



# Communiqué

Summer/Fall Issue 2013

## SOT News

### President's Message



*President  
Lois D. Lehman-  
McKeeman*

It's said that time flies when you are having fun. The summer months have been a busy and productive time for SOT. Although busy, it also has been rewarding and enjoyable, and indeed, the time has flown by. In this message, I want to highlight two recent efforts and important accomplishments of the Society and address the ongoing review of our external communications strategy.

**Aloha: We are looking forward to hosting the International Congress of Toxicology (ICT) in Honolulu in July 2019.** SOT was an active participant in the recent ICT meeting held in Seoul, Korea, and during this meeting, I had the pleasure and honor to present our bid to host this important international toxicology meeting. There had been considerable planning by members of the 2012–2013 Council, along with invaluable efforts by SOT Headquarters staff, particularly Clarissa Russell Wilson and Heidi Prange, to prepare a comprehensive and compelling case for organizing a meeting at this world renowned destination. It probably didn't hurt that we also had a bountiful supply of chocolate-covered macadamia nuts provided by the Hawaii Convention and Visitors Bureau to share with all meeting attendees.

In the end, the location, the opportunity for world-class science and recognized excellence in meeting planning carried the day for our bid, and now we begin the work to develop a scientific program that will match the quality of our own Annual Meeting. In preparing to present our proposal, I spent a little time reading about Hawaiian customs, particularly the "spirit of aloha." I was fascinated to learn that aloha is more than just a way to say hello or goodbye. Rather it describes the quality of a relationship in which each person is important to every other person for collective existence. I could think of no better way to capture the essence of SOT's engagement in the international toxicology community, and no better way to bring the "aloha spirit" to the ICT meeting.

**Congressional engagement on the Chemical Safety Improvement Act.** Earlier this summer, United States Senators Frank Lautenberg (D-NJ; deceased) and David Vitter (R-LA) announced a groundbreaking, bipartisan agreement to modernize the Toxic Substances Control Act (TSCA) in legislation titled the Chemical Safety Improvement Act of 2013. The bill, which has been in discussion for some time, represents a significant opportunity for the Society to provide scientific expertise and the inclusion of toxicological principles in this legislation. A task force led by Daland R. Juberg was reactivated this summer after the bipartisan legislation was advanced in the Senate. This task force, representing a very broad spectrum of experienced scientists, has made contact with Congressional staffers and is currently working to identify and develop the best ways to communicate scientific information and perspective with legislators as debate on the bill continues.

In addition to the work of the task force, the Past Presidents of SOT developed a letter that was sent on behalf of the Society to Senators Vitter, Udall, Crapo and Boxer (Chairs of the Senate Committee on Environment and Public Works

[Boxer] and the Subcommittee on Superfund, Toxics and Environmental Health [Udall] or ranking members on these committees [Vitter and Crapo, respectively]). The letter, co-signed by 20 Past-Presidents of SOT, provided details on the relevance of toxicology to protecting and improving public health and the environment. It also offered the Society's assistance to ensure that TSCA improvements would fully reflect the best practices of modern toxicology. The letter didn't go unnoticed, as Senator Vitter specifically referred to SOT during Congressional testimony concerning this legislation. I want to specifically acknowledge the efforts of SOT 1996–1997 President James S. Bus who organized this effort. In fact, it was an absolute pleasure to watch as the Past Presidents developed and completed this effort in about three days—providing a real example on how to be proactive, timely, and effective in communicating the significance of our science.

The discussion of TSCA activities brings me back to our ongoing effort to review the Society's overall communication strategy. As I noted in my previous message, this is a major area of focus and review for SOT Council this year. Our current strategic plan places considerable emphasis on promoting the recognition and communicating the value of toxicology, and our Communications Committee is charged with leading this outreach to external audiences. I am not yet ready to share many specific details on the outcome of this effort. However, we have reconfirmed that our primary emphasis needs to be focused on how we establish SOT and the science of toxicology as a credible, valuable resource to effectively engage in scientific communication. Additionally, we have re-assessed the priority for the external audiences we believe we need to reach, and we have completed the more challenging process of critically assessing our strengths and weaknesses.

One area that we have identified as a real opportunity for outreach and communication is our own website, with more details on this effort to follow. With a defined strategy and a clearer focus, the Communications Committee is working to evaluate what existing efforts may need to be advanced or finalized and to define and establish priorities for new efforts. As a Society, we also need to be able to bring some of that flexibility and effectiveness that the Past Presidents demonstrated in their recent communication with Congress to our overall communications strategy. I believe we are making real progress in this strategic overview, and I will provide more details in the fall after the Communications Committee has had time to assess current and future needs.

In the “spirit of aloha,” I want to acknowledge the many individuals who have offered their desire and willingness to contribute to the diverse work of the Society. As a reminder, there is a volunteer form on the [SOT website](#), and I encourage you to complete this form so that we have a record of those of you who would like to contribute in more specific ways to the success of the Society. In these busy days that do indeed fly by, it's gratifying and inspiring to know that many people want to engage in Society activities and help to advance our science.

Aloha,

*Lois D. Lehman-McKeeman, PhD, ATS*  
2013–2014 SOT President

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## **Request for Nominations for 2014 Congressional Science Leadership Award—October 9 Deadline**

The Society of Toxicology (SOT) holds that the support and use of sound science by Congress is vital to the safety and health of all Americans. SOT has presented the distinguished Congressional Science Award for the past five years and plans to confer this honor each year to a deserving Member of Congress. Information about this award is provided below.

Assist us by submitting your nomination of one or more Members of the Congress to receive the 2014 Congressional Science Leadership Award. Please send your nomination to [sothq@toxicology.org](mailto:sothq@toxicology.org) by October 9, 2013. Your nomination needs to include:

- Name of Member of Congress

- Basis for Nomination (100 words maximum)

Thank you for supporting SOT and sound science.

*George Corcoran*

Chair, Congressional Task Force 2009–2015

## **SOT Congressional Science Leadership Award**

### **Purpose**

To provide recognition of a Congressional leader who demonstrates reliance upon sound science in effective decision-making related to protecting or advancing the health and safety of people, animals, and the environment.

### **Criteria**

A Congressional leader who meets one or more of the following: (1) has consistently pursued public policy or decision-making relating to health and safety that is based upon sound scientific principles; (2) has demonstrated dedication to advancing legislation for the protection of people, animals, and environmental health that is based upon sound scientific principles; and (3) has recognized and supports scientific research that increases knowledge and advances protection of people, animals, and environmental health.

SOT Congressional Science Award Plaque Reads:

For enduring vision and preeminent leadership that has fostered recognition across the Congress and the legislative community of the importance of supporting sound science as a basis for effective decisions, policies, and laws that are essential to advancing the health and safety of people, animals, and the environment.

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## **SOT Endowment Fund Contributors—Join In Helping to Build the Future of Toxicology**



### **Honor Roll of Contributors**

The SOT Endowment Fund Board, on behalf of the entire membership of the Society of Toxicology, gratefully acknowledges the generosity of the many donors who made contributions to the SOT Endowment Fund.

#### **Lifetime *Paracelsus* Circle Visionary**

\$50,000–\$100,000

#### **Lifetime *Paracelsus* Circle Futurist**

\$25,000–\$49,999

Barbara Gehring and Family, Elizabeth K. Weisburger

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\$10,000–\$24,999

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### **Lifetime Contribution Benefactors**

\$5000–\$9,999

Balbir S. Brar, Steven D. and Elaine S. Cohen, David L. Eaton, Marion F. Ehrich, Eileen P. Hayes, Charles H. Hobbs, Jerry B. Hook, Rudolph E. and Susan Jaeger, Curtis and Cherry Klaassen, Frank and Sally Kotsonis, Kannan Krishnan, Gary L. Lage, Lois D. Lehman-McKeeman, John B. Morris, Robert E. and Ursula Osterberg, Rick G. Schnellmann, Jacqueline H. Smith, Thomas R. Sutter, Robert G. Tardiff, John E. Whalan, and James S. Woods

### ***Paracelsus* Circle Lifetime Members**

An initial contribution of \$500 or more and a commitment to make cumulative contributions of \$5,000 or more within a 10-year period.

Linda S. and David Birnbaum, Kim Boekelheide and Janet Austin, Matthew S. and Renee Bogdanffy, Brad Bolon, Dennis J. and Leigh Ann Burns Naas, Jon C. and Judith R. Cook, George B. and Anna Karen Corcoran, Yue Cui, Paul W. and Grace Ferguson, Bruce A. Fowler, Angelo and Christine Furguele, Michael A. Gallo, Donald E. and Elly Gardner, Peter L. Goering, Bernard D. Goldstein & Russel Lynn Carruth, Jay I. Goodman, Renee Hartsook, Bob and Diane Higginbotham, Ronald N. Hines and D. Gail McCarver, Michael and Mona Holsapple, Ijaz S. Jamall, Norbert and Beth Kaminski, James E. and Lisa Klaunig, Elaine Valerie Knight, Robert H. Ku, Shawn Douglas Lamb, Robert E. Larson, Pamela J. Lein, Jose E. Manautou, Gary and Patti Miller, Nancy A. Monteiro-Riviere, Jay Murray, Adrian Nanez, Martin A. Philbert, Kenneth S. Ramos, Donald J. Reed, Charles F. Reinhardt, Robert A. Scala, I. Glenn Sipes, William and Cristine Slikker, Robert J. Staab, Cheryl Lyn Walker, Kendall B. and Gail A. Wallace, and Clarissa L. Russell Wilson

### ***Paracelsus* Circle Contributors**

\$500 or more in 2012–2013

Michael D. Aleo, Barbara D. Beck, Blair and Richard Bradford in memory of Ronald G. Thurman, Janice E. Chambers, Scott H. Garrett, Mary E. Gilbert, Jeff Handler, Daland R. Juberg, Peter J. Korytko, Dennis M. Miller, Richard Nass, Rafael A. Ponce, Sidhartha D. Ray, Jennifer L. Rayner, Denise Robinson Gravatt, Ivan Rusyn, Timothy Joseph Shafer, Katie Sprugel, and Ronald K. Wolff

### **Gold Endowment Contributors**

\$250–\$499 in 2012–2013

Norman J. and Valerie G. Barlow, Anonymous Donor, Lorrene A. Buckley, Chris Corton, Michael J. Graziano, Stephen B. Harris, Michael F. Hughes, Rosita Rodriguez Proteau, Jeffrey S. Tepper, John A. Wisler, and Judith T. Zelikoff

### **Silver Endowment Contributors**

\$100–\$249 in 2012–2013

Cathie Adams, Aaron Barchowsky, Linda L. Carlock, Sakina Elzebair Eltom, Nikolay (Nick) M. Filipov, Gregory L.

