Dear Colleagues,

It is with great honor that I undertake my term as President of the Regulatory and Safety Evaluation Specialty Section of SOT. I am both excited to serve and anxious to have to follow in the footsteps of Dr. Ed Ohanian. Thankfully he will remain on our Executive Committee (EC) for one more year as Past President. I am also blessed with a terrific team of energetic and dedicated EC members with Anne and Amy as Vice President and Vice President-Elect, April as Secretary/Treasurer, Norman and Haitian as Senior and Junior Councillors, and Greg and Brett as our Postdoc and Grad Student reps, respectively. I encourage you to visit our Officers' page to find more about them.

As a Specialty Section, we seek to provide a forum for the interaction of SOT members to discuss the impact of regulations, guidelines, and guidance on the practice of toxicology and the safety evaluation of food additives, nutraceuticals, therapeutic drug products and environmental, industrial and household chemicals, and other products of concern. Our work embodies SOT's mission to create a safer and healthier world by advancing defensible science and increasing the impact of toxicology. One of my goals this year is to help progress the use of better approaches to safety evaluation into regulatory acceptance. There has been immense scientific progress in in vitro and computational toxicology and some of these assays may have better predictive value than the classical animal tests. I see as part of our duty to assess the value of these alternative models and help advance the best, fit-for-purpose, assays forward.

At the 2018 Meeting, RSESS continued with our traditional annual activities: Dr. Scott Jordan from Health Canada presented on the challenges associated with evaluating and monitoring the safety of dietary supplements; Drs. Mike DeVito and David Herr debated on the Relevance and Predictability of Animal Toxicity Studies for Human Toxicity during our highly-attended reception during which six postdoctoral scholars (Drs. Miao Li, Rui Xiong, and Samantha Faber) and graduate students (Eva Vitucci, Jalissa Nguyen, and Yu-Syuan Luo) were awarded along with our best paper award (Dr. Bradley Lampe). New in 2018, RSESS hosted a mentoring luncheon (effort led by Ms. Monique Williams) that was extremely well received and we will certainly continue this new tradition in 2019. I would also like to take this opportunity to thank Robert Budinsky and Mary Ellen Cosenza for their outstanding work chairing our proposal review committee this year. Together with their team (Angelique Braen, Maggie Dempster, Ryan Hamilton, Brian Hughes, Santhini Ramasamy, and David Allen) they reviewed and ranked a whooping 43 proposals, roughly 1/3 of all SOT proposals!

New initiatives coming in 2018-2019 include a budding relationship with the Society of Environmental Toxicology and Chemistry (SETAC) – we are currently scoping which environmental and public health issues should be the focus of this joint effort. We will also seek to strike a collaboration with the American Society for Cellular and Computational Toxicology (ASCCT) who has expressed their interest in supporting an award that aligns with their mission. We will keep you posted on our progress. Another important activity will be the implementation of a new endowment fund. RSESS current endowment is in “spend down” mode; meaning
that monies can no longer be added and that the fund must be emptied before the 2020 deadline. In 2018, we used the available funds for the awards and we plan to do the same in 2019. However, in order to ensure a sustainable future for the important programmatic activities supported by RSESS (awards, global regulatory breakfast, mentoring activity, webinar, reception, and debate, etc.) we will be seeking your support to establish a permanently restricted endowment fund that will allow RSESS to keep on meeting the expectations of our membership. Finally, we will also look for your help in updating our graphic identity… keep your eyes open for a logo contest!!

RSESS is not only the largest Specialty Section, it is also at the cross roads of nearly all other SOT Specialty Sections. We epitomize the ultimate goal of every scientist and toxicologist: making a difference. Because Specialty Section members strive to improve the safety evaluation and regulatory acceptance of the best approaches, through the course of the year, we will also foster relationships with other Specialty Sections in order to increase our awareness of the most recent advances in toxicology testing. I think I speak for the entire EC when I say we look forward to serving you and to continuing to advance our values and aspirations as a section. Please do not hesitate to reach out to any of us with your thoughts and suggestions to help us achieve our goals.

Looking forward to an amazing year, yours truly,

Marie C. Fortin, PhD, DABT, ERT
RSESS 2018–2019 President

Would you like to get more involved with RSESS?

