



# Communiqué

Winter Issue 2014–2015

## SOT News

### President's Message



President  
Norbert E. Kaminski

As promised in prior SOT *Communiqués* this year, I will continue to provide updates on the strategic planning that SOT is conducting. As I reported in September, in order to obtain the data needed that would serve as the foundation for developing a strategic plan for SOT for the next four years, various information-gathering activities were conducted during the summer of this year. These information-gathering activities were multifaceted and included one-on-one key informant interviews, group interview sessions with leadership from our component groups (i.e., Regional Chapters, Specialty Sections, and Special Interest Groups) and a survey of a representative portion of our membership (selected using SOT membership demographics). It is important to emphasize that the written survey was developed, in part, based on the information obtained from the interviews conducted, allowing Council to probe further into specific areas that were identified during the interviews. All of the information obtained was then compiled, distilled, analyzed, and carefully examined by SOT Council prior to a facilitated planning session that took place in September.

The goal of the facilitated session was to use the gathered information from our membership and key informants to identify the central challenge facing the SOT over the next 3-5 years. Stated concisely, the central challenge is to “Shape the Future of Toxicology in a Changing Scientific Landscape.” This changing scientific landscape includes, but is not limited to, the ever accelerating advancements in science and technology, the convergence of scientific disciplines to address complex biological problems, shifting professional needs of our members, especially with respect to the skill sets they will need to be successful and, of course, the globalization of toxicology and the SOT.

To address this central challenge, three strategic priorities now have been developed in the general areas of strengthening our science, promoting member services, and enhancing global engagement. In its present but not final form, the three strategic priorities are to “Strengthen the Impact and Relevance of Toxicology” as a discipline, “Develop and Support Toxicologists to Capitalize on Future Opportunities,” and to “Expand Reach and Impact Globally.” In 2015, as the new strategic plan is further honed and specific strategic activities prioritized, Council will distribute a draft of the strategic plan to SOT membership for your comments and input in early February. Based on your comments and recommendations, the strategic plan will be further modified, adjusted, and then formally presented at the 2015 SOT Annual Meeting. I want to emphasize that the SOT strategic plan is still a work in progress, hence the information shared above is still evolving but provides the general areas in which the SOT will be placing focus in the next four years.

I would like to use the second half of this President's Message to convey a few words concerning Shawn Lamb. It was with a sense of sadness as well as joy that I drafted the recent communication informing our membership that after 21 years as Executive Director, Shawn would be stepping down from her leadership role in January 2015 and then retiring in July of the same year. For many of us who have had the opportunity and pleasure of working with Shawn, it is clear

that her retirement will be a tremendous loss to our Society. At the same time, I know that Shawn has been looking forward to spending more time with family and directing her creative energy toward other goals. For that I am very happy and wish her much success. For those of you who are less familiar with Shawn, I would like to provide a small bit of history.

Shawn began working with SOT in 1991 as part of the IMG management firm, which in 1993 entered into a joint venture with the Associate Development Group (ADG). With some changes in personnel within ADG, including the departure of Joan Cassidy, the Executive Secretary for SOT, Shawn became Acting Executive Secretary in October 1993. Following a national search, Shawn was named the Executive Director of SOT in 1994, a title change coinciding with changes in SOT Bylaws. These changes occurred during Glen Sipes' term as SOT President and it is clear that Glen and the SOT Council made a very wise choice in selecting Shawn. In 1999, with encouragement of SOT leadership, the new management firm Association Innovation and Management (AIM), led by Shawn Lamb, was created. The goal of AIM was to provide administrative management for SOT and other scientific societies with common scientific interests. Under Shawn's leadership AIM grew from a staff of twelve to its current forty-seven employees, managing ten scientific organizations including SOT.

During the period of 1993 to the present, SOT grew from a society of approximately 3,000 scientists to a global society with over 8,000 members. Similarly, the SOT Annual Meeting attendance went from approximately 4,400 to over 6,500 in 2014. Shawn has played a critical role in the success and evolution of our Society. Her many contributions have typically occurred in the background and outside the visibility of our membership, yet important and impactful. What has always been very apparent to our Society's membership is Shawn's untiring dedication to SOT. It is virtually impossible to articulate the respect, appreciation, and admiration that the Society membership has for Shawn. It goes without saying that we will greatly miss her continued contributions to the SOT.

On a more personal note, I have had the distinct pleasure of working with Shawn in a number of capacities including twice as part of the SOT Council over a period spanning six years. I have always been greatly impressed by Shawn's professionalism, leadership qualities, and insights regardless of the situation. Shawn always knows just what to say and how to say it in a way that the message is understood by all and communicated in a manner that places everyone at ease. Having worked with 21 different SOT Presidents and as many Councils, Shawn has demonstrated a remarkable ability to adjust to each and everyone's operating style while maintaining that smile and sense of humor with which we have all become so familiar. On behalf of the entire membership, I want to extend my heartfelt thanks and wish Shawn our best for all her future endeavors.

*Norbert E. Kaminski, PhD*  
2014–2015 SOT President

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## **SOT Members Elected as Fellows of AAAS**

Four Society of Toxicology (SOT) members have recently been elected as a Fellow of the American Association for the Advancement of Science (AAAS). The SOT members so honored are Robert J. Cousins, David C. Dorman, A. Wallace Hayes, and Matthew J. Doyle. This recognition is conferred to AAAS members whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished. Examples of areas in which nominees may have made significant contributions are research; teaching; technology; services to professional societies; administration in academe, industry, and government; and communicating and interpreting science to the public. Fellows are elected annually by the AAAS Council from a list of approved nominations. For additional information, please visit the [AAAS website](#).

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## **SOT Council Approves New SOT Statements Procedure**

The Society of Toxicology (SOT) Statements Procedure Highlights:

- SOT has a new, revised process for developing Issue Statements.
- SOT has instituted a procedure for developing documents/writings known as Express Statements.
- All members are encouraged to suggest topics for Express or Issue Statements using the form on the [Issue and Position Statements](#) page of the SOT website.

In 2010, the Society developed and approved a process by which SOT would develop Issue Statements, which were defined as “short and balanced presentations of the science and related issues underlying an area of relevance to SOT and the field of toxicology.” Since the process was developed, SOT has published two official Issues Statements—one on the toxicological implications of the Deepwater Horizon Oil Spill and one on hydraulic fracturing—and has one in the pipeline on hookah smoking that soon will be issued to the membership for comment and review.

In order to build upon the successes and limitations of the process, as discovered during the development of the aforementioned Issue Statements, SOT Council appointed a Task Force, consisting of Matthew S. Bogdanffy, Lorrene A. Buckley, John C. Lipscomb, John A. Wisler, and Judith T. Zelikoff, to review the procedure. The review resulted in a few minor changes to the Issue Statement process to help streamline the workflow, but it also revealed the need for the Society to have a secondary communication mechanism that could respond more rapidly to issues of importance to toxicology. This resulted in the development of a new type of document/writing titled Express Statements, which are defined as “brief (generally < 1,000 words) communications on recent news and/or other activities that impact the understanding of toxicology.” The Task Force combined both of these processes into the new SOT Statements Procedure document, which SOT Council approved earlier this fall. This new process can be found on the [SOT Issue and Position Statements](#) page of the website.

All SOT members are welcome to propose topics for SOT Statement consideration at any time by submitting the proposal form found on the [SOT Issue and Position Statements](#) page [to me](#).

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## SOT Members: US EPA Call for Nominations

The US Environmental Protection Agency (US EPA) is inviting nominations of scientific experts from a diverse range of disciplines to be considered for appointment to the Scientific Advisory Board (SAB) 2015 Scientific and Technological Achievement Awards (STAA) Committee. The US EPA established STAA in 1980 to recognize agency scientists and engineers who published their work in peer-reviewed literature. The STAA Program is an agency-wide competition to promote and recognize scientific and technological achievements by US EPA employees and this program is administered and managed by the US EPA Office of Research and Development (ORD).

The SAB office is seeking nominations of experts to form the SAB 2015 STAA Committee from disciplines related to human health and the environment, including toxicology, toxicokinetics, air pollution exposure, human health effects and risk assessment, human health dosimetry, mechanisms of toxicity and carcinogenicity, and dosimetry and inhalation toxicology. A full list of sought after expertise is included in the [Federal Register notice](#).

SOT members are encouraged to forward a focused statement (no more than two paragraphs) describing his or her qualifications for this nomination, a resume or *curriculum vitae*, sources of recent grant and/or contract support, and a biographical sketch indicating current position, educational background, research activities, and recent service on other national committees or national professional organizations to [Marcia Lawson](#) by Monday, December 15. Candidates credential will be reviewed by SOT Council members of the SOT-US EPA Government Liaison Group for consideration and inclusion on the list of SOT-recommended experts to be provided to the US EPA. The nomination period closes on Friday, December 19, and SOT is encouraging interested individuals also to self nominate directly to the US EPA. SOT-supported nominations will be provided to the US EPA separately.

Thank you for participating in this important process.

Sincerely,

Norbert E. Kaminski

## **SOT 2008–2009 President Kenneth S. Ramos Appears on The Dr. Oz Show**

The Society of Toxicology (SOT) was contacted by the The Dr. Oz Show to seek an expert to participate in a program segment entitled “The New GMO Doctors Are Warning Against.” SOT contacted 2008–2009 SOT President Kenneth S. Ramos, Associate Vice President, Precision Health Sciences, University of Arizona, who agreed to be interviewed as part of the program. The segment aired on September 22, 2014 and focused on a pesticide, Dow’s Enlist Duo, anticipated to be approved for use by the US Environmental Protection Agency (US EPA) in the near future. Diverse perspectives on this issue were presented by representatives that included parent and disease advocacy organizations, a New York Times columnist, and the Environmental Working Group. Dr. Ramos addressed toxicity and exposure concerns noting that the weight of the evidence demonstrated that the pesticides in use are safe. Moreover, regarding exposures he stated that the US EPA aggressively monitors pesticide use to assure the safety of humans and the environment. The Society was pleased to be turned to as a resource on this matter of public concern and to provide an expert who could add balanced, scientific information to the discussion.

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## **Two New Named Endowment Funds Announced: Matching Funds Available**



The Society of Toxicology (SOT) is pleased to announce that two new Endowment Funds have been established: the Donald E. Gardner (photo below) Inhalation Toxicology Education Award Fund and the Toxikon, A Preclinical Toxicology Organization, and Dr. Dharm Singh Association of Scientists of Indian Origin Fund.

The goal of the Donald E. Gardner Inhalation Toxicology Education Award Fund is “to encourage the education and training that will promote innovation in the field of Inhalation Toxicology.” The Fund will be used to provide stipends to early career scientists to gain specialized training in novel inhalation methodologies, including respiratory tract dosimetry and mechanisms of action of inhaled materials. A complete description of this Fund is on the [SOT website](#). Dr. Gardner was a distinguished pioneer in the field of Inhalation Toxicology and his [In Memoriam](#) describes his contributions to a better understanding of the health effects of air pollutants, thereby promoting the health of workers and the public.

The Toxikon, A Preclinical Toxicology Organization, and Dr. Dharm Singh Association of Scientists of Indian Origin Fund was “created to inspire excellence in toxicology scholarship, leadership, and service to further the global outreach efforts of the SOT Association of Scientists of Indian Origin (ASIO) Special Interest Group (SIG).” The proceeds from the Fund will be used to support educational efforts of emerging toxicologists (undergraduates, graduate students, and postdoctoral trainees) of Indian origin.” A complete description of this Fund is available on the [SOT website](#).

The Society will match your contributions with a one to one dollar match of your support. This one to one dollar match is effective for contributions made between July 1, 2013 through June 20, 2016 or until \$400,000 in matching funds have been expended. You can help build for the future of toxicology by providing a [donation](#) today.

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## **SOT New Member and Upgrade Applications Due by January 1**



We are writing to send you all the best wishes of this holiday season and to remind you that the next Society of Toxicology (SOT) membership application deadline is January 1, 2015. We encourage you take this opportunity to assess your membership level and [apply for an upgrade](#) if you are eligible.

Completed applications received by the January deadline will be reviewed by the Membership Committee in January. This means your letters of recommendation from your sponsors (who must be Full members of SOT if you are applying for Full or Associate membership) must be submitted by January 1, 2015 as well in order to be reviewed by this deadline. Candidates will be notified of their acceptance by mid-February.

Did you know there are seven different types of membership? That's right, apart from Student, Postdoctoral, Associate, and Full membership, SOT also offers Retired, Emeritus, and Honorary membership! To apply for Retired membership, you must first be a Full or Associate member of SOT. Then, all you have to do is email [SOT Headquarters](#) stating that you have retired and earn less than 50% of your income from toxicology-related endeavors. Emeritus membership is automatically gained when you have been a member of SOT continuously for forty years. Honorary membership is a little different in that it is not an applied-for status. Honorary Membership is conferred by SOT Council based on career achievements in toxicology. View more information on all the different [types of membership](#).

Are you already a Full member of SOT? One of the many benefits of Full membership is the ability to sponsor potential new members. Email [SOT Headquarters](#) for more information on how to sponsor!

There are many other benefits to Full membership, including the ability to vote for next year's SOT Council, or any other elected committee! Do you want to run for a leadership position? You can do that too, as a Full member! [Upgrade your membership](#) today!

Are you a Student member who has just received your PhD? First of all, congratulations! Second, please upgrade your membership within one year of your graduation, because technically you are not allowed to be a student member any longer! But good news: Student and Postdoctoral applications are reviewed every two months, so if you are accepted into a postdoctoral program, you can quickly upgrade your membership. Why wait? Just ask your program mentor or advisor to write you a letter of recommendation. Remember: they don't have to be a member of SOT to sponsor you for Student or Postdoctoral membership!

Do you have any additional questions? Remember that you can email [SOT Headquarters](#) at any time. We respond to emails really fast, and we love hearing from you!

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## Is It Time to Upgrade Your SOT Membership?

By becoming a member of the Society of Toxicology (SOT), you have demonstrated your commitment to creating a safer and healthier world. The SOT is proud to partner with you on this mission. Membership in the Society is offered on several tiers so that we may best include and serve toxicologists from varying backgrounds and levels of experience. Pictured below are SOT members at every career level networking at the SOT 2014 Annual Meeting Welcome Reception.

- **Postdoctoral Members** hold a PhD or equivalent doctorate (e.g., MD, DVM), have an interest in toxicology, and are under the direction of a research mentor.
- **Associate Members** are qualified individuals who are engaged in professional activities in toxicology.
- **Full Members** have a continuing professional interest in toxicology, have conducted and published original research, and/or are generally recognized as expert in some aspect of toxicology. Associate Membership is not a prerequisite for Full Membership.



We encourage you to upgrade your membership as you progress through your career in toxicology, when you have reached a milestone such as completing a doctoral degree program, or have achieved a number of years or publications in the field to qualify for Full membership.

SOT membership at any level provides distinction and recognition among your peers, as well as members-only access to the SOT website and ToXchange, the SOT Job Bank, Mentor Match, and important communications about your society and discipline. As a member, you receive discounted registration for the SOT Annual Meeting and reduced rate access to *Toxicological Sciences*. You also are eligible for many prestigious awards, grants, and fellowships offered by SOT and its Endowment Fund, Regional Chapters, Special Interest Groups, and Specialty Sections.

As a **Postdoctoral Member**, you are included in the Postdoctoral Assembly, which is a great resource for scientific growth, networking, and career advancement. You are eligible to serve as a representative for a Regional Chapter, Specialty Section, Special Interest Group, or SOT Committee, and you receive membership in one Specialty Section and one Special Interest Group at no cost.

As an **Associate Member**, you are eligible for leadership opportunities on many of SOT's appointed committees that foster the development of the strategic initiatives of the Society. You may serve in the President or Treasurer chain of a Regional Chapter, Special Interest Group, or Specialty Section, and you may chair sessions at the SOT Annual Meeting.

As a **Full Member**, you have all the membership benefits of an Associate Member plus increased opportunity to help shape the future and direction of the Society. You are eligible to hold leadership positions including elected membership on the SOT Council. You also receive voting privileges and the ability to sponsor applicants for SOT membership.

We value all of our members and encourage active participation in the Society. The process to upgrade your membership is quick and easy using the [online membership application](#). Additional information is available on the [SOT website](#).

Applications are reviewed in January, May, and September. Complete your application by January 1, 2015 in order for your upgrade to be considered in the next review cycle. Approved candidates will be notified prior to the [SOT 2015 Annual Meeting](#).

For more information, please contact Rosibel Alvarenga at [SOT Membership Services](#) or 703.438.3115.

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## SOT Careers in Risk Assessment Webinar Series: A Perspective

My name is Joshua Vaughan and I am currently a 5th year PhD graduate candidate at the New York University (NYU) School of Medicine. I would like to take this opportunity to report from an attendee perspective on the "Careers in Risk Assessment: Early Career Scientist" webinar, the first of the Careers in Risk Assessment Webinar Series, which was held on November 19, 2014.