Finch, Donald A. Fox, Stephen W. Frantz, Jonathan H. Freedman, Yukiko Fueta, Patricia E. Ganey, Danuta J. Herzyk, Delinda A. Johnson, Matt Kadlec, Jerry Kuiken, Lynne A. LeSauteur, Jie Jerry Liu, William R. Mundy, Merle G. Paule, Frederica Perera, Richard W. Pfeifer, Diane S. Rohlman, Robert A. Roth, Peter F. Smith, Gary L. Sprague, Mari S. Stavanja, Paula H. Stern, Weiyi Su, Russell S. Thomas, Christopher Dennis Toscano, Michael P. Waalkes, James G. Wagner, and Zhi Zhong

### **Bronze Endowment Contributors**

\$40–\$99 in 2012–2013

Michael Bolger, Philip J. Bushnell, Kevin Chinn, John Douglas Doherty, Bukunmi Gesinde, Dawn Hayes, Michael T. Koefler, Stephen M. Lasley, Paramita Mookherjee, Caroline Moore, Kristen R. Ryan, Mara Seeley, and Beth Wong

For more information and to provide your contribution, please visit the [SOT contributions page](#).

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## **New SOT Affiliates SNBL USA, Ltd. and WuXi AppTec Help Support the Society's Mission**

Because SOT is an individual membership Society, an SOT Affiliate category has been established for private, public, and not-for-profit organizations that wish to contribute to SOT's success toward "creating a safer and healthier world by advancing the science of toxicology."

The two newest SOT Affiliates are SNBL USA, Ltd. and WuXi AppTec.

SNBL has helped biopharmaceutical companies generate high-quality data with exceptional precision needed to rapidly advance new medical therapies and innovations to improve patients' lives. With facilities in Japan, the United States, China, and Cambodia, SNBL provides fast and precise results across the entire drug development spectrum, from early discovery research to late-stage trials. For additional information, please visit the [SNBL USA, Ltd. website](#).

WuXi AppTec partners with customers to provide a wide range of Investigative New Drug/New Drug Application enabling toxicology and laboratory services that meet global regulatory standards. As part of its integrated portfolio offering, preclinical services are designed to shorten the time and lower the cost of drug and medical device R&D. For more information, please visit the [WuXi AppTec website](#).

For a contribution of \$2,500, an organization may join other [SOT Affiliates](#) who are providing support to the Society in reaching its strategic objectives.

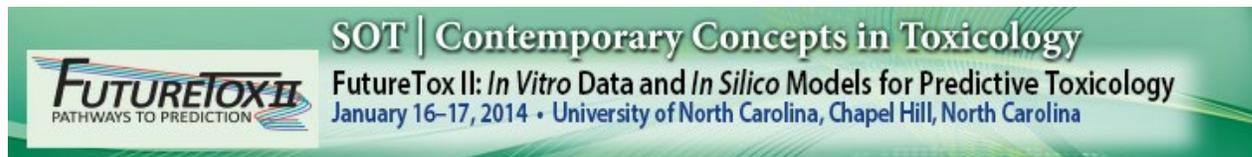
In appreciation for this support, SOT Affiliates receive the following benefits.

- Prominent listing on the SOT website, in the *SOT Membership Directory*, and Annual Meeting signage and materials, including the *Preliminary Program* and final *Program*.
- Access to member-restricted information on the SOT website.
- Reduced rate for SOT [Job Bank](#) services.
- Complimentary [Annual Meeting](#) registration for one attendee (March 23–27, Phoenix, Arizona).
- Complimentary room rental for one meeting at the Annual Meeting.
- SOT Member Publications, including Annual Meeting information and the *Communiqué* newsletter blog.
- Electronic and print subscriptions to the SOT official journal, [Toxicological Sciences](#).

Affiliate benefits are for a one-year period, from October to October, and can be renewed each year. For more information about becoming an [SOT Affiliate](#), visit the SOT website or contact [Marcia Lawson](#).

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# SOT FutureTox II CCT Pathways to Prediction: Abstract Submission Portal Open



The FutureTox II Pathways to Prediction: *In Vitro* Data and *In Silico* Models for Predictive Toxicology Contemporary Concepts in Toxicology (CCT) conference will be held January 16–17, 2014, at the William and Ida Friday Center for Continuing Education, University of North Carolina, Chapel Hill, North Carolina. The conference will address the progress made in moving away from animal testing to high-throughput and *in vitro* assays that assess how chemical compounds perturb cellular functions. This new paradigm for assessing toxicity was outlined in The National Research Council (NRC) report “Toxicity Testing in the 21st Century: A Vision and a Strategy.”

Leading experts in diverse disciplines will focus on the central question: *In what ways can in vitro/in silico methodologies be seen as superior to in vivo methods such that the latter would not be needed to confirm findings.* An overarching goal of FutureTox II is to clarify the usefulness and validity of new and emerging technologies and approaches so that expectations can be managed in both the regulatory and regulated scientific communities. There will be ample opportunities to network with experts in this fast changing growth area. The FutureTox II CCT [Organizing Committee](#) has invited a group of distinguished experts to deliver cutting-edge presentations.

The [program agenda](#) and [registration information](#) is available on the SOT website. Breakout groups will address four key areas: Regulatory Toxicology, Liver Disease and Hepatotoxicity, Developmental/ Reproductive Toxicity, and Cancer. There is global interest in “Adverse Outcome Pathways” (AOPs) as a conceptual framework for mode-of-action approaches in these four areas.

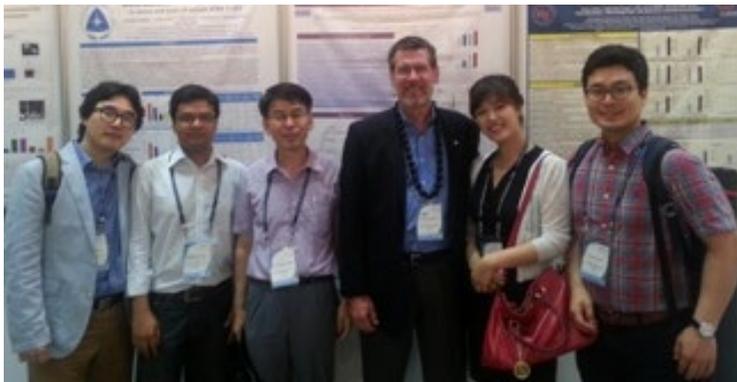
For those interested in presenting a poster at this conference, the [Abstracts Submission](#) portal now is open. Approximately 200 scientists from diverse sectors are anticipated to attend and partial funding will be available for graduate students and postdoctoral scholars.

Focusing the FutureTox II CCT on scientific issues where new methodologies and advances can move us beyond reliance on animal models will benefit all researchers and regulators as a way of identifying key questions that need research.

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## SOT Engages in International Outreach at ICTXIII, Seoul: Society to Host ICTXV, Hawaii, 2019

Members of the Society of Toxicology (SOT) participated in the many opportunities for global outreach with sister societies at the International Congress of Toxicology (ICT) held from June 30 to July 4, 2013, in Seoul, Korea. This meeting was organized under the auspices of the International Union of Toxicology (IUTOX). This triennial meeting was attended by 1,500 scientists from around the globe who met with long-standing colleagues and built bridges to many international organizations and their representatives. SOT members who volunteered in the SOT booth provided attendees with information about the programs, services, and activities available through the Society, including the SOT’s official journal *Toxicological Sciences*. The Society also provided overall sponsorship of the ICT meeting as part of the SOT’s strategic goal of strengthening global participation and outreach.



*SOT 2013-2014 Past President William Slikker Jr. and his former student Dr. Oh-Seung Kwon with other ICT attendees*

For SOT 2013-2014 Past President William Slikker Jr, the ICT provided an occasion to reunite with his former doctoral student, Dr. Oh-Seung Kwon, who now is an active researcher and Director of the Doping Control Unit of the Korean Institute of Science and Technology (KIST) in Korea. Dr. Kwon attended the meeting with two of his graduate students. Such interactions clearly demonstrate the scientific community's efforts to build for the future of toxicology.



During the General Assembly of IUTOX, SOT was honored to be voted to host the ICT meeting in 2019 in beautiful Honolulu, Hawaii. The Assembly also voted on the new IUTOX Executive Committee that includes nine SOT Members. The members of the Executive Committee are Herman N. Autrup, President; Elaine M. Faustman, Secretary-General; Jun Kanno, President-Elect; Heidi Foth, Treasurer; Mary Gulumian, Vice President; Nursen Basaran, Director; Nancy D. Claude, Director; Emanuela Corsini, Director; Daniel J. Dorta, Director; and Kendall B. Wallace, Director. The SOT representatives to the General Assembly included current members of SOT Council Lois D. Lehman-McKeeman, Norbert E. Kaminski, and Peter L. Goering, and Timothy P. Pastoor, and Kenneth E. McMartin. ICTXIV will be held in Mérida, Mexico,

October 2–6, 2016. Start planning.