VOLUNTEER

Consider joining one of our committees! The awards committee, the scientific program review committee, and the newsletter committee are seeking volunteers. If you are interested or want more information, please email me at marie.c.fortin@gmail.com. Thank you!!
RSESS had another great presence at the SOT’s 57th Annual Meeting and ToxExpo in San Antonio, TX in March 2018. The RSESS Annual Meeting and Reception was a well-deserved break from our daily chores and was packed with more activities than any of us could possibly attend. It was so impressive to see the number of attendees joining us despite all other competing functions. Our RSESS reception was, as always, fabulous and full of surprises. Our formal ceremony for Postdoctoral Excellence, Graduate Student Excellence, and Best Paper of the Year Awards was full of excitement and appreciation (winners listed p. 4-6). The “Great Debate” entitled “Relevance and Predictability of Animal Toxicity Studies to Human Toxicity” was a big success. The debater on the Pro side was– Dr. David Herr, US EPA and on the Con side, Dr. Michael DeVito, NIEHS have provided the audience with some great thoughts defending their position and stimulating some heated discussion. Our dynamic moderator was Dr. Edward V. Ohanian, US EPA and President of RSESS who was able to energize the discussions. Following the debate, the floor was open to the membership to share their own views on such a topic full of controversy and conjecture.

Annual RSESS Global Regulations Breakfast at SOT
By Amy Roe

On Wednesday morning of the SOT Annual Meeting in San Antonio, March 14th, Dr. Scott Jordan, Health Canada, provided the annual RSESS Breakfast Seminar. Dr. Jordan presented an overview of how OTC drugs and dietary supplements are regulated through Health Canada, challenges in the assessment of their safety, and an update on any recent changes in regulations related to this category of products. There was great discussion by audience participants in response to the presentation. Dr. Jordan is Associate Director of the Marketed Biologicals, Biotechnology, and Natural Health Products Bureau of Health Canada. Since 1998, he has been involved in risk assessment pertaining to natural health products (dietary supplements). Dr. Jordan took part in the discussion leading up to the formation of the Canadian Office of Natural Health Products (now the Natural Health Products Directorate of Health Canada), and contributed to the review of regulations for natural health products in Canada, which came into force in 2004.
For the 57th Society of Toxicology Annual Meeting, the RSESS sponsored its first Lunch and Learn mentoring event. This new initiative was designed to provide trainees (e.g., students and postdocs) with an opportunity to learn about careers in regulatory and safety evaluation through small group discussion with a toxicologist experienced in this field. This event was a success and had a total of 17 mentors and 22 mentees that attended and participated. This event facilitated networking and mentoring of young professionals by experienced toxicologists that will develop into lasting professional relationships that will benefit both the mentors and mentees. The “Lunch and Learn Mentoring Event” was held at the historic Menger’s Hotel near the Convention Center on Wednesday, March 14th at 11:30 AM. RSESS looks forward to continuing this networking event for years to come.

Congratulations Bradley!

Authors: Bradley J. Lampe, Emily Fuller, Senthilkumar P. Kuppusamy
“A quantitative comparison of points of departure between 28-day and 90-day repeated dose studies with a proposed extrapolation factor”
Regulatory Toxicology and Pharmacology 92, (2018) 189-200
Annual RSESS Reception Awards
Congratulations Graduate Student Recipients!

Mr. Yu Syuan Luo, Texas A&M University
“Comparative Analysis of Toxicokinetics and Toxicodynamics of Perchloroethylene in Cytochrome P450 2E1 Knockout and Humanized Transgenic Mice”

Ms. Eva Vitucci, University of North Carolina, Chapel Hill
“A Cellular Game of Telephone: Trans-Cellular Reprogramming in Responses to Toxic Stimuli”

Ms. Jalissa Nguyen (Wynder), University of Wisconsin-Madison
“Evaluating the Applicability of Read-Across Tools and High-Throughput Screening Data for Food Relevant Chemicals “
Annual RSESS Reception Awards
Congratulations Postdoctoral Recipients!

2018 Annual IRSTP Postdoctoral Award Recipient!
Dr. Rui Xiong
National Center for Toxicological Research, FDA
“Evaluating mode of action of acrolein toxicity in an in vitro human airway tissue model”

Dr. Miao Li,
Kansas State University
“Application of Population Physiologically Based Pharmacokinetic Model for Penicillin G in Dairy Cows to Facilitate Food Safety Assessment”

Dr. Samantha Faber
US Environmental Protection Agency
“Diesel Exhaust Particles Downregulate PI3K/Akt/mTOR Signaling and Mitochondrial Bioenergetics in A Novel Organotypic Model of the Airway Microenvironment”
Biosketch of Our New Incoming Officers