In the past, I have actively participated in several career workshops and talks provided by numerous Society of

Toxicology (SOT) Specialty Sections. However, in this last year I had the pleasure of meeting Betina Lew, Chair of this particular webinar, at an early morning “Chat with an Expert” seminar held at the SOT Annual Meeting in Arizona, sponsored by the Hispanic Organization of Toxicologists (HOT). After an engaging roundtable conversation, she extended herself as a mentor who is currently maintaining that role with me. Therefore, I would like to extend my thanks to you, Betina, as well as all of the committee members and sponsors who contributed toward the organization and production of this terrific series. This fruitful webinar, Co-Chaired by Dr. Lew, John C. Lipscomb, and Jose Torres, and sponsored by the Career Resource and Development (CRAD) Committee, Risk Assessment Specialty Section (RASS), and HOT, was particularly interesting from the perspective of an increasingly anxious student at the tail end of my graduate studies.

The format was very well done, starting with John C. Lipscomb’s concise, yet excellent, opening overview of the basics and tenets of risk assessment, then onto Donna A. McMillan’s emphasis on the critical points that are considered for candidates from the point of view of an industrial hiring manager, she provided unique insight, from the “other side” of the interview table. Ron Brown’s government perspective was an excellent contrast, wherein he provided an insightful focus on the importance of training beyond formal degree avenues, particularly fellowships, extracurricular continuing education, risk assessment boot camps, and other training opportunities that most students would not normally consider.

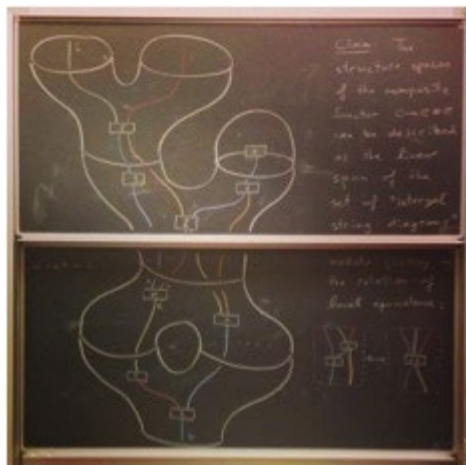
Minerva Mercado-Feliciano’s personal discussion of her journey was a good addition regarding the “after-life” in the postdoc realm, specifically, her talk of her previous career experience as an environmental manager who then decided to go back to graduate school and, ultimately, to her journey through postdoctoral training. Finally, I found Brian Wall’s experience as a successful young scientist in industry and his discussion of his choices and considerations most relatable as an “early career” attendee. Most notably, I found his advice to consider the interview as “bi-directional” a very interesting take-away.

These talks were followed by a very engaging panel discussion in which the audience had the opportunity of having some of their questions and concerns addressed by the panelists. Overall, the themes of the seminar left a lot for me to reflect on moving forward; particularly, the webinar’s reoccurring advice to acknowledge the dichotomy of the broad nature of toxicology as a vast field, all the while maintaining yourself as a candidate who brings a unique skill set as a specialized core scientist. Therein, being able to apply your specific skill set to the greater focus of your organization, whether it is in the realm of governmental policy or a capital venture of a company.

To view this webinar, please visit the [SOT website](#).

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## SOT STEP Awardee Explores Mathematical Frameworks for Paradigmatic Inspiration



With the generous support of the Society of Toxicology (SOT) Supplemental Training for Education Program (STEP) Award administered by the Graduate Education Subcommittee, I was able to attend a mathematics masterclass hosted by the University of Copenhagen’s Center for Symmetry and Deformation in Copenhagen, Denmark. The topic of the masterclass was topological quantum field theories, quantum groups, and two- and three- manifold invariants and was taught by Christopher Douglas, André Henriques, and Ryszard Nest. In attendance were graduate students in the very abstract areas of mathematics that deal with categorizing topological spaces and characterizing their mathematical properties.

The format of the course was framed in a way that may seem unusual in the sciences but is more common in pure mathematics, and that is of telling a “story”—the story being how to derive three-dimensional topological quantum field theories (3d TFT). The process traced the mathematical steps needed to derive the 3d TFT. The story spanned five days, each filled with lectures, coffee breaks to process the information, and boards of abstract and intriguing drawings

to detail the constructions needed to map the relations (see photo courtesy of Eivind Dahl).

The masterclass was truly an act of oral story telling—the kind that is rarely found anymore, but that persists in the math community where this type of story is often the only way some information is communicated. To that end, the objective was to bear witness to this story unfolding—the maddening brilliance of the storytellers and the very great task of communicating this information across the languages of algebras, categories, groups, and topology. I would describe this experience as transformative, paradigm-shifting, and enlightening. I expected to learn about quantum groups to use in modeling, and what I received was far more valuable and far more ineffable, an expanded sense of where models can go, the spaces which they can occupy, and the wildness of the terrain they can imagine.

This expansion has strengthened my ability to conceptualize, to think freely, to devise new structures, and to venture grandly into the intellectual unknown. In turn, it will significantly impact my research at the New York Medical Center and my path forward. In the next year and years to come, I will utilize this sense of freedom to articulate paradigmatic forms that require great complexity and great axiomatic clarity. Specifically, I will work to develop models that can be used to evaluate toxins in computational and theoretical settings. Such models require complex constructions of intracellular spaces that will be well-served by mathematics in this area. In addition, this experience has widened my professional network and has already led to new mentors who will support my mathematical and theoretical explorations now and in the future.

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## 2015 Global Senior Scholar Hosts Announced

The two 2015 Society of Toxicology (SOT) Global Senior Scholars are now putting plans in place for their visits to the United States next spring, which will include presenting posters at the [SOT 2015 Annual Meeting](#) as well as an extended exchange visit to the campuses of their Hosts.

The number of host applications has increased year-by-year even though the application is not simple and the commitment of time on the part of the Host is considerable. The Education Committee reviewed very strong applications this year and is pleased by the strength of Scholar and Host applications and the outcomes from the exchanges funded previously.

Sunisa Chaiklieng is an Assistant Professor of Occupational Health in the Department of Environmental Health Science and Occupational Health at Khon Kaen University in Muang, Thailand, and will be hosted by Norbert Kaminski at Michigan State University. Dr. Chaiklieng met Dr. Kaminski previously as he organizes and teaches a graduate level immunotoxicology and endocrine disruption short course every other year at the Chulabhorn Research Institute, Bangkok, Thailand. Dr. Kaminski has served on a thesis advisory committee for a Thai student, hosted a professor from Thailand during his sabbatical, and now has a former graduate student on the faculty at Chulabhorn Research Institute. Dr. Chaiklieng will have the opportunity to participate in the exploration of molecular mechanisms by which xenobiotics modulate the immune system, to expand her knowledge in the various topics explored in Dr. Kaminski's lab, to learn immunological techniques that can support her research interests, and to engage in the many seminar series that are held on campus.

Deepak Dhakal is in the Department of Chemistry, Institute of Science and Technology at Tribhuvan University, Patan, Nepal. His exchange experience will be at University of Pittsburgh with Aaron Barchowsky. Dr. Barchowsky envisions that the intellectual exchange with Mr. Dhakal will enrich the University's programs in environmental and global health sciences as well as Tribhuvan University in Nepal. He is planning a workshop focusing on state-of-the-art environmental sampling techniques and risk assessment in Nepal. This workshop will inform participants on the true state of environmental contamination and risks encountered in Nepal, the current state of environmental health practice, and the research needs to improve environmental health, especially protection from toxic chemical exposure. A second goal will be to establish collaborations through which Mr. Dhakal can increase the research capacity at his institution in Nepal and enrich his Master's program in Occupational Health and Safety. Mr. Dhakal is President of the National Society of Toxicology (Nepal). In addition to his interaction with SOT, he will likely be involved with the Allegheny-Erie Regional Chapter during his time in Pennsylvania; this exchange will include collaboration between SOT and the National Society of Toxicology in supporting the discipline of toxicology around the globe.



More information, including descriptions of previous activities, is found on the [Global Senior Scholar Exchange Program](#) section of the SOT website.

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## SOT Welcomes New Affiliate Huntingdon Life Sciences/Harlan

We are pleased to announce that [Huntingdon Life Sciences/Harlan](#), Huntingdon, Cambridgeshire, United Kingdom, has become the newest SOT Affiliate. Huntingdon Life Sciences/Harlan is an international contract research organization offering a comprehensive range of nonclinical development services. The mission of this organization is to help its customers develop safe and effective new compounds that make a real difference to people's lives. Huntingdon Life Sciences/Harlan provides services to pharmaceutical, biopharmaceutical, crop protection, and chemical companies from around the world, conducting developmental research to support their global regulatory submissions. For additional information, please visit the [Huntingdon Life Sciences/Harlan website](#). Consider demonstrating your organization's support of the Society of Toxicology by becoming an SOT Affiliate. For additional information, visit the [SOT Affiliates section of the SOT website](#) and contact [Marcia Lawson](#) at SOT Headquarters.

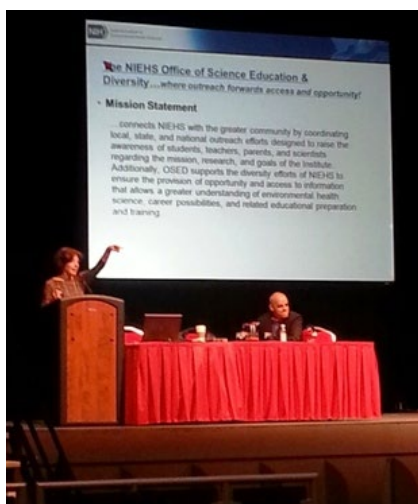
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## SOT Welcomes New Affiliate Western Slope Laboratory

We are pleased to announce that [Western Slope Laboratory](#), Troy Michigan, has become the newest Society of Toxicology (SOT) Affiliate. Western Slope Laboratory is an ISO/IEC17025:2005 accredited toxicology laboratory delivering forensic level, mass spectral-based testing services to participants in the health, life, and/or environmental services markets, with a particular interest in developing advanced testing to quantitatively measure human exposure to environmental, pharmaceutical, and consumer product chemicals. The mission of Western Slope Laboratory is "precise and accurate testing delivered with the highest level of customer service." For more information about this organization and the services provided, please visit the [Western Slope Laboratory website](#). Consider demonstrating your organization's support of SOT by becoming an SOT Affiliate. For additional information, visit the [SOT Affiliates section](#) of the SOT website and contact [Marcia Lawson](#) at SOT Headquarters.

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## NIEHS and NTP Director Linda Birnbaum Was SOT-Sponsored ABRCMS Speaker



Now in its fourteenth year, the Annual Biomedical Research Conference for Minority Students (ABRCMS) is the largest conference for students from groups that are under-represented in the sciences and interested in pursuing advanced training in science, technology, engineering, and mathematics (STEM). Linda Birnbaum, Director of the National Institute of Environmental Health Sciences (NIEHS) and the National Toxicology Program (NTP), was the Society of Toxicology (SOT)-sponsored speaker at this year's ABRCMS conference, November 12–15, 2014, in San Antonio, Texas.

Her talk "Embracing Diversity, Embracing Ourselves" was featured in the career track of the meeting. She stated that: "the NIEHS's greatest asset is the talented federal workforce who fuel our innovation and advances. By actively building a rich and diverse faculty, we can ensure future successes within the Institute. Through the integration of diverse perspectives, the scientific community has expanded both its vision and capabilities. But maintaining a diverse workforce requires a focus on the individuals, allowing for individualized support and work-life balance." Dr. Birnbaum discussed the importance of work-life balance and diversity while sharing her own winding career path and her experiences and decisions balancing

her career and family.

Jose Manautou not only provided the introduction for Dr. Birnbaum but also was the contact in the SOT exhibit booth. Dr. Manautou was accepted to participate in the Mentoring Strategies Workshop, an intensive, facilitated interactive ideas lab designed to foster collaborations and innovative thinking. This workshop focused on tackling the greatest mentoring challenges, especially as related to building interdisciplinary research teams and broadening participation in STEM. Pictured at the left: Dr. Birnbaum is at the podium and Dr. Manautou is seated.

SOT has supported speakers and a booth at this meeting for many years through the efforts of the Committee on Diversity Initiatives (CDI). The conference attracts about 1,700 undergraduate students, 400 graduate students and postdoctoral scientists, and 1,200 faculty, program directors, and administrators. More than 500 representatives from graduate programs at US colleges and universities as well as scientists from government agencies, foundations, and professional scientific societies join ABRCMS in the exhibitors program to share information about graduate school and summer internship opportunities.

ABRCMS is sponsored by the National Institute of General Medical Sciences (NIGMS). This conference provides a dynamic venue to promote opportunities for young scientists to build their professional and academic skill set and to begin career paths into STEM fields. The CDI is excited to be able to support SOT's commitment to enhancing diversity in STEM through conferences, such as ABRCMS, and other programs focused on developing this pipeline of talent.

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## Toxicology Featured at SACNAS Meetings



Society of Toxicology (SOT) programs actively encourage recruitment of students from all backgrounds to toxicology, including outreach at meetings organized by scientists from groups that are under-represented in the sciences. One of these meetings is hosted by the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS). The [SACNAS National Conference](#) October 16–18 in Los Angeles, California, is likely to attract about 4,000 attendees in a culturally rich atmosphere for presentations, research posters, and exhibits to motivate participants to achieve their highest goals in pursuing education and careers in STEM fields.

The Committee on Diversity Initiatives (CDI) has organized an exhibit booth at this meeting. Among SOT members who will be spending time greeting students and discussing toxicology research and careers are Douglas Stevens, Joe Galvan (pictured at right), William Atchison, and Vanessa Nunez.

Dr. Galvan is one of the featured speakers. He will be a keynote panelist in the session “Pathways to Success: Real-Life Adventures of SACNAS Scientists“ and speak about his experiences as a toxicologist. Dr. Galvan has been employed in several capacities related to safety assessments of household products.

Jorge Naciff, a member of the CDI, is involved in two sessions, the workshop “Getting a Foot in the Door-CV/Resume/Pre-Screening Interview” and also “Internships in Industry, Government, and Nonprofit.” He also was involved in a professional development workshop at the 2013 SACNAS meeting in San Antonio, Texas. Ofelia Olivero also will be attending the meeting on behalf of the National Cancer Institute (NCI).

Last year, William Atchison organized the workshop “Toxicology-Integrating Chemistry, Physics, and Biology to Understand Contemporary Issues of Health and Environment” for the 2013 SACNAS meeting. The speakers and their topics are below.

- José E. Manautou, Hepatic Transporters and Development on Tolerance to Hepatotoxicity by Acetaminophen
- Kenneth S. Ramos, Damaging Agents Reactivate Long Interspersed Nuclear Element-1: Molecular Mechanisms and Implications for Human Oncology

- Martin A. Philbert, *The Biophysical Life of the Cell Below 1 Micron*
- William Atchison, *Gene-environmental Interactions as Contributions to Development of Neurodegenerative Diseases*

SOT also will be exhibiting at the [Annual Biomedical Research Conference for Minority Students](#) in San Antonio, Texas, November 12–15, 2014. Linda A. Birnbaum is the SOT-sponsored speaker this year and Dr. Manautou will be lead in the exhibit booth.

## SACNAS: Creative Science, Vision, and Toxicology

*Submitted by Vanessa Nunez, SOT Undergraduate Student Affiliate and member of Hispanic Organization of Toxicologists Special Interest Group, University of California Los Angeles*

This year's Society for the Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) National Conference took place in Los Angeles, California, and brought together over 350 university and industry exhibitors, over 1,000 student poster presentations, and thousands of attendees. Pictured at right: Doug Stevens and Joe Galvan share career information at the SOT booth.



The theme of the conference was “Creativity, Vision, and Drive: Toward Full Representation in STEM” and it was apparent in every aspect of the conference. The conference featured keynote speakers, scientists from every walk of life, and entertainment by Native American tribes. It was definitely an engaging conference from start to finish.



I had the opportunity to present my research on pesticide exposure and its link to Parkinson's disease and received very valuable feedback from my judges. I also had the opportunity to network with many recruiters and representatives from leading science organizations. I am excited to continue to nurture the relationships I formed this past weekend as I continue to pursue my scientific career.

The Society of Toxicology (SOT) booth was definitely very popular with attendees at the conference. During my time at the booth, I met a student from a community college in Santa Ana who thought she may be interested in toxicology but was unsure of what the field was. When I began explaining to her that toxicology can be found really in any field and all the opportunities SOT provides for undergraduates, her excitement was immediately apparent and her curiosity definitely peaked. I have a strong feeling SOT will be seeing more of her in the future. Pictured at the left: Ofelia Olivero and Vanessa Nunez welcomed booth visitors.

I am glad I had the opportunity to share my own experiences with SOT with her and let her know how welcoming and helpful SOT and its members are. Just a year ago, I did not even know about SOT, but now I've come to find a network of mentors and friends and I know she will too.

## Looking for Career Opportunities in Toxicology? The SOT Job Bank Is Available 24/7!



Looking for Career Opportunities in toxicology? The [SOT Job Bank](#) is available 24/7! Whether you are looking to advance your career or recruit for an open position, the Job Bank can help.

### **Job Seekers**

Are you looking for a position in toxicology? Seeking to advance your career, or just stay abreast of the current job market? Log in to the [SOT Job Bank](#) today to instantly browse our database of current, toxicology-related positions with a new or existing registration. This service is free to SOT Members and available for a small cost to non-members.

You may activate your Job Bank account to allow your CV and contact information to be visible to company recruiters, or you may browse confidentially. Enroll for our bi-weekly digest and automatically be notified of all new job postings. [Access the Job Bank](#) today to get started.