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## Fall Awards Deadlines for SOT Global Programs

In recent years the Society of Toxicology (SOT) has reached out to scientists from developing countries to increase the impact of toxicology on public health. This fall, applications are due for several SOT programs that are offering awards to scientists from developing countries and to their mentors.

### Global Senior Scholar Exchange Program

#### Deadlines:

#### Senior Scholars from developing countries in Latin America, Africa, or Asia

[Intent to Apply requested](#) (deadline has past—accepting late requests)

[Full Application](#) due September 16, 2013

#### Hosts from established toxicology programs in academic, government, or industry organizations

[Intent to Apply](#) requested by September 16, 2013

[Full Application](#) due October 15, 2013

The 2014 Global Senior Scholar Exchange Program will fund two Senior Scholar toxicologists from developing countries in Latin America, Africa, or Asia to attend the SOT Annual Meeting and spend up to four weeks with one or more SOT Member Hosts from established toxicology programs in academic, government, or industry organization(s) worldwide. The primary goal is to increase toxicology capacity in developing countries by providing professional opportunities for senior scientists through relationships supported by SOT. The Senior Scholars who are selected are expected to build on this opportunity by strengthening toxicology within their universities and countries. When the 2014 Senior Scholars are announced, applications will be sought from potential Hosts with interests that match those of the Senior Scholars. The program provides up to \$15,000 for each pair, with up to \$10,000 travel support for the Senior Scholar and \$5,000 for the Host. Support is not provided for equipment, laboratory supplies, or renovations.

Please note, this award requires that applicants be from developing countries as defined by the [2011 World Bank List of Developing Countries](#) with a GNI per capita of less than \$8,000. (See second page.)

[Criteria and Applications for Senior Scholars and Hosts](#)

## **SOT/AstraZeneca/SOT Endowment Fund/IUTOX Travel Awards**

**Deadline:** Award submission begins September 1 and must be received no later than October 9, 2013

This award funds up to ten fellowships to junior or senior scientists from developing countries to attend the 2014 Society of Toxicology Annual Meeting. Award sponsors include AstraZeneca, the Society of Toxicology, and the SOT Endowment Fund. The awardees may be either junior or senior scientists from a country where toxicology is underrepresented and should have an active research program or currently be active in the practice of toxicology.

[Award Criteria and Applications for SOT/AstraZeneca/SOT Endowment Fund/IUTOX Travel Awards](#)

## **International ToxScholar Outreach Grants**

**Deadline:** October 9, 2013

The International ToxScholar Outreach Grants send toxicologists to institutions in any developing countries outside of North America. The Education Committee will support travel costs up to \$1250 for campus visits by a professional toxicologist to increase awareness of educational and career opportunities in toxicology. The format of the visit (formal presentation, informal discussion, or a combination) is at the discretion of the campus host and the visitors. Application for matching support from SOT's Global Initiatives Funds, the appropriate SOT Special Interest Group, employers, and/or academic institutions involved is encouraged.

[Information and Applications for International ToxScholar Outreach Grants](#)

## **Global Initiatives Funds**

**Deadlines:** September 1, January 1, April 1, July 1

As part of its strategy to foster its global initiatives, SOT has made available \$20,000 to support activities that advance the following goals: (1) to provide opportunities for discussion of issues of global importance in a variety of venues, (2) to stimulate interactions between colleagues with different perspectives and expertise on global issues, (3) to partner with other international scientific societies and public health-based organizations to more effectively establish a global toxicology agenda, and (4) to organize international workshops, satellite meetings, and other mechanisms to help reach a common understanding on important global health issues for policymakers and the public. The goal of SOT is to advance human health and disease prevention.

**These funds are available to support the efforts of Regional Chapters, Specialty Sections, and Special Interest Groups to develop global initiatives.** SOT will fund proposals up to \$4,000. SOT encourages proposals that (1)

represent collaborations between SOT component groups and/or committees, or other non-SOT toxicology organizations (e.g., IUTOX, Japanese Society of Toxicology) and (2) that include matching funds from one of the collaboration partner groups. Matching funds are not required, but will greatly increase the competitiveness of the proposal. Proposals are competitively reviewed.

[Information and Proposal Requirements for the Global Initiatives Fund](#)

## Membership Dues Discounts

SOT offers discounted membership dues for scientists from eligible developing countries. The dues for Full and Associate members are \$50, and membership for students and postdoctoral fellows is \$10. All of these discounted memberships include one free membership to a Special Interest Group and one free membership to a Specialty Section. SOT Special Interest Groups (SIGs) are for members with common ethnicity, country of origin, or gender and promote discussion among toxicologists on issues germane to their community. SIGs also can act as an interface between the country's toxicology community and SOT. All members receive free online access to SOT's journal, [Toxicological Sciences](#).

Limited financial support is available to assist students and Postdoctoral trainees in developing countries gain access to SOT membership (contact [SOTHQ](#) for further details).

Please note, membership discounts are available to applicants from developing countries as defined by the [2011 World Bank list of Developing Countries](#) with a GNI per capita of less than \$8,000. (See second page.)

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## Makerere University Welcomes SOT International ToxScholar Rumbeiha



### Remember: Application Deadline is October 9

Wilson K. Rumbeiha (photo at left), Professor of Veterinary Toxicology, Department of Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University, was one of this year's recipients of the Society of Toxicology (SOT) [International ToxScholar Outreach Grants](#). Dr. Rumbeiha used the grant to promote toxicology at Makerere University in Uganda, his alma mater. He gave a talk titled "Career Pathways in Toxicology" to faculty and undergraduate students in professional programs in the College of Veterinary Medicine on Monday, July 29, 2013.

The talk covered a wide range of topics about SOT, the role of toxicologists in society, and career opportunities for toxicologists. Makerere University is a leading institution of higher learning in Uganda and the entire East and Central African region. Reflective of this, attendees included students from Uganda, Kenya, Tanzania, Rwanda, Ethiopia, and Sierra Leon. Besides questions on how to pursue graduate education in toxicology, the audience asked about toxicology-related issues of importance to the country. For example, they wanted to know whether "[nodding disease](#)," a devastating, fatal neurological disease that has afflicted children in Northern Uganda, is caused by toxicants. The audience also wanted to know whether environmental application of DDT is safe to control mosquitoes, which spread malaria, a disease that claims lots of lives in this country.

They also asked about how best to preserve the ecosystem in the wake of discovery of large petroleum reserves in the Albertine region of western Uganda where oil exploration is scheduled to start in a few years. The Albertine region is one of the most biodiverse regions in the world. It is clear from this interaction that the profession of toxicology needs to be strengthened in Uganda. Although Makerere University has trained toxicology graduates, it lacks an interdisciplinary toxicology training curriculum. The audience was made aware of the SOT Global Senior Scholar Exchange Program that would be of value to strengthen toxicology training at Makerere University. Pictured (left) is Francis Ejobi, Chair, Department of



Biosecurity, Ecosystems and Veterinary Public Health, College of Veterinary Medicine, who was the host at Markerere University.

The SOT Education Committee urges SOT members to extend toxicology expertise around the globe. There is still time to put together a proposal to apply for an [International ToxScholar Grant](#) by the deadline of October 9. A letter of support from the host at the proposed institution is part of the application package.

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## **FutureTox II CCT: Pathways to Prediction—January 16–17, 2014**

The FutureTox II: *In Vitro* Data and *In Silico* Models for Predictive Toxicology Contemporary Concepts in Toxicology (CCT) conference will be held January 16–17, 2014, at the William and Ida Friday Center for Continuing Education, University of North Carolina, Chapel Hill, North Carolina. The conference aims to address the pathway-based strategy by bringing together basic research into a congress that integrates newer *in vitro* methodologies and computational (*in silico*) modeling approaches with advances in systems biology. An overarching goal is to clarify the usefulness and validity of new and emerging technologies and approaches so that expectations can be managed in both the regulatory and regulated scientific communities. There will be ample opportunities to network with experts in this fast changing growth area.

Some aspects of this topic were covered in the October 2012 FutureTox CCT meeting. This FutureTox II CCT will provide a forum for a detailed scientific discussion of how the biological pathways of interest will be elucidated, characterized, and qualified for pathway-based risk assessment. Breakout groups will address four key areas: Regulatory Toxicology, Liver Disease and Hepatotoxicity, Developmental/ Reproductive Toxicity, and Cancer. There is global interest in “Adverse Outcome Pathways” (AOPs) as a conceptual framework for mode-of-action approaches in these four areas. Focusing the CCT on scientific issues where new methodologies and advances can move us beyond reliance on animal models will benefit all researchers and regulators as a way of identifying key questions that need research.

Partial travel support for graduate students and postdoctoral scholars will be available. To register and for additional information about this conference, please visit the [FutureTox II website](#).

SOT sponsors two types of meetings outside of the SOT Annual Meeting: [Contemporary Concepts in Toxicology \(CCT\)](#) and [Non-SOT meetings](#). CCT meetings are one- to two-day focused, open registration, scientific meetings in contemporary and rapidly progressing areas of toxicological sciences. Non-SOT meetings are sponsored by other not-for-profit organizations and SOT will either endorse or provide sponsorship money to these toxicology-related meetings.

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## **National Postdoc Appreciation Week Coming September 16-20**

National Postdoctoral Appreciation Week, sponsored by the National Postdoctoral Association, is coming next Monday–Friday, September 16–20. While many groups of Postdocs located in academic institutions, industry, or government facilities hold get-togethers, such as symposia or picnics, the SOT Postdoctoral Assembly (PDA) must take a different approach, reaching out in a “virtual” way to its community of scholars that spans the globe.

Why celebrate postdocs? A survey of recent data reflects the growing impact of postdoctoral researchers.

According to *2012 Science and Engineering Indicators*, postdoctoral positions in life science research have increased from 46 percent in 1972 to 61 percent in 2012.