Vice President Elect, Amy L. Roe, PhD, DABT

Dr. Roe has over 20 years of experience as a practicing toxicologist in government, pharmaceutical and consumer product industries, through positions at both the US FDA (NCTR) and The Procter & Gamble Company. Her professional experience is in general, descriptive, and regulatory toxicology as well as specialized expertise in drug/xenobiotic metabolism and pharmacokinetics. Her industry experience is quite broad and includes toxicology support of drugs, medical devices, herbal/dietary supplements, foods, and water filtration devices. As a project leader, she has led multidisciplinary drug development teams. She is well-recognized externally in her field as evidenced by her service on a number of professional boards and committees including Executive Member (Secretary) of the American Board of Toxicology, USP Dietary Supplement Expert Committee (Co-chair), NIH/NCCIH Expert Advisory Panel to U54 Center Grant for studying natural product-drug interactions. She has previously participated on Cosmetics Europe ADME Task Group. Dr. Roe has also served the SOT over the years in various capacities at both the regional and national levels. She currently serves on the SOT Education Subcommittee, has held Counselor and Secretary/Treasurer positions, and currently Vice President-elect for the Regulatory & Safety Evaluation Specialty Section, and has been recently elected to the SOT Nominating Committee. She also serves on the Editorial Board of Applied In Vitro Toxicology, and she is an Adjunct Assistant Professor at the University of Cincinnati, Department of Environmental Health and Molecular Toxicology.
Biosketch of Our New Incoming Officers Cont.

**Councilor Haitian Lu, PhD, DABT**

Since graduating from Michigan State University in 2010, Haitian has obtained broad regulatory toxicology experience in the crop protection, specialty ingredient and consumer product industries, with particular strengths in new product innovation and regulatory compliance in the Asia Pacific region and North America. He is currently the Senior Manager of Toxicology at Lonza, leading a global team in support of its specialty ingredients business. Haitian participated in various task forces of trade and scientific associations, including ILSI HESI, CropLife America, and International Fragrances Association. He has co-authored 15 peer-reviewed articles and given presentations at numerous scientific meetings, including the SOT Annual Meeting. Haitian joined the SOT in 2007, and served as Councilor of the In Vitro and Alternative Methods Specialty Section from 2014-2016.

**Graduate Student Representative, Brett R. Winters, BS**

Brett Winters is a 4th year PhD student in the Curriculum in Toxicology at the University of North Carolina at Chapel Hill. He received his BS in Environmental Toxicology from the University of California, Davis in 2011. Upon graduation, Mr. Winters joined the Toxicology group at AMEC-Geomatrix, an environmental consulting firm. After three years as a consulting toxicologist, Mr. Winters matriculated into the Toxicology PhD Program at the University of North Carolina at Chapel Hill, where his research focuses on alternative methods for screening volatile chemicals for toxicity in vitro, something not currently feasible with the majority of existing in vitro assays. Additionally, he serves as a Biomedical Sciences Program Peer Mentor and a Student Senator at UNC Chapel Hill, as well as the student representative for the RTP Drug Metabolism Discussion Group. He has been a member of the SOT since 2016.
Attention Graduate Students! (or Mentors)

Supplemental Training for Education Program (STEP) - Next Deadline: October 1, 2018

Doctoral students are encouraged to apply with a strong application that proposes participation in a workshop or event that enables professional or scientific training needed to achieve career goals, but that is outside the scope of their graduate program.

For more Information please visit: http://www.toxicology.org/education/st/step.asp

It is never too early to start thinking about applying for a RSESS award!

Every year, RSESS offers several awards of $1000 to graduate students and postdoctoral scholars. The selection is based on the scientific excellence and relevance of their work to safety or regulatory evaluation.

RSESS also offers a “Paper of the Year” award to the first author of a paper that is driving major improvements in the field.

More information is available on our website.

Deadline is December 1st 2018
Due to a recent California Proposition 65 (Prop 65)-based lawsuit, coffee has been at the center of perhaps its first real controversy since “the hot coffee lawsuit”-Liebeck vs. McDonald’s in 1992. On March 28th, Los Angeles County Superior Court judge Elihu Berle ruled that certain coffee products will be required to have a label notifying consumers that these products contain a chemical (acrylamide) known to cause cancer by the State of California. The decision ends a long-running legal battle between coffee companies and the Council for Education and Research on Toxics (CERT). While much of the headlines have focused on how the ruling will affect Starbucks, this ruling will likely impact every coffee chain in California as well as any local coffee shop with 10 or more employees. Here, we will introduce some of the key information surrounding the case against Californian purveyors of one of our most-treasured beverages.

Imagine first the appearance and taste of a caramel, the crust of a fresh baguette, or a perfectly seared rib eye. Many of the flavor compounds found in these foods are products of the Maillard reaction, a series of chemical reactions between sugars and different amino acids that occur during high temperature cooking. The Maillard reaction also occurs during the roasting of coffee beans, imparting color and aroma. (van Boekel, 2006) In addition to producing delightful nutty and chocolaty flavor compounds, roasting coffee beans also produces acrylamide as a byproduct of the Maillard reaction.