### **Employers**

Is your organization looking to fill positions for qualified toxicologists? Where better to start your search than with the Society of Toxicology? Simply [register](#) with the Job Bank by creating an Employer Account! Employers can browse resumes, contact active Job Seekers, and post all the information needed to recruit their next toxicologists! New Job Bank listings are emailed to all enrolled job seekers in our bi-weekly digest.

Log in today to [browse the complete listings](#) or [post your own position!](#)

### **Featured Position:**

#### **Division Director—Division of Biology, Chemistry and Materials Science, US FDA**

The Division of Biology, Chemistry and Materials Science (DBCMS) participates in the Center's mission of protecting and promoting public health by identifying and investigating issues related to the interaction between medical devices and the human body. The division accomplishes this by conducting laboratory-based regulatory research; providing scientific and engineering expertise for pre-market reviews, post-market investigations, and standards development; and collaborating with colleagues to develop, translate, and disseminate science and engineering-based information on regulated products. Specifically, DBCMS focuses on device issues that involve: biocompatibility, biological risk assessment, and toxicology; materials characterization and processing; materials degradation and chemical contamination; electrochemistry; infection control, sterility, and biofilms; computational modeling of physiological processes; and nanotechnology.

For more information on this position, please visit the [SOT Job Bank](#) today.

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## **SOT Helps You Find Your Mentor Match**





[Mentor Match](#) is an online program for Society of Toxicology (SOT) members that aims to match mentees with potential mentors who can provide guidance on career path selection, professional development, and life/work balance issues. What can Mentor Match do for you?

### **Why Be a Mentor?**

- Share your knowledge and experience with others who are actively seeking to learn.
- Give back to SOT and the scientific community.
- You don't have to be in a senior- or high-level position to be a mentor. Everyone has a different definition of success, and knowledge/wisdom can be gained at every level.
- Make lasting connections with toxicologists in your field, region, or component group and help advance the science of toxicology.

### **Why Be a Mentee?**

- At any age or stage in your career, you may need guidance or perspective.
- Having a mentor means you are open to learning and growth.
- Mentors are different than bosses; you may be able to be more open about your challenges and concerns without worrying about judgment or professional repercussions.
- You don't know what you don't know. (When it comes to your career, usually ignorance is not bliss!)
- Mentors can help with a variety of issues, including but not limited to:
  - Career path selection
  - Professional development and advancement in your field
  - Work/life balance
- Learning from your mentor's mistakes may help keep you from making them!
- Mentors may help you find a job, or at least get your foot in the door. (If so, this is a favor and should not be an expectation.)

Visit [Mentor Match](#) at any time and log in or sign up with your email address and SOT password. For more information, please contact [Kevin Merritt](#).

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**Mentor-Match Database: Be a Mentor Today, Be a Mentee Tomorrow, and a Mentor Once Again**



The Society of Toxicology (SOT) offers a wide variety of programs focusing on the career development of early-career scientists. Moreover, many times, a mentor will help in the career development of a trainee (or those seeking changes in their career path) in ways that no other program will. A mentor provides guidance, helps overcome challenges and, if the chemistry between the mentor and the mentee exists, they will inspire each other along the way.

With the benefits of the importance of mentoring in mind, SOT's Career Resource and Development (CRAD) Committee has launched several mentoring programs to the members of the Society. It also developed the [Mentor-Match](#) online program on the SOT website where members looking for mentors can find their best matches.

The beauty of the program is that a senior member can act as a mentor and provide advice on career path selection and success, life/work balance issues, and also be a mentee as they consider moving into a different specialty or area of employment. Additionally, when it comes to mentorship, it is an unwritten rule that "one should give back at least what they've received." So, if you've had a mentor during your career as a postdoctoral or graduate student, you might want to consider becoming a mentor for an aspiring toxicologist who faces challenges similar to those that you did during your early career.

In addition to the huge satisfaction of seeing someone flourish and succeed, senior mentors often mention that they learn a great deal of information from their mentees. Mentoring is a "2-way street," and when two generations come together and exchange their ideas and experiences, both mentor and mentee can learn a lot from each other.

It is easy to become a mentor/mentee. Please visit the [SOT Mentor-Match](#) section of the website to find out more about how to make yourself available to be a mentor, find a mentor, or become a mentee:

If you need more information on this program, please contact [Kevin Merritt](#) at SOT Headquarters.

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## Online Continuing Education—FREE to SOT Graduate Student and Postdoc Members!

CEd-Tox, the Society of Toxicology (SOT) online Continuing Education (CE) program, houses a library of CE courses covering a broad spectrum of toxicology topics from: Alternative and *In Vitro* Methods to Stem Cells; Epigenetics to Risk Assessment; Drug Hypersensitivity to Ocular Tox.

Graduate student and postdoc members of SOT receive free access to all online CE courses. Additionally, scientists in developing countries receive **free access** to all courses. English language transcriptions are available with registration for select online courses.

Originally launched five years ago, CEd-Tox now offers 41 online CE courses (mostly full length courses presented at past SOT Annual Meetings, as well as a few 45 minute Sunrise courses). These courses have become extremely popular for scientists who cannot travel to the SOT Annual Meetings, international scientists, postdocs, and graduate students.

But don't just take our word for it. Here are some comments from past subscribers of CEd-Tox courses:

"These courses are a terrific resource and convenient; I'm very happy that SOT has provided this alternative to attending the live courses."—Andrew Standeven, Amanita Consulting, LLC, El Dorado, California

"Through the great choice of speakers and topics for that particular session, I got a broad perspective and an immersive depth at the same time, about topics in green chemistry that I had no previous idea about. The speakers themselves were good, articulate speakers who were smooth to listen to and follow. The content they brought in was honest and interesting—very open, experience and discussion-based—not boring lecture style."—Dhvani Parikh, PhD candidate 2014, University of Pittsburgh, Pittsburgh, Pennsylvania

"We are using this course to help our internal CE (often in academia, we become so specialized that we lose sight of the forest for the trees)."—Steven Siciliano, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.

These 2014 CE courses recorded as part of CEed-Tox now are available, along with electronic copies of the course books (“ebooks”).\*

- Combination Products: Toxicology and Regulatory Challenges (Basic: 45 minute mini course)
- Computational and Experimental Aspects of microRNAs in Toxicology (Advanced)
- Current Trends in Genetic Toxicology Testing (Basic)
- Epidemiology for Toxicologists: What the Numbers Really Mean (Basic)
- Inhalation Studies: Challenges and Complexities (Basic)
- Methodologies in Human Health Risk Assessment (Basic)
- Nonclinical Animal Models Enabling Biopharmaceutical Advances in Translational Medicine (Basic)
- Nonclinical Pediatric Drug Development: Considerations, Study Designs, and Strategies (Basic)
- Stem Cells in Toxicology 2014 (Basic)

The refined search engine allows you to search for courses by year, title, topic, and speaker.

We invite you to visit the [SOT website](#) for complete course information.

*\*Course ebooks available only for 2014 online courses.*

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## **Transitioning into Industry: Regulatory Toxicology**

### **Contributed in Recognition of National Postdoctoral Appreciation Week**

Several mentors had shared with me their view of postdoctoral fellowships: after two or three years, it may not help your *curriculum vitae* to stay in the same place. In some ways, I couldn't accept this information. I liked my work very much and was publishing and productive. Further, most postdoctoral fellows now are keenly aware of limited job availability, and of the competition for any toxicology position at the PhD level in any sector. In response, most of us have chosen to stay as postdoctoral fellows for longer periods of time, or to complete more than one fellowship, in order to stay connected to our toxicology interests. Balancing personal needs, professional development, and career interests in the current environment has presented all of us with difficult choices that demand action, not dejection. I think it is important to confront these realities with optimism and some long-term career investment.

First, I started thinking about scientific and career goals as separate but related concepts in order to appreciate what different positions might help me accomplish. No position need be forever, and interim positions might enable long-term realization of overall goals. My rationale was that achieving my goals will take a career, one with perhaps many “jobs” combined to set me on a path of highest impact. If a permanent position constantly supported one's goals, what would be the purpose of the highly prized sabbatical or the infusion of new skills from a postdoctoral fellow?

Most recently, I was an Oak Ridge Institute for Science Education (ORISE) postdoctoral fellow at the US Environmental Protection Agency, developing high-throughput assays to evaluate *in vitro* endocrine activity as part of the broader concept of Toxicity Testing in the 21st Century. This work fit my long-term science objective, to use predictive assay and systems biology models to prioritize environmentally-relevant chemicals and mixtures. Meeting one of my major career objectives, to improve future prioritization and risk assessment, would require a position that allowed me to consider the impacts of high-throughput science on the risk assessment process. Having perspective from more than one sector on an issue also struck me as being really important in terms of creating partnerships and cross-sector solutions to toxicology problems.

Networking, far in advance of needing a position, was essential for my transition. Networking could mean applying and interviewing for jobs, giving seminars across sectors, and investigating collaborations. It might seem like a familiar cliché, but it is my experience that scientific engagement with others and personal courtesy are constantly returned to me somehow, if not directly.

The third concept I learned regarding my transition is the importance of diverse toxicology experience. I know this is a vague recommendation, but understanding different toxicology applications and sectors, pursuing short (or long) internships or lab visits, and learning persuasive writing are all skills that are needed to bring one's research value to that next position.

Currently, I am engaged in a two to three-year position at Bayer CropScience in Human Safety Regulatory Toxicology, much like a postdoctoral fellowship in terms of its structure. In my opinion, this is an invaluable opportunity to transition my career to the next level. I increase our stakeholder involvement in initiatives like ToxCast, and help inform our activities through the lens of high-throughput science. This is a rewarding position that not only builds upon my background in high-throughput assay development, toxicology, and endocrine systems, but also challenges me to expand my computational toxicology, regulatory toxicology, and communication skillsets so that we can collaboratively develop approaches to using high-throughput science. The biggest keys to getting here were staying focused on how my previous laboratory research impacted the toxicology community, viewing my goals through a career trajectory, extensive networking, varied toxicology experiences, and some good luck. Now, I am expanding different sets of scientific and soft skills, and I feel I am making progress toward my long-term scientific and career goals by taking this leap.

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## **Transitioning into Government: From Academia to a Stable Government Position**

### **Contributed in Recognition of National Postdoctoral Appreciation Week**

*Submitted by Chris Banks*

In hindsight, my transition from a postdoc to a government toxicologist felt pretty unremarkable, despite a moment of genuine panic along the way. At the time, I honestly had no intentions of leaving my position at the university. I had just received a National Institute of Environmental Health Sciences (NIEHS) training grant guaranteeing me a position for the next two years, and I really liked the research I was doing. My work environment was pleasant, and I got along with everyone in the lab. It felt like an ideal situation, so it was quite a difficult decision to leave.

I had initially applied to be a toxicologist for the state of California right out of grad school, but there were no available positions at the time (or so I was told). However, I did get on the state eligibility list, so if any future toxicologist vacancies became available, I would be notified. I became a postdoc shortly afterwards, and proceeded to focus all my energy on my research. Thus, it was a surprise when a letter from the California Environmental Protection Agency (CalEPA) arrived to inquire whether I was interested in an open position, nearly 18 months after I first applied. I sent back the letter saying I was interested, but I really had no expectations of getting the job. I was called in for an interview shortly after, and I thought it went pretty well.

Of course, there were a few bumps along the way. I had planned to tell my Principal Investigator (PI) that I was being recruited by the state, but only if I was seriously being considered for the position. When I submitted my references during the interview, I asked that they inform me before they contacted them, so I could inform my PI of the situation myself, out of professional courtesy. I think my heart stopped for a few seconds when she walked into my office one morning and said she had just received a call from the CalEPA, asking about my capabilities as a scientist. She was very professional despite the huge faux pas on my part, but this led to a good discussion about career goals afterwards.

Following this incident, I actually started to believe that I might get the job. This raised a lot of internal questions: Am I ready to leave my stable (yet temporary) postdoc position? Would I be able to handle working in an area of toxicology in which I had minimal experience (risk assessment)? Would I be limiting my earning potential by accepting a government job? There was a rush to fill the position, so when I was offered the job, I had to make my decision quickly.

After weighing the pros and cons of taking the job, I decided that the immediate stability and salary that came with the government job was more appealing than the potential (and uncertainty) of landing a more lucrative job in industry or



academia in the distant future. Furthermore, the government job afforded a better work-life balance, and would give me more time to pursue nonwork-related interests. I understood that I would be moving from the frontlines of science into an office, and that I would be venturing into a totally different branch of toxicology, but I accepted that outcome. Colleagues at the university have questioned my decision, but when I look back, changing careers was the impetus that allowed me to begin a new phase of my life (both personally and professionally), and for that I have no regrets.

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## **Transitioning into a Tenure Track Position: The Entropy of an Exciting Period of Your Career**

### **Contributed in Recognition of National Postdoctoral Appreciation Week**

If in your postdoctoral fellowship you have been at the top of your game—you published well, you wrote a couple of successful fellowship and grant applications, and you could give your talk in your sleep—then, you may be successful in landing the coveted, and increasingly elusive, academic position. Most likely, this position will be a mixture of responsibilities in research, teaching, and (as a distant third) service.

After stressing over whether you would achieve this position, you should be excited that you did succeed, but you are probably apprehensive as well. You may have heard the stories of how chaotic the transition to independence in academia might be, and that definitely feeds into the apprehension.

For me, this was two years ago when I was wrapping up my fellowship at Harvard Medical School before moving to the University of California, Los Angeles (UCLA) for a tenure track position. It seems much further away in time than two years ago and yes, my life for the last two years has been chaotic. As someone who likes to plan things and be in control, I had to accept that I was not going to be on top of my game for a little while, that I would sometimes feel lost, confused, and frustrated as I am learning to navigate a different environment and manage significantly more responsibilities than as a postdoc. So where does this chaos come from? What happens when you transition to the next level in academia? Let me list some (only some) of the changes:

1.) Every institution works differently. They have their own way of doing things: from ordering to hiring and establishing payroll, etc. Even departments within the same institution can work quite differently from each other (belonging to two departments, I can attest to that). So even if you are an experienced researcher at Institution X, your learning curve is still going to be steep once you move to Institution Y. For example, I discovered that I could not just purchase the large and expensive microscope that I wanted although I had the grant money to do so. Instead, because I am using federal funds, I needed to either have several companies bid for the lowest quote on a microscope with similar specifications, hoping that my first choice would provide the lowest bid. In the end, it took me a month and half to be able to order the microscope that I wanted and that is just one essential piece of equipment to running a lab.

2.) Starting a new research laboratory means you now are exposed to, and dealing with, things that you did not have to deal with as a postdoctoral fellow. How will you manage your funds for the next three to five years? Should you wait a few years before applying for larger grants or start applying for grants right away? Hiring a research assistant, at what pay level? Do you need someone who has more experience but is expensive, or someone with less experience but who will require a lot of training? These are just some examples, but the list of small to big decisions to make is extensive. As a student or fellow, when you saw your Principal Investigator (PI) sending emails all the time, you thought that looked easy and that's all they were doing... Well yes, they were sending emails, but each email dealt with a specific request that needed to be carefully addressed and it is not as trivial as it appears!

3.) Then of course, you are moving to a new city. You will need to find a place to rent in a decent neighborhood. What are the neighborhoods and places to go to and the ones to avoid? You also may be given a timeline for purchasing a property as part of your recruitment package (ALWAYS inquire about this, it is a huge help!). If this is the case, you have to get to know the city quickly so ask other PIs where they recommend living. Additionally, if you have a family you will have the added responsibility of choosing daycares and schools in a new city!

4.) I am lucky to have been relieved of teaching duty for my first year and have limited teaching responsibilities throughout my second and third year. And yet...while I enjoy teaching very much, I realized how much it was taking away from progress in the lab, even with limited teaching responsibility. During my first quarter teaching, I decided to not only redesign the entire course (OK, my fault here, but I didn't like the way the course had been taught before) but also write several small grants and a paper on top of lab work. It was quite challenging to balance all this at the same time. As my teaching duties will progressively increase, I will be designing and teaching new classes, writing bigger grants including R01s, and managing research assistants and students.

In all this, the most important thing that you need to learn is who your resource people will be, i.e., the people who know the ropes, are willing to help, and will be able to guide you through the myriad of smaller to larger responsibilities you will need to accomplish every day. Once you build that support network, they will become your mentors for guidance and navigating your new position.

Finally, try to get as much sheltered time as possible for establishing your lab and getting started with your research. It will take a lot of time, but it is also the most exciting and fun part of your transition. I know that the next few years will be chaotic and stressful, but accepting this chaos as part of my (academic) life is essential. Now, I accept that I will not always write successful grants, give great lectures, remember to reply to every email, and that not being on top of my game all the time is in itself a great learning experience. I often think that it is akin to having a baby—in both cases, your life is in shambles and yet you soldier on, you get better at it while being less anxious about the process. And importantly, very importantly, there is a lot that can be enjoyed about the process because, after all, you are giving life to new projects and new science.

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## **SOT Members Are Encouraged To Share Their Accomplishments**

The Society of Toxicology (SOT) looks forward to communicating SOT member accomplishments. The [Notable Member section](#) of the SOT website recognizes individuals who have been honored for their scientific achievements with prestigious national or international awards, and these recipients also are featured in the SOT *Communiqué*. For awards conferred by an employer (academia, government, industry, or private research organization) as well as scientific achievements (grants, commendations, publications), please provide this information to your Regional Chapter (RC) for their consideration as an announcement to be made through one or more of the communications channels available (e.g., ToXchange, RC newsletter article, RC website post).