- The journal *Science* reported that 43 percent of their primary authors of research articles were postdoctoral scholars.
- According to the National Academies, postdoctoral researchers “have become indispensable to the science... enterprise, performing a substantial portion of the nation’s research in every setting.”

On Wednesday, September 18 at 1:30 pm Eastern Time, the PDA is sponsoring a webinar on “[Exploring Alternative Career Paths in Toxicology](#).” Hosted by PDA Councilors, Rhiannon Hardwick and Katie Paul, this session will have a diverse panel of speakers covering several different areas and aspects of toxicology employment. Panelists include the following:

- Damian Shea of North Carolina State University who will introduce environmental toxicology and academic career paths.
- Tiffany Bredfeldt of Texas Commission on Environmental Quality who will lend her perspective on state regulatory and legal toxicological affairs.
- Shawn Wnek from the Center for Toxicology and Environmental Health, LLC, who will provide insights to consulting in toxicology, lending a unique perspective on consulting in the early stages of a career.
- Vicente Santa Cruz of Chevron Phillips Chemical Company, LP Specialty Chemicals Group, who will address the role and expectations of a toxicologist in the chemical industry.
- Kenneth Ferslew from East Tennessee State University, who will discuss forensic toxicology and non-NIH funding of an academic lab.

View the detailed [biographies of the panelists](#).

The webinar will provide time for questions, and a list of promising job hunt sites will be reviewed at the end of the call. PDA selected this topic due to the fact that Alternative Careers in Toxicology has been an “in demand” topic in recent postdoctoral surveys.

Other highlights of the week include blogs by postdoc authors on a variety of topics designed to broaden outlooks on the postdoc experience. They will be published through the *Communiqué* newsletter blog for all to enjoy next week. Blog articles will feature:

- Karin Streifel in Molecular Bioscience at UC Davis and PDA Secretary on “Somewhere Over the Postdoctoral Rainbow: Advice on the NIH K99-R00 ‘Pathway to Independence’ Grant.”
- Daniel W. Ferreira from the Institute for Society and Genetics at UCLA on “Learning Something Completely New as a Postdoc.”
- Elizabeth A. Godin, Course Director for LEAP and Project Director for RISE at Duke University, on “Branching out: From the Bench to Science Outreach.”
- Dr Kendra Nordgren in Biomedical Science at University of Minnesota Medical School, on “What Is Your Teaching Philosophy?”

Through these events, the PDA joins with the National Postdoctoral Association in focusing attention on the contributions and achievements of postdoctoral scholars. We hope that all SOT members will take time during National Postdoc Appreciation Week to acknowledge the postdocs in your communities.

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## ***Communiqué* Readership Numbers Are Up Thanks to Ease of Accessibility and Varied Formats**

In July 2013, we reached out to the members of the Society of Toxicology (SOT) to survey their satisfaction with the SOT *Communiqué* Newsletter Blog. SOT members had not been surveyed about the Society’s newsletter since 2011. It

was the results of this earlier survey that led to the development of the *Communiqué* Newsletter Blog that facilitates more frequent and succinct communication on topics of interest to the membership.

Approximately 175 SOT members responded to this survey, and an overview of these results follows. The SOT Headquarters staff also measures the responses to the *Communiqué* Newsletter Blog articles.\* When SOT members were asked about their level of interest in and satisfaction with the overall content of the newsletter blog, approximately 90% indicated they were quite satisfied and approximately 60% read the majority of the weekly newsletter blogs.

The Quarterly *Communiqué* Newsletter Blog continues to be preferred by many members, who appreciate access through the hyperlinks arrayed as a Table of Contents or via a downloadable pdf. Moreover, 90% of respondents expressed their satisfaction at the expanded Science News and Regulatory and Legislative Updates sections in the *Communiqué*. Nearly 80% of respondents turn to the newsletter blog for information on the Regional Chapters (RC), Section Interest Groups (SIG), Specialty Sections (SS), and Committees.

The *Communiqué* Newsletter Blog articles also are available on the SOT website, the SOT Facebook page (You Should “Like” It), and via the *Toxicological Sciences* journal website. The SOT Facebook page provides an opportunity for you to share these articles with your own Facebook community and spread the word about the programs and services available through the Society.

Approximately 85% of respondents are aware that articles can be provided for inclusion in the newsletter. SOT Headquarters appreciates receiving articles about the activities in the RCs, SIGs, SSs, and Committees in which you participate. You are encouraged to work with your SOT Staff Liaison as you prepare these reports on initiatives and activities underway.

For those of you who responded to the survey and expressed an interest in serving as a 2014 Annual Meeting Roving Reporter, we will be contacting you.

We are happy that so many of you appreciate and read the *Communiqué* Newsletter Blog and find it useful. We will continue to take the pulse of our membership concerning the newsletter and remain committed to addressing your feedback.

Thanks to all of you who took the time to respond to the Survey.

Sincerely,

Judith T. Zelikoff, Editor, SOT *Communiqué* Newsletter Blog

\*Two recent reports indicate that from February 1, 2013 to April 30, 2013, 462,087 articles were accessed and from May 1, 2013 to July 31, 2013 the number was 321,986.

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## **Mentor Match: Find or Be a Mentor with SOT**

The Society of Toxicology (SOT) recognizes the importance of mentoring in the scientific and professional development of its members. [Mentor Match](#) is the place to find or be a mentor, and it is a free benefit of being an SOT member. The objective of this online service is to connect mentees with potential mentors who will provide advice on topics such as career path selection, professional development, and life/work balance issues.

[Mentor Match](#) is an unparalleled resource for early, mid-, and even late-career scientists to benefit from the experience and wisdom of established toxicology professionals. SOT members are encouraged to share their professional knowledge by serving as mentors for colleagues and for the next generation of toxicologists. You may realize that you are in a position to be both a mentor and a mentee! Peer-to-peer exchanges can provide useful guidance in seeking opportunities outside your current market sector.

Visit [Mentor Match](#) and use your email address and SOT password to sign in or create an account. Please note that if your email address has changed recently, you will need to contact [SOT Headquarters](#) to update your account information. Please contact [Kim von Brook](#) if you have any questions or comments about Mentor Match.

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## **Now's an Opportune Time to Update Your ToXchange Profile and MyPage with a New Photo**

Now is an opportune time to update your profile with a new profile picture—especially if you haven't done so in a while! And, if you have not yet posted a profile picture to your ToXchange Profile and MyPage, there is no time like the present. Remember, opportunists take now for an answer.

It's good to be recognized!

In addition to your profile picture being viewable on your MyPage, every time you log in to ToXchange, your photo will then show on the bottom of the ToXchange landing page. Plus—every time you post a discussion or reply on a Community page, your photo will appear beside your comment.

Go ahead, get recognized! Post or update your profile picture before summer comes to an end for good!

### **Go to your MyPage:**

1) From the My Options drop-down in the upper right corner, select MyPage.

OR

2) From your profile page, click on the “MyPage” button at the top of the “About this User” box on the right.

### **Update your picture!**

*First, be sure to know where your picture file is located so that you may easily browse and select it to upload.*

1) On your MyPage, click the “Actions” button and select “Update Picture.”

2) Click the “Update File” button and browse for the picture file on your computer. You may upload a file as large as 2 MB only (most photos are between 1.0–1.5 MB).

3) Click the OK button to upload your selected picture.

*It's as easy as 1-2-3! If you need help, just click on “Help” in the top right of your ToXchange page. OR, just write in your question below and we'll write a response to help you out.*

*ToXchange—It's **Your** Network!*

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## **NICHD and SOT Working to Exchange Information on Autism: SOT Members Respond by August 30**

The National Institute of Child Health and Human Development (NICHD) and the Society of Toxicology (SOT) are interested in organizing a webinar or SOT Contemporary Concepts in Toxicology (CCT) conference about the toxicological aspects of Autism. As such, SOT seeks to know which members of its Specialty Sections (SS) are conducting research in this area. The goal of the webinar/CCT is to exchange information by providing an overview of

NICHD Autism Spectrum Disorders (ASD) research activities and SOT toxicological expertise relevant to the characteristics and features of ASD that may lead to closer cooperation between NICHD and SOT. We would very much appreciate the benefit of your expertise to identify your SS members engaged in ASD research who might be interested in participating in a webinar or CCT. Please send this information by August 30, 2013 to [Martha Lindauer](#). Upon receipt; we will forward this information to NICHD to assess the opportunity for closer interaction with SOT in this area.

ASDs are complex neurodevelopment disorders characterized by social impairments; communication difficulties; and restricted, repetitive, or stereotyped patterns of behavior. The most recent ASD prevalence estimates from the Centers for Disease Control and Prevention (CDC) are 11.3 per 1,000 children, or 1 child in 88 children (CDC, 2012). Some of this increase could be due to a broader definition of autism, better efforts in diagnosis, or greater awareness about symptoms. However, researchers can't rule out the possibility that there has been a true increase in the number of autism cases.

During the last decade-and-a-half, the NICHD has supported a considerable number of research projects related to ASDs. The past efforts of NICHD included the Collaborative Programs of Excellence in Autism (CPEA) Network on the Neurobiology and Genetics of Autism, which was co-funded by the National Institute on Deafness and Other Communications Disorders (NIDCD), and the Studies to Advance Autism Research and Treatment (STAART) Network, with co-funding from the National Institute of Mental Health (NIMH), the National Institute of Neurological Disorders and Stroke (NINDS), NIDCD, and the National Institute of Environmental Health Sciences (NIEHS). To maximize coordination and cohesion of NIH-sponsored efforts in autism research, the NIH consolidated the CPEA and STAART Networks into the trans-NIH Autism Centers of Excellence (ACE) in 2007 to avoid duplication, allow pooling and most efficient use of resources, and involving a larger number of investigators in autism research.