Estimates of the acrylamide level in coffee vary depending on the extent of roasting and analytical technique. According to one published study (Mojska, 2013), the range of acrylamide in coffee products is approximately 0.1-1mg acrylamide/kg of dry weight. More palatably, the range of acrylamide in a single cup (160ml) of the coffees tested was 0.45µg-3.21µg. Acrylamide levels appear to be lowest in typical ground coffee and higher in instant coffee and coffee substitutes because they are exposed to higher temperatures for longer periods of time (who drinks coffee substitutes anyway?).

Most of you are likely familiar with Prop 65, or the Safe Drinking Water and Toxic Enforcement Act of 1986, either directly through work as toxicologists, or because you have seen the warning label- “This product contains chemicals known to the State of California to cause cancer.”- on businesses or products. Prop 65 requires all businesses or manufacturers to disclose if a product contains any of a list of roughly 800 compounds thought to pose a risk of causing cancer or reproductive toxicity in humans. Prop 65 chemicals are determined by the California Environmental Protection Agency’s Office of Environmental Health Hazard Assessment (CAL-EPA OEHHA) and are typically listed based on NTP, IARC, or EPA toxicity studies as well as other published literature.
The CAL-EPA OEHHA establishes Safe Harbor Levels for Prop 65 compounds, which can be either a No Significant Risk Level (NSRL) for cancer-causing chemicals or a Maximum Allowable Dose Level (MADL) for reproductive toxicants. Exposure levels below Safe Harbor Levels are exempt from Prop 65 notification requirements. A NSRL of 0.2 µg/day has been established for acrylamide based on long-term drinking water studies in rodents, which showed that acrylamide causes tumors at multiple sites in rats and mice. The NSRL represents a level of acrylamide exposure estimated to result in no more than one excess case of cancer per 100,000 people assuming lifetime exposure at the level in question (CAL-EPA, 2005).

Prop 65 has always been controversial; both lauded for benefitting public health and criticized for exaggerating risks and enabling nuisance litigation. The debate surrounding Prop 65 warnings for acrylamide in coffee is similar to other chemicals. While there is little doubt that coffee contains acrylamide, debate centers on whether coffee causes cancer. Because of Prop 65, the burden is on coffee businesses to prove that coffee does not cause cancer. However, to avoid costly legal bills, many companies simply settle and agree to post a Prop 65 warning. The Prop 65 ruling at hand is a result of a lawsuit originally filed in 2010 by the Metzger Law Group against 91 coffee producers and coffeehouses with a California presence. The lawsuit was brought forth on behalf of CERT, a California-based non-profit that actually shares the same address, phone number and contact person as the Metzger Law Group. The suit argues that the 91 coffee companies have knowingly violated Prop 65 by failing to warn consumers about the presence of acrylamide in coffee since 2002, when acrylamide was first identified in coffee. The plaintiffs contended that the daily acrylamide exposure in a single 8-ounce cup of coffee is far above the 0.2 µg/day NSRL set by OEHHA.

According to court records, the coffee companies initially provided evidence illustrating that coffee has never been shown to cause cancer in numerous studies, and therefore did not require a Prop 65 warning. However, because Prop 65 typically applies to individual chemicals, and coffee is considered a mixture under the law, the court deemed the argument invalid. In the most recent phase of the lawsuit, Starbucks proposed an alternative, less strict risk level for acrylamide of 2 µg/day, based on a 1 in 10,000 risk level instead of the standard 1 in 100,000 risk level used by OEHHA to calculate the 0.2 µg/day NSRL. Unfortunately for Starbucks and the codefendants, the judge ruled that their risk assessment was “not based on evidence and standards of comparable scientific validity to the evidence and standards which form the scientific basis for listing acrylamide”, resulting in the requirement of a Prop 65 warning on coffee products and potentially very sizeable fines for the coffee companies.

While we may soon see cancer warnings on our morning cup of joe in California, the jury is still out on what sort of fines will be levied against the 91 codefendants in the case, and what the Prop 65 warning will look like. Prop 65 allows for fines up to $2,500 per violation, and with millions of coffee cups served up every day in California, there is clearly a significant concern over the financial impacts of this ruling for the codefendants.
Critics of this ruling point to the thin line between CERT and the Metzger Law Group as a prime example of lawyers abusing Prop 65 under the guise of protecting human health. Proponents however, argue that Prop 65 lawsuits filed by such non-state entities are necessary to inform the public about potential health risks and to incentivize companies to reduce the presence of concerning chemicals in their products.

While the debate over the merits and drawbacks of Prop 65 will only be heightened by this recent ruling, two things are certain: that your coffee will now come with a warning when purchased in California and safety evaluation and risk assessment will continue to play a vital role in the ongoing debate.

References