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## **SOT Complies with Sarbanes-Oxley Whistleblower Provisions**

The American Competitiveness and Corporate Accountability Act of 2002, popularly known as [Sarbanes-Oxley](#), introduced significant governance standards that apply to publicly traded companies and nonprofits. One of the Sarbanes-Oxley provisions that applies to nonprofits such as the Society of Toxicology (SOT) is for whistleblower protection. You may have noticed the following at the bottom of the [Contact SOT](#) web page.

*To anonymously report suspected criminal activity or illegal or unethical conduct by SOT staff or leadership, call the Navex toll-free fraud hotline at 800.826.6762.*

SOT requires that its leadership and members conduct their duties and responsibilities in accordance with high ethical standards and in compliance with the Society's [Code of Ethics](#) and [Conflict of Interest Policies](#).

The Society, through Association Innovation and Management, Inc. (AIM), is fully committed to providing a workplace that is open to and fosters communications concerning all aspects of its organization and operations, including compliance with all applicable federal, state, and local laws; regulations; rules; and ordinances related to corporate or financial misconduct and fraud.

If you suspect any criminal activity or illegal or unethical behavior by SOT leadership, members, or staff, please call the

toll-free hotline number provided above. Calls regarding personnel issues will be reported to AIM Human Resources, financial and management questions will go to the SOT Treasurer, and quality of service and misuse of property issues will be referred to the SOT President.

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## Around the Interwebs

### Around the Interwebs—Week of November 16, 2014

Science headlines this week included new research on how mice genetic expression and genomes relate to those of humans, as well as research indicating that light may be skewing test results on nanoparticles' health effects.

#### SOT Members in the News

“This is the first study to provide evidence that an organophosphate-based flame retardant could contribute to bone loss,” **Jennifer Schlezinger** tells [Environmental Health Perspectives](#) in an article about new research on Firemaster® 550. Dr. Schlezinger, **Thomas F. Webster** and other colleagues found that the flame retardant caused stem cells to differentiate into fat cells at the expense of bone and cartilage formulation. The effect occurred at exposure levels significantly higher than those currently experienced in the real world, but if everyday exposure levels increase, there may be cause for concern according to **Jerry Heindel**.

#### Science and Public Health News

- [E-cigarette use triples among high schoolers](#) (*USA Today*)
- [WHO sets benchmarks to reduce health damage from indoor air pollution](#) (*World Health Organization*)
- [Outcry over lost EU science adviser post](#) (*Science*)
- [NIH study links ultraviolet filters to pregnancy delays](#) (*US National Institutes of Health*)
- [Personalized cocktails vanquish resistant cancers](#) (*Nature*)
- [Death by dirty water: Storm runoff a risk for fish](#) (*Associated Press*)
- [Call for e-cigarette safety warnings](#) (*BBC*)
- [Select Few Can Truly Drink to Their Health](#) (*Scientific American*)
- [Two drugs are no more effective than one to treat common kidney disease](#) (*US National Institutes of Health*)
- [House passes bill to study low-dose radiation](#) (*The Hill*)
- [Obesity is Tied to Pollutants](#) (*The New York Times*)
- [Research team finds mice and humans express genes differently](#) (*Medical Xpress*)
- [Tufts Study Pegs Drug Development, Approval Cost at \\$2.6B](#) (*Genetic Engineering & Biotechnology News*)
- [Researchers develop new acoustic sensor for chemical and biological detection](#) (*Argonne National Laboratory*)
- [Drug trial supports importance of low cholesterol to treat heart disease](#) (*Nature*)
- [Engineered plants could manufacture Ebola, cancer and HIV drugs](#) (*Horizon: The EU Research & Innovation Magazine*)
- [Soap antimicrobial may damage liver and raise cancer risk, mouse study shows](#) (*University of California-Davis*)
- [NIST Study Suggests Light May Be Skewing Lab Tests on Nanoparticles' Health Effects](#) (*US National Institute of Standards and Technology*)
- [House passes bill to reform EPA science panel](#) (*The Hill*)
- [New comprehensive view of the mouse genome finds many similarities and striking differences with human genome](#) (*US National Institutes of Health*)

To stay abreast of these types of items throughout the week, be sure you [“like” SOT on Facebook](#) and [“follow” SOT on Twitter](#).

Have news or research you want featured in the future? [Send me an email](#).

### Around the Interwebs—Week of November 9, 2014

This week, *Politico* covered the Society of Toxicology-US Food and Drug Administration (SOT-US FDA) colloquium on partially hydrogenated oils, while SOT members discussed a new mouse model that may accurately predict the range of human responses to chemical exposures and made recommendations regarding uncertainty associated with epidemiological studies.

### SOT Member Research

**John E. French, Daniel L. Morgan, and Gabriel A. Knudsen**, alongside other researchers, have found that a genetically diverse mouse model can predict a range of human responses to chemical exposures. As discussed in their [Environmental Health Perspectives](#) paper, by using Diversity Outbred mice, the researchers were able to identify specific genes or chromosomal regions that make some mice more susceptible, and others more resistant, to the toxic effects of benzene.

### SOT Members in the News

On Friday, SOT hosted a colloquium alongside the US FDA that focused on research and toxicological considerations regarding partially hydrogenated oils. *Politico* spoke with the event's chair **Martin Ronis** for a short piece in its Morning Agriculture round-up. To read the full piece, scroll to the bottom of this post.

“Different types of studies, like toxicology studies in animals and epidemiological studies in humans, can help compensate for each other's inherent weaknesses,” **Michael Dourson** told [Environmental Health Perspectives \(EHP\)](#). Dr. Dourson's comments are in response to a commentary in the publication, on which **Jennifer B. Pierson, James E. Klaunig, Leonard Ritter, and Kun Don Yi** are coauthors, which outlines recommendations on how researchers can better communicate uncertainty associated with epidemiological studies. Dr. Pierson echoed Dr. Dourson's sentiments, telling *EHP* that epidemiologists, toxicologists, and risk assessors need to work together to strengthen studies to more accurately inform public health decision making.

### Science and Public Health News

- [Some Personal Care Products May Build Up in Pools](#) (*Chemical & Engineering News*)*B*
- [The Bad Air in Our Gyms](#) (*The New York Times*)
- [Researchers create stem cell model of Parkinson's disease in a dish](#) (*Fox News*)
- [Pesticide levels on food unknown due to poor government testing](#) (*The Washington Post*)
- [Two Groups Develop Chemical Footprints for Freshwater Ecosystems](#) (*Chemical & Engineering News*)
- [Laundry detergent pods pose serious risk to young kids](#) (*Reuters*)
- [Closing the Gap for Generic Nanomedicines](#) (*Chemical & Engineering News*)
- [Cigars just as harmful to health as cigarettes, study says](#) (*Fox News*)
- [US OKs genetically modified potato with lower cancer risk](#) (*Reuters*)
- [GMO battles over 'settled' science spur new study of crops](#) (*Reuters*)
- [E.U. moves closer to enabling national bans on GM crops](#) (*Science*)
- [Research links tobacco smoke and roadway air pollution with childhood obesity](#) (*Medical Xpress*)
- [Republican gains may spur US chemical rules reform](#) (*Chemistry World*)

To stay abreast of these types of items throughout the week, be sure you [“like” SOT on Facebook](#) and [“follow” SOT on Twitter](#).

Have news or research you want featured in the future? [Send me an email](#).

### Around the Interwebs—Week of November 2, 2014

Mathematically determining exposure levels of chemicals, PCBs effects on cochlear function, PAH concentrations from salmon smoking, arsenic in well water, and mountaintop mining dust are highlighted this week.

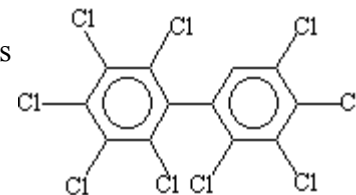
### SOT Member Research

**John F. Wambaugh and Richard Judson**, alongside colleagues, have developed a mathematical model to help predict the household and industrial chemicals to which people are most exposed. As published in [Environmental Science &](#)



[Technology](#), the researchers analyzed 8,000 chemicals and found that some of the ones with the highest potential exposure levels have not been extensively studied.

New research in [Environmental Health Perspectives](#), featuring **Marc-André Verner** as one of the authors, indicates postnatal exposure to polychlorinated biphenyls (PCBs) causes a minor change in children's cochlear function. In the article accompanying the research, **Susan Schantz** indicates this research may have implications for other areas, such as research into language development.



Increases in hydroxylated PAH concentrations were discovered in urine samples of members of the Confederated Tribes of Umatilla Indian Reservation after six hours of fish smoking, according to new research in [Science of the Total Environment](#). To conduct the research, **David Stone** and his colleagues had to develop an analytical method to measure 19 PAHs and 34 hydroxylated PAHs.

### SOT Members in the News

Author and columnist Deborah Blum's latest article for [The New York Times](#) focuses on arsenic levels in drinking water, specifically focusing on the issue of private wells. She interviewed many experts, including **Aaron Barchowsky**, to discover the health effects of arsenic exposure.

[Chemical & Engineering News](#) featured an article on research by **Yon Rojanasakul** and **Travis Knuckles** that we discussed a few weeks ago, which showed health effects from dust generated from mountaintop mining operations.

### Science and Public Health News

- [Scientists grow tiny human stomachs in lab dishes](#) (*Science*)
- [Special Collection: After Election 2014](#) (*Science*)
- [Report: Investing in the Health and Well-Being of Young Adults](#) (*Institute of Medicine*)
- [Report: Chemical Assessments: Agencies Coordinate Activities, but Additional Action Could Enhance Efforts](#) (*US Government Accountability Office*)
- [Plea for EU to act on GM from plant scientists](#) (*Chemistry World*)
- [Thirdhand Smoke: Toxic Airborne Pollutants Linger Long After the Smoke Clears](#) (*Berkeley Lab*)
- [Nutrient Pollution: A Persistent Threat to Waterways](#) (*Environmental Health Perspectives*)
- [More toxicity in canola-based biodiesel](#) (*Science Network Western Australia*)
- [WHO recommends naloxone to prevent 20,000 overdose deaths in US](#) (*Reuters*)
- [Could digital badges clarify the roles of co-authors?](#) (*Science*)
- [Air pollution linked to children's attention problems](#) (*Environmental Health News*)
- [Up in smoke: Secondhand cigarette smoke causes weight gain](#) (*Brigham Young University*)
- [US Senate science panels will have new leadership in wake of Republican takeover](#) (*Science*)
- [Menthol cigarettes no safer than regular tobacco—and maybe riskier](#) (*Reuters*)

To stay abreast of these types of items throughout the week, be sure you [“like” SOT on Facebook](#) and [“follow” SOT on Twitter](#).

Have news or research you want featured in the future? [Send me an email](#).

### Around the Interwebs—Week of October 26, 2014

Quantitative data for genetic toxicity assessments, safe Gulf shrimp, and a vaccine for nicotine addiction are the diverse research findings and activities being reported on this week.

### SOT Member Research

A new international collaborative study led by **George Johnson** and featuring contributions by **Lya G. Soeteman-Hernández**, **B. Bhaskar Gollapudi**, **Kerry L. Dearfield**, **James T. MacGregor**, **Lynn H. Pottenger**, **Chadwick M. Thompson**, and **Errol Zeiger** is the “Editor’s Choice” and on the cover of this month’s edition of [Environmental and](#)

[Molecular Mutagenesis](#). The study identifies a preferred approach for determining genetic toxicity points of departure, offering quantitative data for use in human health risk assessments and resultant regulatory decision making.

## SOT Members in the News



“Louisiana shrimp safe to eat after BP Gulf of Mexico spill, local study says” read a recent headline from [The New Orleans Times-Picayune](#). The [referenced study](#) was by **Jeff Wickliffe**, **Mark Wilson**, and **Bridget Simon**, among others, who studied shrimp consumption among Vietnamese-American communities in Southeast Louisiana and compared it to the levels of polycyclic aromatic hydrocarbons in Gulf shrimp after the oil spill. The research found no acute health risks or excess cancer risk associated with consumption of the shrimp.

As reported by [Virginia Tech News](#), **Marion F. Ehrich** is working with colleagues at Virginia Tech and the University of Minnesota to make a vaccination for nicotine addiction a reality. As envisioned by the researchers, the vaccine would block the pleasure response associated with nicotine consumption with the help of biodegradable nanoparticles.

## Science and Public Health News

- [US EPA Proposes to Remove 72 Chemicals from Approved Pesticide Inert Ingredient List](#) (*US Environmental Protection Agency*)
- [More research, regulation needed on energy drinks: study](#) (*Reuters*)
- [Scientists engineer toxin-secreting stem cells to treat brain tumors](#) (*Harvard University*)
- [Creating a Culture of Care](#) (*Genetic Engineering & Biotechnology News*)
- [Regulatory update—Changes to scientific advice procedures as of 17 November 2014](#) (*European Medicines Agency*)
- [WHO Chemical Risk Assessment Network advance project proposals](#) (*Chemical Watch*)
- [Fast Lane to Chemical Information: JRC Launches ChemAgora](#) (*European Commission Joint Research Centre*)
- [Arsenic in drinking water linked to 50 percent drop in breast cancer deaths](#) (*University of California-Berkeley*)
- [402 Members Named to Forensic Science Standards Organization](#) (*US National Institute of Standards and Technology*)
- [Animal experimentation for medical research must continue, say leading academics](#) (*The Jerusalem Post*)
- [Radiation Exposure Linked to Aggressive Thyroid Cancers](#) (*University of California-San Francisco*)

To stay abreast of these types of items throughout the week, be sure you [“like” SOT on Facebook](#) and [“follow” SOT on Twitter](#).

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## In Memoriam

### In Memoriam

[Eric A. Andreasen](#)

[Steven I. Baskin](#)

[David Coffin](#)

[SOT Charter Member](#)

[Bernard R. Davidow](#)

[Donald E. Gardner](#)

[Henry d' Arcy Heck](#)

[James W. Holder](#)

[Tohru Inoue](#)

[A. Ian Walker](#)

[John H. Weisburger](#)

[Ronald J. Wulf](#)

## **Eric A. Andreasen**

The Society of Toxicology (SOT) has learned of the passing of Eric Andrew Andreasen on July 22, 2014. Dr. Andreasen joined SOT in 2001 and was a member of the Molecular and Systems Biology Specialty Section as well as the Mountain West and Pacific Northwest Regional Chapters. He served as a toxicologist for the US Food and Drug Administration in Silver Spring, Maryland.

## **Steven I. Baskin**

The Society of Toxicology (SOT) has learned of the passing of SOT member Steven I. Baskin on September 29, 2014. Dr. Baskin was a member of the Comparative and Veterinary Specialty Section and the National Capital Regional Chapter of SOT. During the course of his membership, he attended many of the Continuing Education courses held in conjunction with the SOT Annual Meetings. He joined the Society in 1985 and was a retired Full Member at the time of his death.

## **David Coffin**

The Society of Toxicology (SOT) has learned of the passing of David Coffin. He joined SOT in 1969 and was a Retired Full Member at the time of his death.

## **SOT Charter Member Bernard R. Davidow**

The Society of Toxicology (SOT) has learned of the passing of SOT Charter Member Bernard R. Davidow in August 2014. He was a member of the 1965–1966 Nominating Committee. SOT Charter Members are those individuals who joined the Society in its first year. March 4, 1962, was established as the deadline for Charter Membership, being one year from the founding of the Society. Thus, upon the first meeting of the Society in Atlantic City, New Jersey, on April 12, 1962, the Society consisted of 184 Charter Members. For a full listing of the SOT Charter Members, please visit the [SOT website](#).

## **Donald E. Gardner**

In Memoriam: Donald E. Gardner, PhD, Fellow ATS (1931–2014)

Pioneer, Scientist, Inspiring Editor, Colleague, Mentor, and Friend

*Submitted by Judith A. Graham, PhD, ATS and Frederick J. Miller, PhD, ATS*

Dr. Donald E. Gardner, 82, was born in 1931 in Council Bluffs, Iowa. On October 3, 2014, he died peacefully at home in Savannah, Georgia after a major illness. In between, he experienced far more joy than sorrow and made life better for those close to him and for multitudes he never met. His jovial nature made any room he was in brighter and filled with laughter; one could not miss the twinkle in his eye and his love for life.

On June 2, 1960, he married Elly Peter. Over the following 54 years, their four children, spouses, and six grandchildren gave them great happiness. Don's family was his bedrock for all that he accomplished in his life. With his MS in medical microbiology from Creighton University, Don joined the United States Public Health Service (PHS) Commissioned Corps in 1960, serving at Ft. Detrick, Maryland and Dugway, Utah. In 1964, he was assigned to the US Environmental Protection Agency (EPA) predecessor organization, eventually retiring from the PHS in 1982 after a stellar career. In 1971, he earned a PhD in Environmental Health/Toxicology from the School of Medicine, University of Cincinnati. He held increasingly responsible positions at the US EPA, culminating in Director of the Inhalation Toxicology Division. But this was just the "early phase." He continued to work in research management at Northrup/Mantech until 1994, when he left to form a consultancy, Inhalation Toxicology Associates.