The NICHD is one of the five NIH Institutes sponsoring the ACE Program, which supports studies on a range of autism topics, including early identification and intervention in infants at risk for ASDs, early brain abnormalities and functioning, potential environmental risk factors and biomarkers, intensive early behavioral intervention, long-term effects of early intervention, multidisciplinary studies of insistence on sameness, and trials of new medication treatments. The ACE Program includes ACE research centers that foster collaboration between teams of specialists who share the same facility to address a particular research problem in depth as well as ACE research networks that consist of researchers at many facilities in locations throughout the country, all of whom work together on a single research question.

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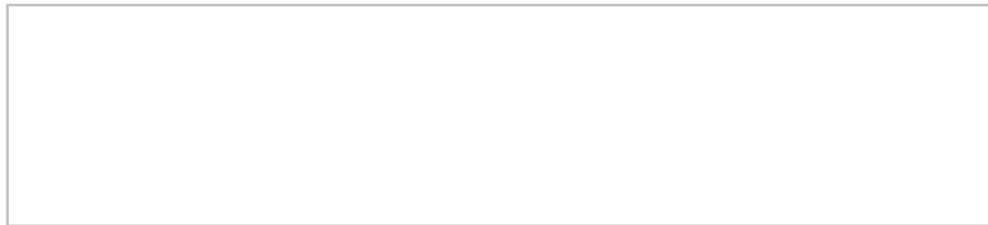
## **SOT Congressional Science Leadership Award Presented to Rep. Dave Reichert**



SOT 2013–2014 President Lois D. Lehman-McKeeman visited Capitol Hill on Tuesday, July 23, 2013, to present the 2013 Congressional Scientific Leadership Award to Rep. Dave Reichert (R-WA). He received this award for his leadership in sponsoring and supporting legislation that recognizes the importance of science as the basis for sound decision making. Rep. Reichert has been a consistent force in advancing children's health care and in strengthening science research. The Congressman is serving his fifth term as the Representative from the Eighth Congressional District of Washington. From 1971 through 1976, he was a member of the United States Air Force Reserve. In 1972 he joined the King County Sheriff's Office and in 1997 he became the first sheriff elected to the House of Representatives in 30 years.

Congressman Reichert serves on the House Ways and Means Committee, with appointments to two subcommittees: Trade and Human Resources, of which he is Chairman. He also serves on a number of health-related causes including the Congressional Biomedical Research Caucus, Congressional Down Syndrome Caucus, Congressional Global Health Caucus (Co-Chair), Congressional Health Care Coalition, Congressional Hunger Caucus, Congressional Multiple Sclerosis Caucus, Congressional Task Force on Childhood

## SOT Board of Publications Announces New *ToxSci* Editor-in-Chief Gary W. Miller



On behalf of the Board of Publications (BOP) of the Society of Toxicology (SOT), which includes Chair Janice E. Chambers, Co-Chair Matthew J. Campen, Douglas A. Keller, Patricia E. Ganey, Lois D. Lehman-McKeeman, with Norbert E. Kaminski, Council Liaison, it is a pleasure to announce that the new Editor-in-Chief for *Toxicological Sciences (ToxSci)* will be Gary W. Miller, PhD.



New *ToxSci* Editor-in-Chief Gary W. Miller

Dr. Miller is the Asa Griggs Candler Professor of Environmental Health and Associate Dean for Research in the Rollins School of Public Health. He also holds appointments in the Department of Neurology and the Department of Pharmacology in the School of Medicine. Dr. Miller received his PhD in Pharmacology and Toxicology (Rick G. Schnellmann, advisor) from the University of Georgia and completed postdoctoral fellowships at Emory University (Allan Levey, advisor) and Duke University (Marc G. Caron, advisor). He also is Director of the NIEHS-funded P30 Core Center Grant (HERCULES: Health and Exposome Research Center) and Emory's NIEHS Training Grant. Dr. Miller's honors include the SOT Achievement Award, Outstanding Mentor Award from the Emory Graduate Division of Biomedical and Biological Sciences, and the Georgia Research Alliance Distinguished Investigator Award. He also has served as the President of the Neurotoxicology Specialty Section and the Southeast Regional Chapter of SOT.

The BOP received a number of applications from highly qualified SOT members, and we appreciate their interest in the journal. Dr. Miller will officially start on September 1. We look forward to his vision and enthusiasm as he initiates his leadership of the journal and continues *ToxSci's* rise in prestige and significance to the toxicology community.

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## Encouraging Students to Pursue STEM Pathways—“Bridging the Gap: K–16 STEM Education” Conference

The Education Committee and the K–12 Subcommittee encourage toxicologists to consider what they can do in their communities and their work places to encourage pursuit of science careers. National attention has been focused on the gap in some science, technology, engineering, and math (STEM) fields, and toxicology can benefit from coordinated efforts at regional and national levels.

For example, the North Carolina Association for Biomedical Research (NCABR) will be hosting the [2nd Bridging the Gap: Uniting North Carolina K–16 STEM Education](#) conference October 14–15, 2013, in Raleigh, North Carolina, to bring together educators, business leaders, government officials, and others who play a role in STEM education to share ideas and resources. This is an opportunity for toxicologists in North Carolina to become more engaged in STEM activities. July 31 is the last day early bird registration rates are in effect, and poster submissions are accepted until

August 30.

Last October I attended the first “Bridging the Gap” STEM conference in Raleigh, North Carolina. The speakers and attendees represented a diversity of backgrounds, including the natural and physical sciences, arts and humanities, technology, and mathematics. Tracks included Educations Research Programs, Technology, Dissemination, and Funding. For the posters, the thematic categories were K–12 STEM Initiatives, University STEM Initiatives, Industry & Community Initiatives, Best Practices in STEM Education, and Research in STEM Education. Networking and enhancing future interaction and engagement were a strong feature of the meeting.

I primarily attended the Dissemination track sessions to learn more about effective strategies to educate and engage the K–12 community, because of the potential applicability and benefit to toxicology. STEM education strives to provide a sense of relevance, and therefore, early focus on career connections is important. Speakers and presentations emphasized the need to create these connections very early in education to give students an internalized sense of purpose for exploration and discovery in science and math. One effective strategy for these career connections is the inclusion of demonstrations and experiments at local community museums. These museums are a very effective platform to teach and engage students and the public because of their social context and the public’s inherent trust of them. Unfortunately, the public has a sense of distrust with relation to scientists and their reporting on research. One area of need for dissemination in the K–12 community is the middle school grades 6 to 8. Middle school representatives attending the meeting commented at multiple sessions that there are fewer resources available and fewer targeted activities for middle school compared with elementary and high school.

This need to demonstrate applicability and relevance of information for effective dissemination was illustrated by the presentation “[Haute Cuisine](#)” by Naveen Sinha, School of Engineering and Applied Sciences, Harvard University. Their informal science program uses gourmet cooking to illustrate principles of heat transfer, chemical reactions, and physicochemical properties of matter. The heuristic methods used for the course engages the students and excites them about the field of physics. Application of food for teaching also is valuable for K–12 students. Dr. Melani Duffrin from East Carolina University has developed a series of education tools entitled “Foodmania” geared toward primary and secondary grades as a tool for teaching science and mathematic principles.

The SOT Education Committee and its subcommittees support several activities to help engage toxicologists with students K–16 including K–12 events and high school poster sessions in conjunction with the SOT Annual Meeting and with funding of the [Domestic ToXscholar Outreach Grant](#) to promote career visits to undergraduate campuses. As chair of the Education Committee, I encourage your participation in STEM outreach.

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## **SOT 2013 *Communiqué* Newsletter Blog Readership Survey: Please Respond by July 1—Reminder**

In 2011, the Society of Toxicology conducted an SOT Member *Communiqué* Newsletter Readership Survey that advised of the need to present member communications in a number of ways appropriate to the diverse membership of the Society. Following the survey, the SOT *Communiqué* Newsletter Blog was implemented. We are now seeking your response as to your level of satisfaction with these changes and recommendations for next steps.

The SOT *Communiqué* Newsletter is now prepared and disseminated in several formats. One of these “formats” is the *Communiqué* Newsletter Blog that delivers news topics in the most timely fashion. The Blog includes from three to seven articles disseminated weekly via the SOT ToXchange platform with an email announcement to *Communiqué* Blog subscribers. These articles also are available on the SOT website, on the SOT Facebook page, and via the *Toxicological Sciences* journal website. Blogs are the primary building blocks of the quarterly *Communiqué*, which is disseminated via an SOT Broadcast email message, and posted on the SOT website. Many of the articles in the quarterly newsletter also are released as weekly Blogs, but not all.

The articles in the quarterly SOT Newsletter can be accessed through a complete Table of Contents or by downloading a pdf version of the *Communiqué* Newsletter Blog. All articles are readily searchable either through the ToXchange

platform or via the SOT website. While we know from our previous surveys and statistical reports that the membership is reading the Blog articles, there is still a need to raise awareness about these communications tools. Central to this process is receiving your input regarding your level of satisfaction with the *Communiqué* Newsletter Blog and any recommendations you may have for modifications. Each year, the Special Issue of the *Communiqué* Newsletter Blog also is printed and mailed to SOT members, which will continue.

The [2013 SOT Readership Survey](#) is now open and will close on Monday, July 1. We will compile and analyze your responses and report the findings by Monday, August 5. Thank you in advance for providing us with your assessment and recommendations.

Judith T. Zelikoff, SOT Editor, *Communiqué* Newsletter Blog

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## **SOT *Communiqué* Readership Survey Open Until Friday, July 19—We Want To Hear From You**

The Society of Toxicology (SOT) conducted an SOT Member *Communiqué* Newsletter Readership Survey in 2011 that advised of the need to present member communications in a number of ways appropriate to the diverse membership of the Society. Following the survey, the SOT *Communiqué* Newsletter Blog was implemented. We now are seeking your response as to your level of satisfaction with these changes and recommendations for next steps.

