sections, and Committees. Postdoctoral members also receive one free Specialty Section and Special Interest Group membership and much more!

Renewing your Postdoctoral membership provides unparalleled networking opportunities, recognition from your peers, and is a vital component of lifelong learning through continuing education, postdoctoral events, and SOT Annual Meetings. We encourage you to renew your membership today!

If you are no longer in a postdoctoral position under the direction of a research advisor, or will be ending your postdoctoral position in 2020, you are encouraged to expand your professional opportunities by applying for Associate or Full membership in the Society. If you have any questions or need assistance renewing your membership, please email Membership Services at sothq@toxicology.org or call 703.438.3115

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