In the midst of so many achievements, choosing just a few to describe is difficult. In 1967, he was a coauthor of a seminal paper that enabled US EPA to protect the health of millions of Americans. In 1971, US EPA issued the first National Ambient Air Quality Standard (NAAQS) for Photochemical Oxidants, which were just being recognized as a real danger to public health, especially for vulnerable populations with preexisting lung disease. Don's paper formed one of the major scientific foundations for this standard. Today, after much more extensive research, we know far more about the severe health hazard of ozone. Without Don's research, countless individuals would have suffered. His over 250 scientific papers, book chapters, and reviews greatly expanded our understanding of the health risks of air pollutants.

During his time at US EPA, Don's scientific leadership built an internationally unique, multidisciplinary research group to solve scientific problems in air pollution, with a major emphasis on NAAQS pollutants, such as ozone, nitrogen dioxide, and particulate matter. This group integrated human clinical and animal toxicology research on air pollutants. Never before had such an outstanding scientific team gained knowledge of the integrated impact of air pollutants on lung pathology, pulmonary function, host defenses, and lung biochemistry, with an understanding of the interspecies dosimetric relationships needed to extrapolate effects in animals to humans. Toxicology studies became far more interpretable in risk assessment by understanding the relationship of patterns of exposure in the laboratory to the real world. The unique research he led moved risk assessment, and ultimately risk management of inhaled chemicals, forward beyond an academic exercise so it could be used to protect public health.

Don served the National Academy of Sciences (NAS) in several roles. One of his many activities was to chair the panel that developed Acute Exposure Guideline Limits for airborne chemicals. These limits provide information to governments and private organizations about emergencies or other rare catastrophic exposures to over 300 chemicals. When, and if, emergencies occur, there is no time for study. There is a need for informed actions, which these exposure limits provide. His leadership and participation in many panels resulted in his receiving a very unusual award, Lifetime National Associate Member of the National Academy of Sciences, in "recognition as advisor to the Nation in matters of science, engineering and health."

In 1988, Don became the founding editor of *Inhalation Toxicology* and just retired last month. It's difficult enough to be an editor; to be a founding editor is arduous. He was a champion advocate for sound inhalation toxicology and dosimetry research. His stature and leadership in the field and his cajoling made the journal a great success. Originally, there were 4 issues per year; now 14 issues are published per year. Establishing a focal point for inhalation toxicology fostered moving the whole of the science forward, with exponential impact on improving health.

Don's achievements have been officially recognized by many scientific bodies. They include EPA, the Academy of Toxicological Sciences (serving as Vice-President and President), National Academy of Sciences, National Aeronautics and Space Administration (NASA), PHS, and SOT. He joined SOT in 1978. Don's service to SOT included serving as Vice-President and President of the North Carolina Regional Chapter of SOT, Inhalation and Respiratory Specialty Section, Immunotoxicology Specialty Section, and Metal Specialty Section; SOT Program Committee; and SOT Nominating Committee. He received the Lifetime Achievement Award from the Inhalation Toxicology Specialty



Section. Furthermore, an [SOT Endowment Fund](#) in his name is being established.

Countless good friends and acquaintances recognize the role Don played in their lives. His leadership and advice helped so many become greater contributors to the public good. His friendship and mentorship changed the lives of those around him in both visible and invisible ways.

Now we bid farewell to dear Don. Those of us who knew you weep at our loss, laugh with our remembrances, and reflect deep within on how much you meant to us. You made the world a healthier place for all. You mattered. You loved and were loved. Many ask “What is the measure of a man?” Our answer is Don.

## **Henry d’ Arcy Heck**

The Society of Toxicology (SOT) has learned of the passing of Henry d’ Arcy Heck on October 13, 2014. He served as the Editor-in-Chief of *Fundamental and Applied Toxicology*, now *Toxicological Sciences*, the official journal of SOT. He was born in Bryn Mawr, Pennsylvania in 1939 and received an AB with honors in 1961 from Princeton University and a PhD in 1964 from Northwestern University. He was a National Science Foundation fellow at Northwestern as well as at the Max Planck Institute for Physical Chemistry, Germany. He was an Assistant Professor of Chemistry at the University of California, Berkeley, and an analytical chemist at the Stanford Research Institute in Menlo Park, California. For 22 years, Dr. Heck was at the Chemical Industry Institute of Toxicology, now the Hamner Institutes for Health Sciences, Research Triangle Park, North Carolina. An obituary in the [Virginian Pilot](#) noted that “He was the author of over 100 scientific articles and reviews and...mentored several postdoctoral students, who went on to successful careers in analytical toxicology.” Dr. Heck joined SOT in 1982 and was a member of the Carcinogenesis, Comparative and Veterinary, *In Vitro* (now *In Vitro* and Alternative Methods), Inhalation (now Inhalation and Respiratory), and Mechanisms Specialty Sections.

## **James W. Holder**

The Society of Toxicology (SOT) recently has received news of the passing of SOT Member James Wyman Holder in September 2012. He joined the Society in 1992 and was a member of the Carcinogenesis, Comparative and Veterinary, and Risk Assessment Specialty Sections as well as the Mid-Atlantic Regional Chapter. Over the course of his membership, Dr. Holder attended many of the Continuing Education Courses held in conjunction with the SOT Annual Meetings.

## **Tohru Inoue**

The Society of Toxicology (SOT) has learned of the passing of SOT Member Tohru Inoue on October 6, 2014. Dr. Tohru was a member of the Molecular and Systems Biology, Risk Assessment, and Stem Cells Specialty Sections as well as the Toxicologists of African Origin Special Interest Group. Dr. Inoue joined SOT in 2004 as a Full Member of the Society.

## **A. Ian Walker**

The Society of Toxicology (SOT) has learned of the passing of A. Ian Walker of the United Kingdom on January 20, 2013. He joined SOT in 1975 and was a Retired Full Member at the time of his death.

## **John H. Weisburger**

The Society of Toxicology (SOT) recently has learned of the passing of SOT Charter Member John H. Weisburger on February 17, 2014. Dr. Weisburger was the recipient of the 1981 SOT Merit Award, which is presented to a member of the Society in recognition of distinguished contributions to toxicology throughout an entire career in areas such as research, teaching, regulatory activities, consulting and service to the Society. He was a member of the Carcinogenesis, Comparative and Veterinary, and Food Safety Specialty Sections as well as of the Mid-Atlantic Regional Chapter. Dr.

Weisburger received his doctorate at the University of Cincinnati in Ohio in 1949. He served in a number of capacities at the National Cancer Institute and was a research professor at the New York Medical College in Valhalla, New York.

## Ronald J. Wulf

The Society of Toxicology (SOT) has learned of the passing of Ronald J. Wulf in 2013. He joined SOT in 1978 and was a member of the Comparative and Veterinary Specialty Section. Dr. Wulf was a Retired Full Member at the time of his death.

# Regional Chapters, Special Interest Groups, and Specialty Sections

## The ToxiCarnival Comes to Town

The Education and Outreach Committee of the Mid-Atlantic Society of Toxicology (MASOT) Regional Chapter participated in a new outreach program on October 31, 2014. ToxiCarnival featured carnival games paired with toxicology-related questions to gain chances to win prizes and learn basic toxicology concepts. The first ToxiCarnival event was run in conjunction with the Toxicology Club at St. John's University, Tau Omega Chi (T????). Diane Hardej, an Associate Professor at St. John's and the Chair of MASOT's Education and Outreach Committee, created the program and supervised the club members in conducting the event.

Toxicology questions used in the program were recommended by Jessica Placido and Angelique Braen, who are current members of the committee. Members of Tau Omega Chi and Diane Hardej (center in white coat) pose for a group photo before welcoming participants to the ToxiCarnival.



The event was a big hit on St. John's University campus in Queens, New York, drawing roughly 100–150 St. John's students to the gaming tables on the chilly October day. Some of the featured activities were the Wheel of Poison, Toxic Duck Match, Deadly Disk Drop, and the Circle of Death Ring/Beanbag Toss. In the photo on the left, Toxicology students Amanda Dhaneshwar and Voke Emekeme demonstrate the Toxic Duck game.

At each game, students were invited to answer toxicology questions to gain additional chances to win prizes. Prizes were donated by T???? members and Diane Hardej for the event. As a means of assessing student knowledge of toxicology concepts, correct and incorrect responses were noted in order to gauge questions for future events.

Students were delighted with the event and were eager to answer questions, which most of them found to be somewhat challenging. Pictured at the right, a ToxiCarnival participant is answering a question to gain more chances to play carnival games and win prizes. The event was open to all members of the campus community, drawing undergraduate and graduate students as well as faculty and staff who supported Tau Omega Chi in this effort. The program was scheduled for Halloween, and as a result, attracted many participants in costume that enhanced the festive climate of the carnival.

The program also was a big hit with the Toxicology Club members, who did an exceptional job of manning the gaming tables and delivering the toxicology questions to the participants, and in the process, reinforced their own toxicology knowledge. All those involved agreed that they not only enjoyed the carnival concept but learned some facts in the process.

Many thanks to the Tau Omega Chi members and graduate students who participated in the event, Jiaqi Lu (T???? President), Chidi Amasiani, Ali Dalgish-Choi, Lesa Deonarine, Kaitlyn Dial, Amanda Dhaneshwar, Voke Emekeme, Naila Habeeb, Randy Liang, Melina Mendoza, Zainab Petiwala, Katerina Stavrou, Olivia Stephenson, Mumtaz Akhtar, Daniel Incalcaterra, Puneet Vij, Benjamin Kistingner, Nikaeta Sadekar, and Ali Shohatee. Special thanks to the Education and Outreach Committee members who approved the event and Louis Trombetta, who kindly loaned us the tent for the show.



## South Central Regional Chapter-SOT Hosts K–12 Toxicologist Luncheon



The South Central Regional Chapter of the Society of Toxicology (SCC-SOT) held its “K–12 Toxicologist Luncheon” at The 2014 Annual Fall Meeting on October 23–24, 2014, at the University of Mississippi in Oxford, Mississippi. The “K–12 Toxicologist Luncheon” was held for middle and high school science students as part of this SOT Regional Chapter Annual Meeting, “Toxicological Research—Inspiring the Next Generation of Toxicologists.” The goal of this luncheon is to introduce a new generation of potential toxicologists to career opportunities in toxicology. Pictured from left to right are Wesley Gray, Elizabeth Hubbard, Deborah Jones (teacher), John Lipscomb, Vandriika Robinson, Harrison Atkinson, Kayla Hall, Addison Roush, and Kristie Willett

The luncheon served to: (a) highlight how high and middle school students can become involved in toxicology, (b) advertise summer programs in toxicology for high school students, (c) showcase the various career paths in the field, and (d) provide a forum for students to display and discuss their science projects and future career plans. The luncheon supplements the chapter’s commitment to building for the future of toxicology and the promotion and recognition of toxicology within our region.

John Lipscomb, toxicologist and risk assessor for the US Environmental Protection Agency National Center for Environmental Assessment, served as the speaker for the K–12 Luncheon. His talk “Road to Becoming a Toxicologist” highlighted how high and middle school students can become involved in toxicology in the region, and showcased his career path in becoming a toxicologist. Three teachers and ten students registered for the day and five students from Lafayette High School participated in the luncheon. The hour and a half long program included a sit down lunch, commentaries from SOT 2013–2014 Past President William Slikker Jr.; Wesley Gray, the region’s K–12 outreach contact; and Yunfeg Zhao, current president of the Chapter. These high school students had the opportunity to interact with several senior members of the Chapter, including Martin J. Ronis, the University of Arkansas for Medical Sciences, Kenneth E. McMartin, Louisiana State University Health Sciences Center, and Kristie Willett, The University



of Mississippi. After the luncheon, the students were given a guided tour of the posters and an opportunity to sign up for a toxicology mentor.

The 2013 “K–12 Toxicologist Luncheon” in Baton Rouge included students from Westdale Middle School (five students), Scotlandville High School (six students), Southern Laboratory School (five students), and Baton Rouge High School (two students).

## SOT ASIO SIG Webinar on Chemical Carcinogenesis

[Shows Main Header](#)

On September 26, 2014, the Society of Toxicology (SOT) Special Interest Group, Association of Scientists of Indian Origin (ASIO), held a very successful webinar on “New Frontiers of Chemical Carcinogenesis.” The speaker Udayan Apte is from the Department of Pharmacology, Toxicology and Therapeutics at the University of Kansas Medical Center, Kansas City. Dr. Apte focused mainly on the Hepatocyte Nuclear Factor-4?? (HNF4??) and its role in Hepatocellular Carcinoma (HCC). The HNF4?? is an orphan receptor known to bind fatty acids. He initially started with a simple hypothesis that the expression of HNF4?? inhibits the proliferation of mature liver cells. He observed using a knockdown mouse model the the deletion of HNF4?? resulted in abnormal fatty liver with the increased hepatocyte proliferation. Further investigation with the chemical carcinogen diethyl nitrosamine (DEN) showed a significant increase in the number and size of hepatic tumors.

Dr. Apte identified using high-throughput screening methods that a number of genes up-regulated related to cancer pathogenesis, cell cycle control, and cell proliferation. Dr. Apte discussed how the function of HNF4?? could be progressively lost in HCC using datasets from the Gene Expression Omnibus (GEO) Database. At the end, Dr. Apte summarized how the target gene signature of HNF4?? could be used as a new tool to identify hepatocellular carcinoma.

There were 110 participants representing seven different countries (Canada, China, France, Germany, India, Taiwan, and United States) attending the webinar. The webinar was fully funded through [Webinar Funding](#) offered through the SOT Subcommittee for Non-SOT Meeting Funding. The webinar was assisted by SOT Staff Tierre Miller, Rosibel Alvarenga, and Raul Suarez. The ASIO webinar committee includes Dr. Sainath Babu (Chair), Dr. Sachin Devi, Dr. Satheesh Anand, Dr. Sudheer Beednagari, Ms. Shirisha Chittiboyina, and Mr. Vijay Kale. The complete recording of this webinar is available on the [ASIO website](#). To learn more about this SOT Special Interest Group, please visit the [ASIO website](#).

### Annual Meeting & ToxExpo

## SOT 2015 Annual Meeting Late-Breaking Abstract Submission: December 5, 2014–January 12, 2015



The Scientific Program Committee would like to announce that there will be a late-breaking abstract submission opportunity for the 2015 Annual Meeting. This final submission phase will take place from Friday, December 5, 2014,



through Monday, January 12, 2015. All abstracts must be submitted online by 11:59 pm ET on the posted deadline. The submission fee for late-breaking abstracts will be \$50.

An important consideration for abstract submission during this time is that the research must be new and of sufficient scientific importance to merit special consideration after the standard abstract deadline. Abstracts should describe high-impact original research that could not be completed prior to the original deadline.

Additional criteria that qualify an abstract to be accepted during this final submission phase include:

- All abstracts will be reviewed by the Scientific Program Committee and held to the same standards used to evaluate abstracts submitted for the original deadline.
- Your abstract should not be a revision of a previously submitted one that was not accepted unless you received specific communication from the Scientific Program Committee suggesting that resubmission during the late abstract period may be appropriate.
- Scientists who had to wait until after the original October deadline to submit due to funding issues are encouraged to submit an abstract for consideration.
- Not more than one abstract will be accepted by the same presenting author.

All abstracts accepted during this final submission phase will be programmed for Thursday, March 26, from 8:30 am to 12:00 noon. These abstracts will not be printed in the *Program*, but will be accessible through the Annual Meeting mobile app. A PDF supplement of the accepted abstracts will be available to download via the SOT website in early March, prior to the Annual Meeting.

We look forward to welcoming you to San Diego, California, and hope that you will consider submitting your late-breaking abstracts.

Sincerely,

Peter L. Goering, PhD, DABT, ATS  
Chairperson, SOT Scientific Program Committee  
SOT Vice President

John B. Morris, PhD, ATS  
Co-Chair, SOT Scientific Program Committee  
SOT Vice President-Elect

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## Save the Date—SOT 2015 Annual Meeting, March 22–26, 2015

The [Society of Toxicology \(SOT\) 54th Annual Meeting](#) will be held from March 22–26, 2014, in [San Diego, California](#). The SOT Annual Meeting is the largest conference of its kind in the world. The Society anticipates that more than 6,500 toxicologists from over 50 countries will attend this five-day event that provides the opportunity to network with colleagues and leading scientists from around the world—including Australia, Egypt, China, and Latin America to Africa and beyond. Toxicologists can explore lessons learned and share research findings and novel approaches with other scientists at this respected conference that showcases the year's latest advances.

[Visa information](#) is posted on the SOT website and the [abstract submission](#) deadline is October 7, 2014.

This annual event features a broad range of [scientific sessions](#) and the 2015 themes include Advancing Clinical and Translational Toxicology, Approaches for Protecting Vulnerable Populations, Epigenomic Influences in Toxicological Responses, Safety Assessment Approaches for Product Development, and Strategies for Exposure and Risk Assessments. The Society is pleased to announce that the [2015 Plenary Opening Lecturer is J. Craig Venter](#). Dr. Venter is a biologist renowned for his contributions in sequencing the first draft human genome in 2001, the first complete diploid human genome in 2007, and construction of the first synthetic bacterial cell in 2010.

Also, the [2015 Continuing Education Program](#) offers a wide range of courses that cover established knowledge in toxicology, as well as new developments in toxicology and related disciplines. All courses will be held on Sunday, March 22, 2015, at the San Diego Convention Center. Both basic and advanced course topics are offered. Continuing Medical Education (CME) identified courses provide educational opportunities that support physicians' improvement in their competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.