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The 2013 SOT Readership Survey is now open and will close on Friday, July 19. We will compile and analyze your responses and report the findings by Thursday, August 8. Thank you in advance for providing us with your assessment and recommendations.

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## **SOT Job Bank Provides Career Opportunities in Toxicology: Resource Free To SOT Member Job Seekers**



The [SOT Job Bank](#) is your source for **Career Opportunities** in toxicology! Whether you are advancing your career or recruiting for an open position, the Job Bank can help.

Are you an SOT Member looking for career advancement? [Log in to the SOT Job Bank](#) today to browse our database of current, toxicology-related positions with a new or existing registration. This service is free to SOT 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 new bi-weekly digest and automatically be notified of all new job postings. Some of the recently added positions in the SOT Job Bank are listed below; [access the Job Bank](#) today to get started.

Is there an opening in your organization that may be a perfect fit for an SOT member? [Get Started](#) by creating an Employer Account!\* Employers can browse resumes, contact active Job Seekers, and post all the information needed to recruit their next toxicologist!

New Job Bank postings will be emailed to all enrolled job seekers within the first two weeks of posting in our bi-weekly digest.

Thinking about using the [SOT Job Bank](#)? Log in today to [browse the complete listings](#) or to [post your own position!](#)

- **Study Director: Comparative Medicine**
- **Contract Senior and Junior Medical Device Toxicologist/Risk Assessor**
- **Senior Project Toxicologist**
- **Department Manager: Comparative Medicine**
- **Toxicology Blogger** (Part-time)

\*Or have your HR recruiter contact [SOT Headquarters](#) for more information.

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## Regional Chapters, Special Interest Groups, and Specialty Sections:

### Escape from Toxic Island Goes Life Size

*Submitted by Diane Hardej, PhD Chair, MASOT Education and Outreach Committee*



Last year the Education and Outreach Committee of the Mid-Atlantic Regional Chapter of the Society of Toxicology (MASOT) launched an innovative educational program called [Escape from Toxic Island](#). The program utilized informational posters followed by a board game that quizzed summer campers in the [After School All Stars](#) (ASAS) program on basic topics in toxicology. The program was a huge success with approximately 140 campers that participated. St. John's University serves as one of the [host campuses](#) for the ASAS.

This year St. John's University and the ASAS came through once again in providing a perfect venue to teach campers about toxicology as [Escape from Toxic Island](#) went "life size"! The program was conducted on the great lawn of St. John's University and in the undergraduate teaching labs after record-breaking heat necessitated moving the show to cooler areas on July 19, 2013, for an audience of approximately 100 campers. The show started with a brief demonstration by Diane Hardej and Tony Schatz as the island tribunal discussed some basic concepts of toxicology such as the dose response and routes of exposure. Dr. Hardej cautioned the campers

*Most of the cast and crew of Toxic Island*

that a creature wanders the island in search of toxic substances. This statement provided a perfect introduction as Dr. Schatz appeared in a Hulk costume much to the delight of the ASAS campers. The Hulk performed a “Tox SMASH” on a number of toxic compounds detected by the kids.

Once the introduction to toxicology, and to Dr. Schatz the defender against toxic substances, was complete, the kids were broken up into groups of approximately eight and sent off to one of six stations to explore toxicology concepts. Some of the stations were devised using resources present on the SOT website under “[K-12 Outreach for Scientists.](#)” These are resources open to SOT members. Many thanks to those who developed the fantastic resources used for the show and special thanks to Betty Eidemiller, SOT Staff Liaison, who is so instrumental in making sure these are reviewed and available to all members.



*Tony Schatz roams the island looking for toxic agents*

The stations included Lemons and Onions, a demonstration that linked exposure to mildly irritating substances to risk, Science Sleuth (thanks to Chris Curran and Totally Toxic!), where the kids learned about reading labels to determine hazards and classifying chemical agents, No Water Off a Duck’s Back, that allowed the kids to explore what happens to birds, humans, and aquatic creatures when oil ends up in bodies of water, and Baggie Science, a station where the students investigated chemical changes.



*Campers engaged at the No Water Off of a Duck’s Back Activity*

they moved to at least three of the demonstrations. Pictured to the left are campers engaged with Diane Hardej in No Water Off a Duck’s Back and below the Poison Control Squad discusses the hazards of unlabeled liquids.

To these wonderful resources already available on SOT’s website, MASOT added a Poison Control Squad that presented information from the New York City (NYC) Poison Control Center. Some of the concepts explored in this station were the similarities between some medications and candy (Is it Medicine or is it Candy?) and the dangers of unlabeled liquids that can mimic normal household products, for example, pine household cleaner and apple juice. To further demonstrate chemical change at the Baggie Science station, a cool experiment that combines a popular candy-coated mint with diet cola was performed to show that some chemical reactions can result in some (mildly) “explosive” results. Each of the stations was greatly enjoyed by the campers as

Special thanks go out to all of the people who made this program possible. MASOT’s Outreach and Education Committee reviewed and approved all materials for this event. The program was conducted by 26 dedicated volunteers comprised of members of MASOT’s Outreach and Education Committee as well as St. John’s University graduate and undergraduate toxicology students, faculty, and a few friends. St. John’s University, College of Pharmacy and Health Sciences (Department of Pharmaceutical Sciences), graciously provided volunteers with breakfast and lunch. The Committee recognizes and thanks the MASOT Executive Committee



*The Poison Control Squad discusses the hazards of unlabeled liquids*

for providing funding for sports bottles that were given to each of the campers during the show. Many thanks to Louis Trombetta (Professor and Department Chair) for his continued support! The All Stars program has provided us for four years with a great venue and audience. We couldn't do it without their help. Thanks to their Director Alan Fields and program coordinator Laura Burlacu for all their help in coordinating this event and the ASAS staff who helped organize the kids during the show.

Thanks to Suzette Weiss, Mary Anne Sammarco, and Marie DiMaggio of St. John's Department of Pharmaceutical Sciences for keeping us fed and hydrated during the show and to Maria Mercurio Zappala of the NYC Poison Control Center for her generous supply of informational booklets, notebooks, magnets, and other related items used by our Poison Control Squad.

Finally, thanks to all our dedicated and hardworking volunteers: Kelly Almond, Aditya Bissoonauth, Danny Chong, Samantha Jellinick-Cohen, Lauren Dire, Brittany Elkin, Amiann Forino, Pilar Grullon, Lisa Hoffman\*, Michael Huaman, Daniel Incalcaterra, Renata Kutsyk, Rohan Nagavally (video and photographs), Cynthia Nguyen, Devin O'Brien, Ansel Oommen, Roshani Shah, Shalini Roy, Puneet Vij, Benjamin Kistingner (master shipbuilder, and pirate), Laura Patrone\*, Jessica Placido\*, Gloria Post\*, Tony Schatz\* (Toxic avenger), and Ummea Urmi. Our volunteers worked through record-breaking heat for the sake of the program and their efforts are greatly appreciated!

\*Denotes MASOT Education and Outreach Committee member

## **SOT Headquarters Funding Support Helps Component Groups Meet Their Strategic Objectives**

Regional Chapters (RC), Specialty Sections (SS), and Special Interest Groups (SIG), collectively known as SOT Component Groups, can request funding in a number of areas to strengthen their efforts. All of these groups can seek funding for webinar development and global initiative funding. SOT members involved in other organizations may seek [Non-SOT Meeting sponsorship or endorsement](#) as well.

There is a group of funding specifically for Regional Chapters including Speaker Travel Support and Student Travel to RC Annual Meetings as well as Strategic Activities funding that is not limited to meeting-related programs. Each chapter may request a maximum of \$2,000 annually in each of these RC-related categories.

Webinar Development is available to RC, SS, and SIG groups.

A significant portion of the SOT constituencies comes from outside the US. Furthermore, many of the issues and opportunities SOT addresses are global in nature—advancing human health and disease prevention. As part of its strategy to foster its global initiatives, SOT has made available \$20,000 to support the efforts of RC, SS, and SIG to develop global initiatives. SOT encourages proposals that (1) represent collaborations between SOT component groups and/or committees, or other non-SOT toxicology organizations (e.g., IUTOX, Japanese Society of Toxicology) and (2) that include a matching funds from one of the collaboration partner groups. Matching funds are not required, but will greatly increase the competitiveness of the proposal. Each proposal may be funded for up to \$4,000.

More information is provided about all of these funding opportunities on the links below.

- [Strategic Activities](#)
- [Speakers for Meetings](#)
- [Student Travel to Regional Meetings](#)
- [Webinar Development](#)
- [Global Initiative Funding](#)

Proposals should be submitted to the [SOT Council Subcommittee for Non-SOT Meetings, Components, and Global Funding](#) for review and approval. Proposals are due on September 1, January 1, April 1, and July 1. All requests for funding in support of any of the above categories must be received **at least 3 months in advance** of the planned activity. Notification of approval will be provided within 30 days after these due dates. Proposals for each category of activity should be submitted independently. Criteria and guidelines for each category of funding are described on the [SOT website](#). For more information, please contact [David Rossé](#).

## Allegheny-Erie SOT Provides Summer Research Scholarships



For the third year the Allegheny-Erie Regional Chapter of the Society of Toxicology (AE-SOT) has awarded the MaryAnne Stock Student Research Award, a \$1,000 competitive award given annually to support a high school, undergraduate, or graduate student's thesis, dissertation, or summer research project in toxicology. This summer Kylie Horvath (pictured), rising senior at the Indiana Area High School, is studying nitrite-induced methemoglobin formation in aquatic larvae of the midge *Chironomus dilutus*, a standard toxicity testing organism. For more information, please visit the [Indiana University of Pennsylvania Daily website](#).

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## Member Spotlight

### SOT Member Martin A. Philbert Elected to the Fellowship of the Royal Society of Chemistry

[Martin A. Philbert](#), a former SOT Councilor and active SOT member, was recently elected to the Fellowship of the Royal Society of Chemistry, Cambridge, England. The Royal Society is the largest organization in Europe dedicated to advancing the chemical sciences. A designation of a Fellow is granted to those with substantial career progression who have made outstanding contributions to the advancement of chemical sciences. The Royal Society is supported by a worldwide network of members who carry the distinction of FRSC after their names.

Dr. Philbert became dean of the University of Michigan School of Public Health on January 1, 2011, having previously served as senior associate dean for research at the school since 2004. He arrived at the University of Michigan in 1995 from Rutgers' Neurotoxicology Laboratories, where he was a research assistant professor. He has maintained a continuously federally funded portfolio of basic research activities throughout his career. Most recently his work has been funded by the National Institutes of Health, the Department of Air Force, and the National Cancer Institute.

At the national level, he is recognized for his expertise in neurotoxicology and experimental neuropathology. He is the author of numerous research publications in top peer-reviewed journals, and one book. He received his doctoral degree in neurochemistry and experimental neuropathology from London University in 1987. His research focuses on experimental neuropathology, nitrocompound-induced encephalopathies, mitochondrial mechanisms in non-neuronal cell death, development of Nano-Optical Chemical Systems for *in vivo* physiology, and nanostructure-based imaging and treatment of tumors of malignant gliomas.

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## In Memoriam

### In Memoriam

Marvin J. Bleiberg

Monique C. Braude

SOT Honorary Member  
Ronald W. Estabrook

Roger P. Maickel

Francis N. Marzulli

Karen Louise Steinmetz

Alan R. Wagner

## **Marvin J. Bleiberg**

SOT Member Marvin J. Bleiberg passed away on February 1, 2013, at the age of 84. Dr. Bleiberg joined the United States Food and Drug Administration (US FDA) in the mid-1970s and specialized in the review of toxicological and pharmacological data related to food and color additives. He received an award for outstanding service before retiring in 2004 from the US FDA's Center for Food Safety and Applied Nutrition. He joined the Society in 1966 and was a member of the Comparative and Veterinary, Food Safety, Occupational Health and Safety, and Regulatory and Safety Evaluation Specialty Sections.

## **Monique C. Braude**

The Society of Toxicology recently learned of the death of Monique C. Braude. She passed away on January 2, 2010 and was born on November 13, 1925. Dr. Braude earned her Doctorate of Pharmacology at Ohio State. In 1970, she joined the Society and was a member of the Committee on Professional Relations and Standards from 1983-1985.

## **SOT Honorary Member Ronald W. Estabrook**

SOT 1994 Honorary Member Ronald Winfield Estabrook passed away on August 5, 2013, in Dallas, Texas. He was Professor Emeritus and longtime Chairman of Biochemistry at the University of Texas (UT) Southwestern Medical Center. Dr. Estabrook served as the first Dean of the UT Southwestern Graduate School of Biomedical Sciences. He was a world-renowned biochemist with a special knowledge of enzymatic reactions to toxicology and steroid hormone biosynthesis. For a tribute to his achievements, please visit the [UT Southwestern Medical Center website](#).

The Society of Toxicology recognizes nonmembers who embody outstanding and sustained achievements in the field of toxicology with Honorary Membership.

## **Roger P. Maickel**

The Society of Toxicology has learned of the passing of Emeritus Member Roger P. Maickel. During his career, Dr. Maickel was a research scientist at the National Institutes of Health (1956-1965), Professor of Pharmacology in the Medical Sciences Program at Indiana University (1965-1977), and Department Head of Pharmacology and Toxicology at Purdue University (1977-1983). From 1983-1999, he returned as a professor at Purdue to continue his research. He became Professor Emeritus of Pharmacology and Toxicology in 1999. He joined the Society in 1969 and was a member of the Comparative and Veterinary Speciality Section.

## **Francis N. Marzulli**

The Society of Toxicology has learned of the passing of Emeritus Member Francis N. Marzulli. Dr. Marzulli joined the Society in 1968 and served as a member of the Finance Committee from 1971-1973. He also was a member of the Comparative and Veterinary and Dermal Toxicology Specialty Sections.

## **Karen Louise Steinmetz (1958–2013)**

*Submitted by Jon C. Mirsalis*

Karen Louise Steinmetz passed away on August 19, 2013, after a year-long battle with uterine cancer. Karen graduated from UC-Davis with a BS in Psychology in 1980. After a brief period working at Syntex, she joined SRI International's Life Sciences Division in February of 1982 as a Biological Technician, and she quickly rose through the organization, becoming the first non-PhD in the Division's history to be promoted into the scientist category. She developed and published on new assays for measurement of genotoxicity in pancreatic cells, cell proliferation assays as an indicator of carcinogenesis, human hepatocyte assays, and seminal papers on the mechanisms of carcinogenicity of methapyrilene and paradichlorobenzene. While working at SRI full-time she obtained her MA in Toxicology from San Jose State University in 1986.

In 1991, she left SRI to enter a doctoral program at Indiana University in the laboratory of Jim Klaunig, where she conducted research on the role of transforming growth factor- $\beta$  (TGF- $\beta$ ) in liver carcinogenesis. She received her PhD in 1996, followed by a postdoctoral fellowship in the lab of Henry Pitot at the McArdle Laboratory for Cancer Research at the University of Wisconsin, where she studied hypomethylation of the rat *glutathione S-transferase p* (GSTP) promoter region.

After completing her postdoc, she returned to the San Francisco Bay Area where she held several positions at biotech companies, including Toxicologist at Alza Corporation; Head of the Toxicology and Pharmacology Group at Xenogen Corporation; and Associate Director of Toxicology at Sugen Inc. She rejoined SRI as Director of Mammalian Toxicology in 2003, where she won and managed several important new contracts, including a NIA-funded program for preclinical development of drugs for treatment of Alzheimer's disease, and a NICHD-funded program for development of new contraceptive drugs. She became widely known and respected in a broad range of fields including genetic toxicology, carcinogenesis models, Alzheimer's disease, neurotoxicity testing, and juvenile animal models. She has been certified as a Diplomate of the American Board of Toxicology (DABT) since 2003.

She served on many Committees and in leadership roles of the Society of Toxicology including Carcinogenesis Specialty Section (SS) Councilor (2001-2002), Neurotoxicology SS Secretary/Treasurer (2006–2008), and on the Finance Committee (2011–present). She also was very active in the Northern California (NorCal) Regional Chapter of SOT, serving as both a Councilor (2007–2009) and as President (2011–2012).

Karen was an avid outdoors enthusiast, having white water rafted on several continents, often telling stories of dodging hippos on the Zambezi River, or catching rattlesnakes on the Upper American River. She was also an accomplished pianist and artist, as well as a devoted supporter of public television, often working phone banks during San Francisco station KQED's pledge drives.

## **Alan R. Wagner**

SOT Member Alan R. Wagner passed away on July 8, 2013, in Columbus, Ohio. Over his career, he was the Director of the Ohio State University Laboratory Animal Center as well as involved in drug development with Antec, London, England and as a consultant with Smith Kline. He joined the Society in 1974 and was a member of the Comparative and Veterinary Specialty Section. He received his Doctor of Veterinary Medicine degree and his Master of Science degree in pathology from The Ohio State University.

## **Annual Meeting & ToxExpo**

## **Reminder: Invitation to Submit an Abstract for SOT 2014**

Dear Colleague:

The Scientific Program Committee is planning yet another dynamic slate of sessions for the 2014 SOT Annual Meeting

in Phoenix, Arizona. The abstract submission site is open to accept abstracts for poster and platform presentations. The deadline to submit an abstract is October 7, 2013 at 11:59 PM EDT, and the cost is \$50. Access the [2014 abstract submission site](#).

As always, it is our goal to construct a program that reflects both the best science, as well as the breadth of interests across the SOT membership. We believe that the 2014 symposia, roundtables, workshops, and other special sessions are timely and highly informative and span a full spectrum of topics to meet the diversity of our membership. An overview of these sessions can be found on the [2014 Annual Meeting website](#). We hope that you have started thinking about your contributions to the meeting, and that you are planning to present your most recent research results.

For questions related to the submission of abstract(s), please be sure to visit the [abstract submission section](#) of the 2014 Annual Meeting website to access the [Frequently Asked Questions \(FAQs\)](#) and [Abstract Submission Guidelines](#) developed for your use. If you have additional questions, please feel free to contact the SOT office at 703.438.3115.

We encourage you to share this information with your colleagues. As a reminder, as an SOT member there is no limit on the number of abstracts that you can sponsor, but you only may be listed as a presenting author on one abstract.

On behalf of the SOT Council and Scientific Program Committee, we look forward to welcoming you to Phoenix, Arizona, for the Annual Meeting that will take place from March 24–27, 2014.

Best regards,

Norbert E. Kaminski, PhD, SOT Vice President and Scientific Program Committee Chairperson, 2013–2014

Peter L. Goering, PhD, SOT Vice President-Elect and Scientific Program Committee Co-Chairperson, 2013–2014

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## **Invitation to Submit an Abstract for SOT 53rd Annual Meeting—Deadline October 7**

The Scientific Program Committee is planning yet another dynamic slate of sessions for the 2014 Annual Meeting in Phoenix, Arizona. We are happy to announce that the abstract submission site is now open to accept abstracts for poster and platform presentations. The deadline to submit an abstract is October 7, 2013, at 11:59 pm (Eastern Daylight Time), and the cost is \$50. The 2014 [abstract submission site](#) can be accessed online.

As always, it is our goal to construct a program that reflects both the best science, as well as the breadth of interests across the SOT membership. We believe that the 2014 symposia, roundtables, workshops, and other special sessions are timely and highly informative and span a full spectrum of topics to meet the diversity of our membership. An overview of these sessions can be found on the [SOT website](#). We hope that you have started thinking about your contributions to the meeting, and that you are planning to present your most recent research results.