Moreover, the Annual Meeting features [ToxExpo](#), which is the toxicology profession's largest trade show. More than 350+ exhibitors debut cutting-edge products and services and attendees have an opportunity to gain first-hand knowledge about these innovations. The benefits of this exhibition extend far beyond the three-day event as [ToxExpo](#) information is easily accessible 24/7 online.

Moreover, the SOT Annual Meeting is cost-effective, with low registration fees, and air and hotel fare negotiated by the Society helps ensure that as many toxicologists as possible have the opportunity to attend. For up-to-date information and to register, please visit the [SOT 2015 Annual Meeting website](#).

We look forward to seeing you in San Diego!

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## **SOT 2015 Annual Meeting, San Diego—An International Invitation to Attend**

Scientists from around the world are invited to register for the [54th Society of Toxicology \(SOT\) Annual Meeting, March 22–26, 2015](#). Please note that individual invitations are not required for attendance. Because the meetings are open scientific events, SOT extends an invitation to all interested individuals to attend.

### **Visa Information**

If your travels require a visa, the US is advising visa applicants to apply at least three to four months in advance of their travel date. We request that you contact the United States Consulate/Embassy and Currency Exchange in your own country regarding documentation and necessary information for your visit to the United States.

The Society of Toxicology 54th Annual Meeting and ToxExpo has been registered with the [International Visitors Office of The National Academies](#). If you have any problems regarding your visa applications, please report your case to them by completing their [online questionnaire](#). To help them identify your case, please include the name of our Meeting (Society of Toxicology 54th Annual Meeting and ToxExpo) in the "Purpose of Visit" field on the questionnaire. The International Visitors Office can submit inquiries to the US Department of State about the status of visa applications that have been pending for 21 days or more. If you have any questions, please contact [visas@nas.edu](mailto:visas@nas.edu).

If for visa purposes you need a formal invitation letter, you may request an invitation by sending your name, address, and fax number to the [SOT Registration Department](#). If you have been accepted to make a presentation at the meeting, please include the name and date of your presentation. You will need to make your own hotel reservations and register for the meeting. If you need assistance, please contact the SOT Registration Department at tel: 703.438.3115, fax: 703.438.3113, or email [SOT Headquarters](#).

Here are some sources of information to help you obtain a visa:

- [Travel.State.Gov](#)

A website designed with you in mind about current visa policies and procedures.

- [International Visitors Office of The National Academies](#)

For additional visa information, contact the International Visitors Office (IVO) of the National Academies of the Sciences at the above website. This should serve as a visa resource for all visiting scientists and scholars traveling to the United States. Additionally, a survey is available that can be used to assist future travelers with the visa process.

- **Make an Appointment**

To visit the US Embassy or Consulate. Make sure you ask if there are any fees required. Most fees must be paid before your appointment. Wait times for appointments may be longer than in the past. Schedule the appointment as soon as possible. Information on Visa wait times can be found at the [US Department of State website](#).

- **Get Your Documents Ready**

Organize passport, applications, documents to support the application with employment details (reason for travel along with financial status), and proof of payment of fees.

- **Submit Your Application**

Send your application and passport along with supporting documents to the United States Embassy or Consulate.

- **Start Early**

Additional reviews may be required. This could add an additional four to six weeks to the processing time.

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## **SOT 2015 Annual Meeting in San Diego Offers Distinctive, World-Class Attractions**

### **Join Your Society of Toxicology Colleagues in California’s “Best Weather Year-Round” City**

San Diego is America’s eighth-largest city with over 1.3 million residents. San Diego sits on the coast of the Pacific Ocean in Southern California, immediately adjacent to the border of Mexico and south of Los Angeles. It is nicknamed “America’s Finest City,” with friendly people, 70 miles of stunning coastline, world-class attractions, and a relaxed atmosphere all its own—it is easy to see how San Diego earned its nickname. For more information on things to do, where to eat, special events, etc., please visit the [SOT San Diego website](#).

### **San Diego Area Activities and Downtown Points of Interests**

#### *Science in San Diego*

- [Birch Aquarium at Scripps Institution of Oceanography](#)
- [Reuben H. Fleet Science Center](#)
- [San Diego Natural History Museum](#)
- [San Diego Zoo](#)
- [San Diego Zoo Safari Park](#)

#### *Points of Interests*

- [Balboa Park](#)
- [Cabrillo National Monument](#)
- [Carlsbad Flower Fields](#)
- [Gaslamp Quarter](#)
- [Hotel del Coronado](#)
- [Old Town Market](#)
- [Old Town San Diego State Historic Park](#)

## *San Diego Attractions*

- [Balboa Park Golf Course](#)
- [Coronado Beach](#)
- [LEGOLAND® California](#)
- [SeaWorld® San Diego](#)
- [USS Midway Museum](#)

[See even more of what San Diego has to offer!](#)

We look forward to seeing you!

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## **SOT 2015 Annual Meeting Ancillary Meeting Forms Due December 12— Reminder**

Plans are well underway for the 2015 Society of Toxicology (SOT) Annual Meeting in San Diego, and if your organization would like to reserve a room for a business or social event, you will need to submit an [Ancillary Meeting Form](#) to SOT Headquarters for approval. Ancillary functions may only be hosted by SOT Affiliates, Exhibitors, Supporters, or organizations otherwise associated with SOT. All ancillary functions are held outside of the San Diego Convention Center in nearby hotels.\*

Ancillary meeting spaces book fast—submit your request now! Only meeting requests made by December 12, 2014, will be listed on the Annual Meeting Calendar in the Program. If your organization plans on holding an off property event, please let [Amy Willis](#) know by February 23, 2015. The Society would like to be able to provide a listing of all SOT-related events to the city bureau and INA Security.

No hospitality functions or ancillary meetings may be scheduled during the following SOT events:

Sunday, March 22, 8:15 AM–12:00 Noon and 1:15 PM–5:00 PM: Continuing Education

Sunday, March 22, 5:15 PM–7:30 PM: Awards Ceremony and Welcome Reception

Monday, March 23, 8:00 AM–9:00 AM: Opening Plenary Lecture

Monday, March 23, 9:15 AM–12:00 Noon and 2:00 PM–4:45 PM: Scientific Sessions

Tuesday, March 24, 9:00 AM–11:45 AM and 1:30 PM–4:15 PM: Scientific Sessions

Tuesday, March 24, 4:30 PM–6:00 PM: Annual Business Meeting (No SOT Events Should Conflict)

Wednesday, March 25, 8:00 AM–9:00 AM: Keynote Medical Research Council (MRC) Lecture

Wednesday, March 25, 9:00 AM–11:45 AM and 1:30 PM–4:15 PM: Scientific Sessions

Thursday, March 26, 9:00 AM–11:45 AM: Scientific Sessions

\* The hotels are not permitted to book meeting space without authorization from SOT.

The goal of the Society is to create a safer and healthier world by advancing the science of toxicology. To this end, the Society reserves the right to deny an Ancillary Meeting request from any organization whose objectives, or past actions, are deemed counterproductive to those of SOT.

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# Registration for the 2015 Past Presidents' 5K Fun Run/Walk is Now Open!

When you pack for the Society of Toxicology (SOT) 2015 Annual Meeting, don't forget your running shoes so you can join us for the fifth annual Past Presidents' 5K Fun Run/Walk! Open to anyone interested, this event is a great opportunity to meet old friends and make new friends in a casual environment, all while showing support for SOT and its wonderful past presidents. Whether you're in it for some friendly competition or would rather take a leisurely stroll, this event's emphasis is on camaraderie and looks to bring together runners or walkers of all levels and paces. Come join us—we look forward to seeing you!

[Register](#) for the 2015 Past Presidents' 5K Fun Run/Walk. Please make sure to register by February 13 to receive your commemorative t-shirt. All race proceeds will go towards the [SOT Endowment Fund](#).

If you do not wish to participate in the run, but would still like to contribute to the SOT Endowment Fund, please fill out the [Endowment Donor Form](#).

Sponsorships available! Contact [Laura Helm](#) if you are interested in sponsoring.

Questions about the Fun Run? Contact [Amy Willis](#) via email or call 703.438.3115 ext. 1406

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## NIH Award Supports the SOT Undergraduate Diversity Program

The National Institutes of Health (NIH) has just announced an award of \$25,000 in conference funding to support the Society of Toxicology (SOT) Undergraduate Diversity Program at the 2015 SOT Annual Meeting in San Diego. This grant provides travel support for undergraduate students from groups that are under-represented in the sciences as well as for faculty advisors. Pictured at the right is a roundtable discussion held during the 2014 SOT Annual Meeting.



Jose E. Manautou is the grant Principal Investigator. He has successfully steered multiple applications for funding over the last decade, following in the footsteps of Myrtle A. Davis and Marion F. Ehrich since the beginning of the Undergraduate Diversity Program in 1989. Pictured below is Antonio T. Baines, 1993 program alumnus, North Carolina Central University, providing an introduction to toxicology to 2014 participants.



SOT has demonstrated a strong commitment to the program through member volunteers and financial support; Pfizer also has been an important supporter since 2000. I chair the Committee on Diversity Initiatives that organizes the Undergraduate Diversity Program and pursues other initiatives to encourage diversity in the pipeline to toxicology careers. I myself first attended SOT as a participant in this program.

Through the Undergraduate Diversity Program, SOT provides the opportunity for about 25 sophomores and juniors who may not have had much experience in toxicology to attend the Annual Meeting.

These students are immersed in a three-day program with special introductory toxicology lectures, sessions with academic program leaders, and opportunities to learn about career options in toxicology from those with advanced degrees, all in the rich mix of the largest toxicology meeting in the world.



Applications are currently being accepted from students and non-SOT member advisors until the October 9 deadline. For more information, please visit the [SOT website](#).

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## SOT Appreciates the Generous Contributions of the 2015 Annual Meeting Supporters

The Society of Toxicology (SOT) Annual Meeting is the largest scientific meeting of toxicologists in the world and the 54th Annual Meeting will draw thousands of attendees. Becoming a supporter of this important gathering demonstrates your organization's commitment to SOT's mission of "creating a safer and healthier world by advancing the science of toxicology."

There are many opportunities to [become a supporter](#) for the meeting to be held March 22–26, 2015, in San Diego, California, at the San Diego Convention Center.

Being a [supporter](#) provides an opportunity for better name recognition of your organization among SOT members and the Annual Meeting attendees and helps keep registration fees low, enabling the Society to attract over 6,500 scientists and industry professionals from academia, industry, and government—at all stages of their careers—and from around the globe. Many of these attendees are directly involved in the application of toxicology and related sciences to human health and disease prevention. Five levels of supporters are offered, with the higher levels providing greater visibility for your organization.

The categories are indicated below as follows:

- Diamond (\$10,000 and more)
- Platinum (\$5,000–\$9,999)
- Gold (\$2,500–\$4,999)
- Silver (\$2,000–\$2,499)
- Contributor (\$1,000–\$1,999)

Supporters are listed in publications related to the Annual Meeting, including the final *Program*, pre- and post-meeting newsletters, and the *ToxExpo Directory*. In addition, Annual Meeting Supporters are listed on the SOT Annual Meeting website, an essential go-to source of information for all registrants. In appreciation for their support of the Society, they are invited to the SOT President's Reception.

Your support also will help offset the cost of functions such as the Undergraduate Diversity Program, K–12, and other Public Outreach activities, Student/Postdoctoral Scholar Events, Continuing Education Program, refreshments, and the Welcoming Reception. If you are interested in becoming an SOT Supporter, contact [Laura Helm](#) 703.435.3115 ext.1403.

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## SOT 2015 Annual Meeting Room Share Program To Encourage Your Participation

The Society of Toxicology (SOT) fosters participation, professional development, and networking within the greater toxicology community, particularly among those who participate in the SOT Annual Meeting. In response to Annual Meeting registrants who have requested assistance in finding those interested in limiting meeting costs by room sharing, the Society is pleased to provide a [Room Share Program](#). It is available to each meeting registrant who voluntarily enrolls in the program and accepts the terms of the legal disclaimer. (You must be registered for the 2015 SOT Annual Meeting to gain access to the Room Share Program.)

Please note that it becomes the responsibility of each participant in the program to communicate with and to work out an

agreement with a potential room sharer. SOT's role is strictly limited to the maintenance of the list of registrants who have signified interest in the program. SOT will maintain the list but does not (a) screen participants, (b) make any determination as to the appropriateness of any resulting room share, or (c) represent that any room share that may follow use of the service will prove to be satisfactory to the participants. Please also take note of the waiver of liability that is a condition of the use of the service.

Please visit the SOT Annual Meeting website to learn more about and participate in this program. After room matching, the registrants are required to remove their names from the Room Share list.

[View the current Room Share list.](#)

[Add or remove your name from the list.](#)

We look forward to seeing you in San Diego!

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## SOT Mentoring Breakfast and More Mentor/Mentee Opportunities at 2015 Annual Meeting

The Society of Toxicology (SOT) Mentoring Breakfast Planning Committee is pleased to announce the 4th Annual SOT Mentoring Breakfast that will be held at the SOT 2015 Annual Meeting in San Diego, California, on Monday, March 23 from 6:15 am–7:45 am! This is a fantastic opportunity for those interested in developing relationships with career mentors. Attendees who attend will experience the following:

- Gain insights to the successful development of a constructive mentoring relationship;
- Provide mentoring facilitators with information about what they are looking for in a mentor; and
- Be personally matched with a mentor who is an SOT member.

This event is limited to 50 mentees on a first-come, first-served basis. An attendance fee of \$10 includes a continental breakfast. Interested mentees can sign up for the SOT Mentoring Breakfast through the [SOT online registration](#).

### Are you Interested in Becoming a Facilitator?

Facilitators will work with a small group of prospective mentees (3–5) to better understand their goals and needs and help to recommend an ideal mentoring candidate for the mentee. A facilitator also may share experiences and tips that have helped guide them in their own career path. A facilitator can:

- Learn more about the career development needs of today's Graduate Students and Postdocs;
- Learn more about their own career development; and
- How best to assess the goals and needs of those around them.

Additional training will be arranged for interested facilitators to help them make the most of this opportunity. If you are interested in serving as a facilitator for the Mentoring Breakfast, please contact [Erica Bruce](#) for more information.

**Please note:** Only mentees interested in being matched with a mentor should register for this event. Matching of the registered mentees with a mentor will take place shortly following the SOT 2015 Annual Meeting. If you are interested in being considered as a mentor, please sign up through the [SOT Mentor Match website](#). The Mentor Match system is a convenient, online system available year round to help link like-minded toxicologists seeking either mentors or mentees.

**Science News**

**ToxSci December 2014, Vol. 142, No. 2 Now Online—Check Out Look**

# Inside *ToxSci*

The December 2014, Vol. 142, No. 2 issue of *Toxicological Sciences (ToxSci)* is now available [online](#). To have the email Table of Contents (eTOC) alerts delivered to you as well as Advance Access notification of the latest papers and research in *Toxicological Sciences* as soon as they are accepted and posted to the website, [register online](#).

In this month's [Look Inside ToxSci](#), Editor-in-Chief Gary W. Miller notes that “It is truly a pleasure to read through the papers slated to appear in each month’s issue. Of course, deciding which articles to highlight continues to pose a problem, but what a great problem to have. Our authors have supplied the readers with a broad range of interesting topics, some of which are highlighted below. You will see excellent articles on safety evaluation of important therapeutics, evaluation of scorpion antivenoms, development of biomarkers of exposure, and toxicological effects of heavy metals and flame retardants. This issue also features a two-part Forum series that provides some insight into how adverse outcome pathway (AOP) models can be developed and implemented. I invite you to Look Inside *ToxSci* for the best original research in the field of toxicology.”

The four highlighted papers in this issue are provided below.

[Mitochondrial DNA Damage as a Peripheral Biomarker for Mitochondrial Toxin Exposure in Rats](#) by Laurie H. Sanders, Evan H. Howlett, Jennifer McCoy, and J. Timothy Greenamyre

[Glycodeoxycholic Acid Levels as Prognostic Biomarker in Acetaminophen-Induced Acute Liver Failure Patients](#) by Benjamin L. Woolbright, Mitchell R. McGill, Vincent S. Staggs, Robert D. Winefield, Parviz Gholami, Mojtaba Olyae, Matthew R. Sharpe, Steven C. Curry, William M. Lee, Hartmut Jaeschke, and the Acute Liver Failure Study Group

[The Concordance between Nonclinical and Phase I Clinical Cardiovascular Assessment from a Cross-Company Data Sharing Initiative](#) by Lorna Ewart, Mike Aylott, Mark Deurinck, Mike Engwall, David J. Gallacher, Helena Geys, Philip Jarvis, Haisong Ju, Derek Leishman, Louise Leong, Nick McMahon, Andy Mead, Phil Milliken, Willi Suter, Ard Teisman, Karel Van Ammel, Hugo M. Vargas, Rob Wallis, and Jean-Pierre Valentin

[Prenatal Exposure to Polychlorinated Biphenyls and Their Hydroxylated Metabolites is Associated with Neurological Functioning in 3-Month-Old Infants](#) by Sietske A. Berghuis, Shalini D. Soechitram, Pieter J.J. Sauer, and Arend F. Bos

The mission of *ToxSci*, the official journal of the Society of Toxicology, is to publish the most influential research in the field of toxicology.

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## ***ToxSci* To Publish Contemporary Reviews in Toxicology Because the Field Needs Them**

In the Editorial in the November 2014 issue of *Toxicological Sciences*, Editor-in-Chief Gary W. Miller and Associate Editor Jeffrey A. Johnson describe the decision to publish [Contemporary Reviews in Toxicology](#). An excerpt of this Editorial is provided below.

“This is our vision for the Contemporary Reviews in Toxicology. Our field needs an outlet for outstanding reviews of recent and emerging trends within the discipline. As the Official Journal of the Society of Toxicology, the Contemporary Reviews in Toxicology have the imprimatur of the Society and its 8000 members. Our field needs this outlet and *Toxicological Sciences* plans to deliver it. To increase reach and influence, we will make these reviews freely available to readers.

*Toxicological Sciences* will publish Contemporary Reviews in Toxicology because the field needs them...

The Contemporary Reviews in Toxicology are here to serve the toxicology community. We do not anticipate publishing more than one review per issue, but we want these reviews to be readable, memorable, and influential.

What we are looking for:

1. A topic of interest to the field. For those of you who are members of SOT and are familiar with the various Specialty Sections, it may be helpful to think about how the topic would be of interest to multiple such groups. There should be several recent publications in the topic area or one or two transformative reports that alter current thought.
2. Authors who are recognized in their respective fields for publishing high-quality work. Gray hair is not required. We believe that many of our reviews will come from young investigators shortly out of fellowship training as these individuals are often working at the cutting edge of a research area. To put it another way, if you have not published influential work within a particular discipline, it is nearly impossible to have the credibility to write an influential review.
3. High-quality writing. We are looking for expertly crafted manuscripts that utilize an engaging writing style to describe the serious science. It should go beyond summarizing findings and provide conceptual insight. We anticipate significant revisions will be necessary for all submitted reviews.

For students in toxicology and related disciplines, it is important to read outside of their specific area of research. Tools and concepts borrowed from other subdisciplines are often required to advance a field. The Contemporary Reviews in Toxicology should provide the type of content for anybody in the field to keep abreast of what is going on outside of their own laboratory.

Please visit the [Toxicological Sciences website](#) to read the instructions for authors. We invite you to submit your proposal (abstract and list of key references) for this exciting new feature in *Toxicological Sciences*. ”

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## **GRC on Mechanistic Toxicology: The Path Forward, August 9–14, 2015: Save The Date**

*By Dana C. Dolinoy, Chair, GRC on Mechanistic Toxicology: The Path Forward*

A Gordon Research Conference (GRC) on Cellular & Molecular Mechanisms of Toxicity will be held August 9–14, 2015, at Proctor Academy, Andover, New Hampshire. The conference will be preceded for the second time by the trainee led and organized Gordon Research Seminar, August 8–9, 2015. The Mechanisms GRC has been held biennially since 1956, and for 2015, we have put together a cutting-edge program featuring the latest mechanistic toxicology research spanning environmental, pharmaceutical, and industrial sciences. The topic of the 2015 GRC is “Mechanistic Toxicology: The Path Forward” and will focus on translating mechanistic toxicology research to advance toxicity testing, product development, and risk decision making.

The talks will highlight several areas of mechanistic toxicology including microphysiological organ chip models, computational toxicology modeling, transgenerational toxicology and risk assessment, epigenetics, systems pharmacology, and alternative *in vivo* models for toxicological risk assessment.

Our goal is to help toxicologists remain at the forefront of mechanistic research and enable them to position their research and methods development to remain at the cutting-edge of product safety and toxicological evaluation. Funding is available for graduate students and postdoctoral fellows who are presenting outstanding posters. A special committee will select some abstracts/posters for short oral talks. These “late-breaking” oral sessions provide increased participation to trainees and young scientists to share their work with an audience of experts. Full program details are available on the [conference website](#) as well as the [application](#) to attend this conference.

The Society of Toxicology (SOT) is a sponsor of this conference and has been a sponsor of other Cellular & Molecular Mechanisms of Toxicity GRCs. To achieve the SOT mission of “creating a safer and healthier world by advancing the

science of toxicology,” the Society provides sponsorship and/or endorsement to toxicology-related meetings sponsored by other not-for-profit organizations.

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## **Progress Made on Tox21: A Framework for the Next Generation of Risk Science SLC Webinar Now Online**

On October 1, 2014, the Scientific Liaison Coalition (SLC) hosted a webinar [Progress Made on Tox21: A Framework for the Next Generation of Risk Science](#) presented by Daniel Krewski. Dr. Krewski is currently Professor of Epidemiology and Community Medicine and Scientific Director of the McLaughlin Centre for Population Health Risk Assessment at the University of Ottawa. He served as Chair of the National Research Council’s Committee on Toxicity Testing and Assessment of Environmental Agents, which published its influential report, “Toxicity Testing in the 21st Century: A Vision and a Strategy,” published in June of 2007.

The Society of Toxicology (SOT) is a participating member of the SLC. More than 400 scientists from around the globe joined this webinar including participants from Brazil, Canada, China, France, India, Japan, Sweden, The Netherlands, United Kingdom, and the United States.

The mission of the SLC is “improving the ability of societies to partner with other domestic and international organizations that have objectives consistent with the goal of increasing the impact of the science of toxicology to improve public health“ by:

- Strengthening partnerships among scientific- and health-based organizations to increase awareness of the impact of toxicology and related subjects on human health, and
- Functioning as a means to enhance cooperation among societies as equals with the goal of accomplishing tasks benefiting human health and disease prevention through joint and several shared activities.

The participating societies in the SLC include the American Association for Cancer Research (AACR), American Academy of Clinical Toxicology (AACT), American College of Medical Toxicology (ACMT), American College of Toxicology (ACT), The Endocrine Society (ENDO), Environmental Mutagenesis and Genomics Society (EMGS), International Society for the Study of Xenobiotics (ISSX), Safety Pharmacology Society (SPS), Society of Environmental Toxicology and Chemistry (SETAC), Society of Toxicologic Pathology (STP), SOT, and Teratology Society (Teratology). For more information on the SLC, please contact [Marcia Lawson](#).

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## **SOT-Sponsored Conference on Reproductive Biology and Toxicology, Ribeirão Preto, São Paulo, Brazil**

The Society of Toxicology (SOT) was a sponsor of the recent International Conference on Reproductive Biology and Toxicology (CBRT), held November 10–11, 2014, University of São Paulo, Ribeirão Preto, São Paulo, Brazil. The theme of this meeting was on the impact of environmental stressors on aspects of male and female reproductive tracts and developmental processes during pregnancy. The objectives of the meeting were to bring together experts in reproductive and developmental toxicology from South and North America to facilitate interaction between graduate students and international scientists, encourage international collaboration on critical and emerging issues in toxicology, and to explore opportunities and mechanisms to expand Professional Society memberships amongst South American scientists.

The meeting was well attended with more than 100 delegates from across Brazil and representing Chile, Argentina, Australia, United States, and Canada. Delegates included graduate students through to senior investigators and program directors. Highlights of the meeting include the following:

1. Round table discussion of representatives from Brazilian and International Societies of Reproductive Biology and



Toxicology, including:

Society for the Study of Reproduction: Kate Loveland; Society of Toxicology: Warren Foster; American Society of Andrology: Sally P. Darney; Society Brasileira de Toxicologia: Daniel Dorta; Society Brasileira de Biologia Celular: Luis Renato de França; Society Brasileira de Farmacologia e Terapêutica Experimental: Maria Christina W. Avellar; Society Brasileira de Tecnologia de Embriões: José Buratini Jr.; Latin American Society for Maternal Fetal Interaction and Placenta: Estela Bevilacqua; Latin American Society of Toxicologic and Experimental Pathology: Wilma Kempinas

2. The mandate of each society along with the benefits to membership was discussed by each representative. SOT Special Interest Groups were also identified as a method for scientists in South America to become more active in SOT. Also highlighted were travel grants and awards for graduate students along with the site for the next Annual Meeting in San Diego.
3. The meeting included oral presentations by leading international experts and local Brazilian and Chilean scientists as well as local graduate students. In addition, graduate students gave oral presentations of their posters in a structured format with judging by visiting experts for selection of the best poster presentation. Local faculty and graduate students were provided with adequate time during breaks to meet with visiting scientists (Daniel Cyr and Warren Foster) to discuss their experiences as members of SOT and the benefits of membership in international professional societies. In addition, faculty and students had the opportunity to discuss their own research, ask questions, and problem-solve technical issues. It is anticipated that several new collaborative projects will arise from discussions at this meeting.

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## SLC Receives Funds From FutureTox II CCT to Support Its Mission: Opportunity Open to RC, SIG, and SS

The Scientific Liaison Coalition (SLC) was instrumental in the development of the Society of Toxicology (SOT) [FutureTox II: \*In Vitro\* and \*In Silico\* Models for Predictive Toxicology Contemporary Concepts in Toxicology \(CCT\) conference](#), which was held January 16–17, 2014. Because of the success of this meeting, this coalition of 15 societies received a share of the conference profits to support its activities. This \$40,000 will help foster the mission of the SLC of “improving the ability of societies to partner with other domestic and international organizations that have objectives consistent with the goal of increasing the impact of the science of toxicology to improve public health” by:

- Strengthening partnerships among scientific- and health-based organizations to increase awareness of the impact of toxicology and related subjects on human health, and
- Functioning as a means to enhance cooperation among societies as equals with the goal of accomplishing tasks benefiting human health and disease prevention through joint and several shared activities.

The participating societies in the SLC include the American Association for Cancer Research (AACR), American Academy of Clinical Toxicology (AACT), American Chemical Society (ACS), American College of Medical Toxicology (ACMT), American College of Toxicology (ACT), The Endocrine Society (ENDO), Environmental Mutagenesis and Genomics Society (EMGS), International Society for the Study of Xenobiotics (ISSX), Safety Pharmacology Society (SPS), Society for Risk Analysis (SRA), Society for the Study of Reproduction (SSR), Society of Environmental Toxicology and Chemistry (SETAC), Society of Toxicologic Pathology (STP), SOT, and Teratology Society. For additional information about the SLC, please contact [Marcia Lawson](#).

This profit-sharing opportunity is available to all SOT Regional Chapters (RC), Specialty Sections (SS), and Special Interest Groups (SIG) that submit and receive approval for [CCT proposals](#). The proceeds are shared on a 50/50 basis and disbursement occurs after the initial seed funds provided by the Society are repaid (\$25,000). These CCTs provide educational opportunities beyond the SOT Annual Meeting by offering a forum for cutting-edge science to be discussed anywhere in the world. Sharing in the profits is limited to SOT RC, SIG, and SS component groups and other organizations as approved by SOT Council, but is not available to outside organizations that sponsor a CCT. As an example, the Molecular Biology SS benefited from the outcome of the FutureTox CCT held October 18–19, 2012, as described in a *Communiqué* blog, [Molecular Biology SS Receives Profits from FutureTox CCT: Opportunity Open to All RC, SIG, and SS](#).

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## NIH CSR Provides Applicant Resources Through Online Videos and More

The primary role of the National Institutes of Health (NIH) Center for Scientific Review (CSR) is to handle the receipt and review of 80% of the grant applications that NIH receives. The NIH CSR website includes [application resources](#) that may be of interest to you, including four videos as follows:

[NIH Peer Review Revealed](#)

[Jumpstart Your Research Career with CSR's Early Career Reviewer Program](#)

[NIH Tips for Applicants](#)

[What Happens to Your NIH Grant Application](#)

For additional information about the grant process and the role of CSR, please visit the [NIH CSR website](#).

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## Current Intervention Strategies in the NCI PREVENT Cancer Preclinical Drug Development Program

Chemoprevention research in the Division of Cancer Prevention (DCP) was restructured in 2011 creating the PREVENT Cancer Preclinical Drug Development Program. This Program provides for peer-review of applications from the general research community for development of (1) small molecules or biologicals, including vaccines, for cancer prevention, or (2) biomarkers to facilitate clinical evaluation of prevention strategies. The process for applying to the Prevent Program is described at the [National Cancer Institute website](#). Applications are submitted twice yearly and reviewed by a panel of experts from the extramural community and National Institutes of Health (NIH) scientists outside DCP and scored for scientific merit, feasibility, etc. Top scoring applications undergo secondary review and prioritization by a panel of DCP and other NIH scientists. Applications with potential for near-term clinical translation are given highest priority.

Approved projects are implemented as Task Orders via a system of contracts with academic and nonprofit, independent research institutions that provide the full range of preclinical studies, including good laboratory practice toxicology, needed to support Investigational New Drug Applications. Twenty-five Task Orders addressing a range of intervention strategies have been awarded in the first two years of the Program. Small molecules targeting classic aspects of inflammation as well as newer molecular-targeted agents (n=16) are under study. Pharmacodynamic assays are coupled to efficacy studies. Immunoprevention strategies targeting tumor-associated antigens as well as antigens from cancer-associated infectious agents (n=6) are being pursued. Studies aimed at identifying intermediate biomarkers (n=3) also are under investigation.

The PREVENT Cancer Program has engaged a broad cross-section of investigators, supporting preclinical development of agents addressing a wide variety of cancer prevention strategies. A member of the Chemopreventive Agent Development Research Group should be present in the Research Funding Room during the 2015 SOT Annual Meeting.

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## Grant Opportunities from the Bill & Melinda Gates Foundation and Its Partners

The Bill & Melinda Gates Foundation and its Grand Challenges partners are now accepting applications for the following grant programs. For more information on these programs, please visit the [foundation website](#).

1) The Bill & Melinda Gates Foundation has launched three new Grand Challenges:

- [Putting Women and Girls at the Center of Development](#)
- [Creating and Measuring Integrated Solutions for Healthy Birth, Growth, and Development \(part of the All Children Thriving platform\)](#)
- [New Interventions for Global Health](#)

**Proposals will be accepted until January 13, 2015.**

For additional information, visit the [Gates Foundation website](#).

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## **NSF Funding Available To Expand Understanding of Ebola Spread**

In light of the recent emergence of the lethal Ebola virus in the United States, the National Science Foundation (NSF) is accepting proposals to conduct nonmedical, nonclinical care research that can be used immediately to better understand how to model and understand the spread of Ebola, educate about prophylactic behaviors, and encourage the development of products, processes, and learning that can address this global challenge. Researchers are invited to use the Rapid Response Research (RAPID) funding mechanism, which allows NSF to receive and review proposals having a severe urgency with regard to availability of, or access to, data, facilities, or specialized equipment, as well as quick-response research on natural or anthropogenic disasters and similar unanticipated events. Complete guidance on submitting a RAPID proposal may be found on the [NSF website](#).

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## **Biomedical/Biobehavioral Research Administration Development (BRAD) Award (G11)**

The Department of Health and Human Services, National Institutes of Health (NIH), has issued a Funding Opportunity Announcement (FOA), [Biomedical/Biobehavioral Research Administration Development \(BRAD\) Award \(G11\)](#). The participating organizations are the [Eunice Kennedy Shriver National Institute of Child Health and Human Development \(NICHD\)](#) and the [Fogarty International Center \(FIC\)](#).

The purpose of this FOA is to invite applications that propose to establish Offices of Research and Sponsored Programs (ORSPs) or enhance the services of existing ORSPs or similar entities at domestic and international institutions of higher learning. Domestic program priorities include emerging research institutions and primarily undergraduate institutions, including women's colleges, that have a racial and ethnically diverse student enrollment and that meet the eligibility requirement of the NIH [Academic Research Enhancement Award \(AREA\) program](#). International program priorities include institutions of higher education in sub-Saharan Africa, India, and low- and middle-income countries in the Caribbean and South America that meet the eligibility requirements.

### **Key Dates:**

Letter of Intent Due Date(s): 30 days before the application due date

Application Due Date(s): August 19, 2015, August 19, 2016, by 5:00 pm local time of applicant organization

For additional information, please see the [NIH website](#).

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## **Notice Announcing Updates to NHLBI Topics of Special Interest (TOSI)**

[\(NOT-HL-14-236\)](#)

## Purpose

The National Heart, Lung and Blood Institute (NHLBI) announces updated Topics of Special Interest (TOSI) that are of high programmatic concern. TOSI listing may be accessed at the [National Institutes of Health \(NIH\) website](#). TOSI will change periodically as Institute programmatic interests dictate. These topics are not formal announcements for applications (Funding Opportunity Announcements). Although funds are not set aside for awards on these topics, applications submitted in response to TOSI are eligible for special funding consideration. TOSI applications will be peer reviewed by standing study sections at the NIH Center for Scientific Review (CSR).

Investigators interested in developing applications for these topics are encouraged to discuss their ideas with the NHLBI contacts listed in the [announcement](#). Researchers should submit investigator-initiated R01 applications through [PA-13-302](#).

For additional information, please visit the [NIH website](#).

## Legislative and Regulatory Update

### SOT's TSCA Efforts Continue During Lame Duck Session

The Society of Toxicology (SOT) Toxic Substances Control Act (TSCA) Task Force continues efforts on Capitol Hill following the November elections. Just recently, the Task Force filed a set of comments on the most recent Udall-Vitter version of the TSCA reform bill and the Democratic response to that version of the bill.

In a letter to the Democratic Chair Barbara Boxer (D-CA) and Ranking Member David Vitter (R-LA), SOT TSCA Task Force Chair Daland R. Juberg and Co-Chair Mark Lafranconi, with additional team input from William H. Farland and Susan J. Borghoff, again emphasized the importance of ensuring that language used in any reform legislation allow flexibility in the choice of the most appropriate specific techniques for generating information used in the risk and safety assessment process. The SOT Task Force leaders also urged that Congress protect the authority of the US Environmental Protection Agency to judge when, and how, to apply new techniques and methods of generating information for safety and risk assessment within TSCA. They also urged that terms and concepts used in any reform legislation be applied consistently throughout the proposed legislation.

A full version of the letter can be viewed on the [SOT website](#).

Over the last year, the TSCA Task Force engaged in the following efforts on behalf of the Society:

- Conducted a series of educational meetings with 23 staff members from the House of Representatives and the US Senate.
- Submitted four separate letters to the Chairman and Ranking Member of the House Subcommittee on Environment and the Economy detailing the Society's perspective concerning the importance of the scientific underpinnings of TSCA reform legislation and has provided the Subcommittee with its evaluation of the various draft bills that were put forward in 2014.
- Explained the scientific meaning of such concepts as hazard, vulnerable populations, exposure, mixtures, and risk assessment during Congressional Staff meetings.
- Sponsored an educational session in September for eight key staff members of the House Subcommittee at their request to clarify staff questions regarding various scientific concepts and terms that are fundamental to TSCA reform legislation. The TSCA Task Force has been asked to consider similar meetings with the Senate staff and has received feedback that their meetings have been productive and educational.
- Conducted a Sunrise session (March 2014) for the SOT membership on TSCA reform legislation and provided them with an overview of what the Task Force has accomplished over the past year.

The TSCA Task Force was established by SOT Council for the purpose of providing SOT's expertise available to Members of Congress to support the redefinition of TSCA-related issues for policymakers and the public. This task force does not advocate for any specific legislative proposal. In addition to Drs. Juberg, Lafranconi, Farland, and Borghoff mentioned above, this task force also includes Lorrene A. Buckley (SOT Council Contact), Leigh Ann Burns Naas (SOT Co-Council Contact), Deborah A. Cory-Slechta, Ronald S. Filler, George M. Gray, Michael P. Holsapple, James C. Lamb, IV, Moiz Mumtaz, Ruthann A. Rudel, and Robert S. Skoglund.

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## **Patrick Breyse Announced As NCEH/ATSDR Director**

On November 21, 2014, Director of the Centers for Disease Control and Prevention (CDC) and Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR) Thomas R. Frieden announced that Patrick Breyse has been selected as the Director of the National Center for Environmental Health (NCEH)/ATSDR. Dr. Breyse has been a Professor of Environmental Health Sciences at the Johns Hopkins University Bloomberg School of Public Health and will join NCEH/ATSDR on December 28, 2014. He also has held joint appointments as Professor of Medicine within the Johns Hopkins University School of Medicine, Division of Pulmonary and Critical Care Medicine, and as a Professor of Chemical and Biomolecular Engineering within the Johns Hopkins University Whiting School of Engineering. He has served as Associate Chair for Educational Programs within the Department of Environmental Health Sciences, Program Director for Industrial Hygiene Training Program and Co-Director of the Johns Hopkins Center for Childhood Asthma in the Urban Environment. The message about this appointment noted that Dr. Breyse has served on a number of advisory panels and committees within the fields of environmental health, occupational safety, and toxicology. His research has focused on a broad range of occupational and environmental health topics, particularly the relationship between indoor and outdoor air quality and health.

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## **House Passes Bill To Reform US EPA's SAB—Administration Policy Statement Posted**

On Tuesday, November 18, 2014, the US Congress passed H.R.1422—US EPA Science Advisory Board Reform Act of 2013. The White House posted an Statement of Administration Policy regarding this bill on November 17, 2014. The bill is to amend the Environmental Research, Development, and Demonstration Authorization Act of 1978 to provide for Scientific Advisory Board (SAB) member qualifications, public participation, and for other purposes. The SAB provides advice to the US Environmental Protection Agency (EPA). The [vote](#) on the bill passed 229 to 191 largely along partisan lines. On November 19, 2014, this bill was received in the US Senate, read twice, and referred to the Committee on Environment and Public Works. The full text of the bill is provided on the [Congressional website](#). The Statement of Administration Policy can be accessed on the [White House website](#).

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## **US EPA Updates TSCA Work Plan for Chemical Assessments Based on New Exposure Data**

On October 23, 2014, the US Environmental Protection Agency (EPA) announced it had updated its list of existing chemicals for assessment, known as the Toxic Substances Control Act (TSCA) Work Plan for Chemical Assessments. The changes to the TSCA Work Plan for Chemical Assessments reflect updated data submitted to US EPA on chemical releases and potential exposures. US EPA first presented the TSCA Work Plan of 83 chemicals in February 2012 and this is the first update. The 2014 update to the TSCA Work Plan for Chemical Assessments is based on new data that the agency received as part of the Chemical Data Reporting (CDR) program and the Toxics Release Inventory (TRI) program. The update removes or consolidates 16 of those chemicals, most of which are no longer in commerce in the US. Another 23 chemicals, many of which were previously considered of "moderate" concern, are being added to the TSCA Work Plan for Chemical Assessments. Data reported to the TRI in 2011 show elevated releases of these chemicals to the environment, and data reported to US EPA as part of the 2012 CDR show an increase in potential



exposure; specifically, CDR data indicate the presence of many of these chemicals in consumer products, including some products used by children. The 23 chemicals added to the TSCA Work Plan for Chemical Assessments will be considered after 2017. The updated TSCA Work Plan contains 90 chemicals. US EPA uses the TSCA Work Plan for Chemical Assessments to focus and prioritize its activities so that chemicals having the highest potential for exposure and hazard are assessed and, if warranted, are subject to risk reduction actions. On August 28, 2014, final risk assessments were published for specific uses of three chemicals: methylene chloride in paint stripping products, antimony trioxide as a synergist in halogenated flame retardants, and 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8,-hexamethylcyclopenta-[??]-2-benzopyran as a fragrance. Earlier, the first completed assessment on trichloroethylene (TCE) as a degreaser, a spot-cleaner in dry cleaning, and a spray-on protective coating was published on June 25, 2014. Additional information on the TSCA Work Plan for Chemical Assessments and the 2014 update can be found on the [US EPA website](#) as well as the [assessments](#) being conducted.

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## **CDC Request for Nominations to Board of Scientific Counselors OPHPR: Deadline January 16, 2015**

The Centers for Disease Control and Prevention (CDC) is soliciting nominations for possible membership on the Board of Scientific Counselors, Office of Public Health Preparedness and Response (BSC OPHPR). The BSC OPHPR consists of 11 experts in the fields associated with public health preparedness and response.

This board provides advice and guidance to the Secretary, Department of Health and Human Services (HHS), the Director, CDC, and the Director, OPHPR, concerning strategies and goals for the programs within the divisions; conducts peer-review of scientific programs; and monitors the overall strategic direction and focus of the divisions. The BSC OPHPR may perform second-level peer review of applications for grants-in-aid for research and research training activities, cooperative agreements, and research contract proposals relating to the broad areas within the office.

Nominations are being sought for individuals who have the expertise and qualifications necessary to contribute to the accomplishment of the board's objectives. Nominees will be selected based on expertise in the fields relevant to the issues addressed by the divisions within the coordinating office, including: business, crisis leadership, emergency response and management, engineering, epidemiology, health policy and management, informatics, laboratory science, medicine, mental and behavioral health, public health law, public health practice, risk communication, and social science.

Federal employees will not be considered for membership. Members may be invited to serve for terms of up to four years. For additional information including the application process, review the online [Federal Register notice](#). The deadline for receipt of all application materials (for consideration for the term beginning October 1, 2015) is January 16, 2015. All files must be submitted electronically as email attachments to: [CDR Christye Brown](#), c/o BSC OPHPR Coordinator.

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## **CDC Now Accepting Nominations for NIOSH Board of Scientific Counselors**

The Centers for Disease Control and Prevention (CDC) is soliciting nominations for possible membership on the Board of Scientific Counselors, National Institute for Occupational Safety and Health (BSC, NIOSH). The BSC, NIOSH consists of 15 experts in fields related to occupational safety and health who are selected by the Secretary of the US Department of Health and Human Services (HHS). The board advises the NIOSH Director on occupational safety and health research and prevention programs, as well as standards of scientific excellence, current needs in the field of occupational safety and health, and the applicability and dissemination of research findings. More information is available on the [NIOSH BSC website](#).

Nominees will be selected based on expertise in the field of occupational safety and health, such as occupational

medicine, occupational nursing, industrial hygiene, occupational safety and health engineering, toxicology, chemistry, safety and health education, ergonomics, epidemiology, biostatistics, and psychology. Members may be invited to serve for terms of up to four years. Selected nominees would begin service on the NIOSH BSC in January 2016. Nominees must be US citizens and cannot be full-time employees of the US Government, or federally registered lobbyists.

Candidates should submit the following items directly to the CDC:

- Current *curriculum vitae*, including complete contact information (name, affiliation, mailing address, telephone number, email address).
- A letter of recommendation stating the qualifications of the candidate.
- A statement indicating the nominee's willingness to serve as a potential member of the BSC, NIOSH.

Nomination materials must be postmarked by December 15, 2014, and sent to: John Decker, NIOSH, CDC, 1600 Clifton Road NE., Mailstop E-20, Atlanta, Georgia 30333, telephone 404.498.2500. For additional information, please refer to the [Federal Register notice](#).

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## PHS: Guidance on Significant Changes to Animal Activities

This Notice provides guidance to Public Health Service (PHS) awardee institutions and Institutional Animal Care and Use Committees (IACUCs) on significant changes to animal activities.

### Background

The PHS Policy on Humane Care and Use of Laboratory Animals (Policy) ([IV.C.1](#)) and Animal Welfare Regulations ([9 CFR 2.31\(d\)\(1\)\(i\)-\(iv\)](#)) define the responsibilities of the IACUC regarding review and approval of proposed significant changes to animal activities. Changes to approved research projects must be conducted in accordance with the institution's Assurance, the United States Department of Agriculture (USDA) Animal Welfare Act, and Animal Welfare Regulations and must be consistent with the [Guide](#) unless an acceptable justification for a departure is presented. Additionally, IACUCs are responsible for assuring that the changes to approved animal activities meet the requirements described in the PHS Policy [IV.C.1.a-g](#).

IACUC approval of proposed animal activities or significant changes to previously approved animal activities is granted after full committee review (FCR) or designated member review (DMR). Additionally, institutions may establish and IACUCs may approve policies (e.g., guidance documents, standard operating procedures, drug formularies) for the conduct of animal activities. These policies must be reviewed by the IACUC at appropriate intervals of no less than once every three years to ensure they are appropriate and accurate.

### Significant Changes to Animal Activities Previously Approved by the IACUC

The IACUC has some discretion to use IACUC-reviewed and -approved policies to define what it considers a significant change, or to establish a mechanism for determining significance on a case-by-case basis in accordance with the PHS Policy [IV.C.1.a-g](#). It is the IACUC's responsibility to clearly define and communicate its policy for determining significance to investigators.

In brief, significant changes include changes that have, or have the potential to have, a negative impact on animal welfare (see paragraph 1., below). In addition, some activities that may not have a direct impact on animal welfare also are considered to be significant (see paragraphs 2. and 3., below).

In support of the use of performance standards and professional judgment and to reduce regulatory burden, IACUC-reviewed and -approved policies (e.g., guidance documents, standard operating procedures, drug formularies) for the conduct of animal activities may be used for the administrative handling of some significant changes according to the following considerations:

1. Significant changes described in 1.a.-g., below, must be approved by one of the valid IACUC approval methods described in the PHS Policy [IV.C.2.](#), that is FCR or DMR, including changes:

- a. from nonsurvival to survival surgery;
- b. resulting in greater pain, distress, or degree of invasiveness;
- c. in housing and or use of animals in a location that is not part of the animal program overseen by the IACUC;
- d. in species;
- e. in study objectives;
- f. in Principal Investigator (PI); and
- g. that impact personnel safety.

2. The specific significant changes described in 2.a.-c., below, may be handled administratively according to IACUC-reviewed and -approved policies in consultation with a veterinarian authorized by the IACUC. The veterinarian is not conducting DMR, but is serving as a subject matter expert to verify that compliance with the IACUC-reviewed and -approved policy is appropriate for the animals in this circumstance. Consultation with the veterinarian must be documented. The veterinarian may refer any request to the IACUC for review for any reason and must refer any request that does not meet the parameters of the IACUC-reviewed and -approved policies. This includes changes in:

- a. anesthesia, analgesia, sedation, or experimental substances;
- b. euthanasia to any method approved in the [AVMA Guidelines for the Euthanasia of Animals](#); and
- c. duration, frequency, type, or number of procedures performed on an animal.

3. A significant change that may be handled administratively according to an existing IACUC-reviewed and -approved policy without additional consultation or notification is an increase in previously approved animal numbers (PHS Policy [IV.D.1.a.](#)).

### **Other Changes**

4. Changes that may be handled administratively without IACUC- approved policies, consultations, or notifications include:

- a. correction of typographical errors;
- b. correction of grammar;
- c. contact information updates; and
- d. change in personnel, other than the PI. (There must be an administrative review to ensure that all such personnel are appropriately identified, adequately trained and qualified, enrolled in occupational health and safety programs, and meet other criteria as required by the IACUC.)

5. Investigators may use fewer animals than approved. This does not require IACUC approval, notification, consultation, or administrative handling.

The US Department of Agriculture Animal and Plant Health Inspection Service has reviewed and concurs with the guidance provided in this Notice.

For additional information, please visit the [National Institutes of Health \(NIH\) website](#).

Note that NIH received 81 comments from the public during an open comment period in the spring. The comments may be viewed at the [NIH website](#). The majority of those commenting consider the changes as adding additional and unneeded burden for grantees and their institutions.

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## **CDC Launches Blog Featuring NCEH and ATSDR**

The Centers for Disease Control and Prevention (CDC) has launched a blog, [Your Health—Your Environmental Blog](#), featuring the National Center for Environmental Health (NCEH) and the Agency for Toxic Substances and Disease Registry (ATSDR) as well as a host of other information. The NCEH and ATSDR launched a blog of their postings to the CDC blog “to explain environmental public health in ways that show the impact of our work. The brief, easy-to-read blog posts highlight accomplishments, call attention to important or priority topics, and drive traffic to [NCEH](#) and [ATSDR](#) web pages that contain more detailed information.”

## **Position Advertisement(s)**

# **US FDA Vacancy Announcement: Division Director, Division of Biology, Chemistry and Materials Science**



### **Vacancy Announcement: Division Director**

**Open Period: November 3, 2014 to December 19, 2014**

Seeking a recognized scientific leader to fill the position of the Division Director of a newly formed Division of Biology, Chemistry, and Materials Science (DBCMS), Office of Science and Engineering Laboratories (OSEL), Center for Devices and Radiological Health (CDRH), US Food and Drug Administration (US FDA). Position is open to a Toxicologist, Chemist, Biologist, Materials Scientist, Polymer Scientist, Interdisciplinary Scientist, Interdisciplinary Engineer, Biomedical Scientist/Engineer, or Medical Officer. Candidates must have experience providing scientific and technical executive leadership in managing and directing a scientific, professional, and technical staff. The position is located in Silver Spring, Maryland, and all applications will be accepted from US citizens. This vacancy announcement will be open through December 19, 2014.

DBCMS participates in the Center's mission of protecting and promoting public health by identifying and investigating issues related to the interaction between medical devices and the human body. The division accomplishes this by conducting laboratory-based regulatory research; providing scientific and engineering expertise for pre-market reviews, post-market investigations, and standards development; and collaborating with colleagues to develop, translate, and disseminate science and engineering-based information on regulated products. Specifically, DBCMS focuses on device issues that involve: biocompatibility, biological risk assessment, and toxicology; materials characterization and processing; materials degradation and chemical contamination; electrochemistry; infection control, sterility, and biofilms; computational modeling of physiological processes; and nanotechnology.

For additional information about the DBCMS/OSEL/CDRH/FDA, please visit the [US FDA website](#).

Duties include:

- Direct, manage, and supervise specialty laboratories in the disciplines mentioned above.
- Direct and coordinate the technical staff and scientific programs of the division.
- Conduct and direct regulatory science research projects, including publication of results.
- Coordinate high-level interactions with regulatory officials in other Center components to devise appropriate projects and tasks.
- Supervise a staff of professional scientists, technical, and administrative personnel in accomplishing the regulatory review process.

- Align division activities and strategic plans toward Office and Center-wide missions and goals.
- Develop collaborative agreements with outside groups to further expand and advance the development of scientific information useful in regulatory, compliance, and standards-setting activities.
  - Ensure all administrative aspects of the Division to include personnel management, budget execution, and laboratory services are accomplished.

**Educational Requirements:**

Applicants should possess an MD, PhD, or equivalent science degree, and have demonstrated scientific leadership and senior-level research experience in both basic and applied research program of national or international standing in areas of chemistry, biology, toxicology, materials science, or biomedical engineering. Experience with leadership in these programs relevant to medical devices is a plus.

**For further qualifications and requirements, please visit the [US FDA website](#).**

DBCMS/OSEL contact: [Subhas Malghan, PhD](#)