We are pleased to confirm the participation of Sir John B. Gurdon as the Opening Plenary Lecturer for the 53rd Annual Meeting. Dr. Gurdon is currently a Distinguished Group Leader in the Wellcome Trust/CRUK Gurdon Institute at the University of Cambridge. Most notably, he received the 2012 Nobel Prize in Physiology or Medicine, along with Shinya Yamanaka, for the discovery that mature cells can be reprogrammed to become pluripotent.

For questions related to the submission of abstracts, please be sure to visit the [Annual Meeting section](#) of our website to access the [Frequently Asked Questions \(FAQs\)](#) and [Abstract Submission Guidelines](#) developed for your use. If you have additional questions, please feel free to contact the SOT office at 703.438.3115.

We are very excited about our first meeting that will be held in Phoenix, located in what has been termed the “Valley of the Sun.” Phoenix is a city filled with culturally significant art, history, museums, and many resorts for those who may wish to extend their trip beyond our Annual Meeting. The convention center is conveniently located in downtown Phoenix.

On behalf of the SOT Council and Scientific Program Committee, we look forward to welcoming you to Phoenix, Arizona for the Annual Meeting that will take place from March 23–27, 2014.

Best regards,

Norbert E. Kaminski, PhD, SOT Vice President and  
Scientific Program Committee Chairperson, 2013-2014

Peter L. Goering, PhD, Fellow ATS, SOT Vice President-Elect and  
Scientific Program Committee Co-Chairperson, 2013-2014

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## **Share Your Expertise with Annual Meeting Attendees—Volunteer to Chair SOT Platform or Poster Session**

Each year, with assistance from several SOT groups including the Specialty Sections and Special Interest Groups that share in the responsibility for review of the Annual Meeting proposals, an impressive program is developed that provides attendees with an opportunity to learn about emerging fields, and gain access to cutting-edge research in the field of toxicology.

We hope that you will [submit an abstract](#) of your most recent research results for the upcoming Annual Meeting in Phoenix, Arizona. In addition to submitting an abstract, we'd like to invite you to consider volunteering to serve as chairperson for the poster and platform sessions that will be programmed.

Listed below are the categories in which authors can submit their abstracts. During the Scientific Program Committee's review these broad session topics are broken down into sub-topics related to these categories. As per SOT policy, there will be two chairpersons for each platform session, and each poster session can have either one or two chairpersons. Chairpersons for platform sessions require that at least one chair be an SOT member.

If you are interested in volunteering to Chair a session, please review the [Session Chairperson Guidelines](#). To volunteer to serve as an SOT session chairperson, please send [David Rossé](#) an email noting your areas of interest from the list of categories below. If selected, you will be sent an invitation in early December requesting your assistance. The deadline to submit an abstract is October 7, 2013 at 11:59 pm (Eastern Daylight Time). The cost to submit an abstract is \$50.

### **Category List**

The categories listed below are used by the Scientific Program Committee to group abstracts focusing on similar subjects as well as for session programming.

- Alternatives to Mammalian Models; Animal Models; Autoimmunity/Hypersensitivity
- Bioinformatics; Biological Modeling; Biomarkers; Biotransformation/Cytochrome P450
- Carcinogenesis; Cardiovascular Toxicology/Hemodynamics; Cell Death/Apoptosis; Chemical & Biological Weapons; Children's Health/Juvenile Toxicity; Clinical and Translational Toxicology; Computational Toxicology and Data Integration
- Developmental Basis of Adult Disease; Developmental Toxicology; Disposition/Pharmacokinetics
- Ecotoxicology; Education, Ethics, Legal & Social Issues; Endocrine Toxicology; Epidemiology; Epigenetics; Exposure Assessment/Biomonitoring
- Food Safety/Nutrition
- Gene Regulation/Signal Transduction; Genotoxicity/DNA Repair; Green Chemistry/Sustainability
- Immunotoxicity; Inflammation in Disease; Inflammation: Methods and Mechanisms; Inhalants & Cardiopulmonary
- Kidney
- Liver

- Medical Devices; Metal; Mixtures
- Nanotoxicology, Carbon-Based Nanomaterials; Nanotoxicology, Environmental; Nanotoxicology, Exposure, Dosimetry, and *In Silico*; Nanotoxicology, General; Nanotoxicology, *In Vitro*; Nanotoxicology, *In Vivo*; Nanotoxicology, Metals; Natural Products; Neurodegenerative Disease; Neurotoxicity, Developmental; Neurotoxicity, General; Neurotoxicity, Metals; Neurotoxicity, Pesticides
- Oxidative Injury and Redox Biology
- Persistent Organic Pollutants (POPs); Pesticides; Pharmacogenomics/Genetic Polymorphisms
- Receptors; Regulation/Policy; Reproductive Toxicology; Risk Assessment
- Safety Assessment: Nonpharmaceutical; Safety Assessment: Pharmaceutical-Drug Development; Safety Assessment: Pharmaceutical-Drug Discovery; Skin; Stem Cell Biology and Toxicology; Systems Biology and Toxicology

## Celebrate a Career's Worth of Contributions to Toxicology: Nominate a Colleague for 2014 Merit Award

The Society of Toxicology (SOT) has been dedicated to recognizing exceptional members with the Merit Award for over 45 years. The Merit Award is presented to a member of the Society who has distinguished her or himself from among their peers through a lifetime of contributions to the field of Toxicology. This award recognizes accomplishments in the areas of research, teaching, regulatory activities, consulting, and service to the Society.

The 2013 award recipient was Frederick Peter Guengerich, the Stanford Moore Professor of Biochemistry at Vanderbilt University School of Medicine in Nashville, Tennessee. He is the author or co-author of over 620 peer-reviewed scientific articles. Dr. Guengerich has served as a thesis advisor to 18 graduate students as well as a mentor to 125 postdoctoral trainees. Such was his contribution that Vanderbilt University established a teaching award in his name. Pictured is SOT 2013–2014 President Lois D. Lehman-McKeeman (left) presenting this award to Dr. Guengerich (right).



Similar to many SOT Awards, nominations for the Merit Award require a primary and seconding letter of nomination from Full members of the Society. These letters should include documentation and description of the significant contributions to toxicology by the nominee as well as the nominee's current *curriculum vitae (CV)*. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria.

If you know a colleague that deserves to be recognized, please begin the nomination process today by visiting the [Awards and Fellowships webpage](#) on the SOT website! While nominations are accepted through October 9, 2013, you will need to take the time to put together the nomination materials. This award will be presented at the SOT Awards Ceremony that will be held at the 2014 SOT Annual Meeting in Phoenix, Arizona.

### Previous Merit Award Recipients

- 1966 Henry F. Smyth Jr.
- 1967 Arnold J. Lehman
- 1968 R. T. Williams
- 1969 Harold C. Hodge
- 1970 Don D. Irish
- 1971 Kenneth P. DuBois
- 1972 O. Garth Fitzhugh

- 1973 Herbert E. Stokinger
  - 1974 William B. Deichmann
  - 1975 Frederick Coulston
  - 1976 Verald K. Rowe
  - 1977 Harry W. Hays
  - 1978 Julius M. Coon
  - 1979 David W. Fassett
  - 1980 Bernard L. Oser
  - 1981 John H. Weisburger
  - 1982 Harold M. Peck
  - 1983 Perry J. Gehring
  - 1984 Tom S. Miya
  - 1985 Carrol S. Weil
  - 1986 Ted A. Loomis
  - 1987 Bo Holmstedt
  - 1988 Seymour L. Friess
  - 1989 Wayland J. Hayes Jr.
  - 1990 Sheldon D. Murphy
  - 1991 Toshio Narahashi
  - 1992 W. Norman Aldridge
  - 1993 John Doull
  - 1994 Ernest Hodgson
  - 1995 Robert A. Scala
  - 1996 Gabriel L. Plaa
  - 1997 Mary O. Amdur
  - 1998 John A. Thomas
  - 1999 Thomas Clarkson
  - 2000 Philippe Shubik
  - 2001 Donald Reed
  - 2002 Bernard Schwetz
  - 2003 M. W. Anders
  - 2004 Robert Goyer
  - 2005 Roger McClellan
  - 2006 A. Wallace Hayes
  - 2007 James A. Swenberg
  - 2008 Hanspeter Witschi
  - 2009 Gary Williams
  - 2010 Marion F. Ehrich
  - 2011 Michael Aschner
  - 2012 Curtis D. Klaassen
  - 2013 Frederick Peter Guengerich
- 

## **Apply for a Colgate-Palmolive Award, Grant, and Fellowship**

Colgate-Palmolive sponsors several awards, grants, and fellowships annually and presents them to individuals during the SOT Awards Ceremony at the SOT Annual Meeting.

### **Colgate-Palmolive Awards for Student Research Training in Alternative Methods**

The purpose of the Colgate-Palmolive Awards for Student Research Training in Alternative Methods is to enhance student research training using *in vitro* methods or alternative techniques to reduce, replace, or refine use of animals in toxicological research. The Awards Committee will present the awards to graduate students to defray travel, per diem,

and training expenses.

The award is for expenses for training consistent with the goal of this award program. The training may include, but is not limited to, use of *in vitro* and *ex vivo* procedures, use of nonmammalian animal models, computer modeling, and structure-activity relationships. Graduate students may propose to develop expertise in relevant methodologies at (1) a laboratory away from their home institution; (2) a laboratory at their home institution that would not be available to them otherwise; or (3) approved workshops, symposia, or continuing education programs where hands-on training will be received. The training should help toxicology graduate students enhance their thesis or dissertation research. Two or more awards, up to \$3,750 each, are available annually.



Pictured are 2011–2014 SOT Councilor Dori R. Germolec (far left) and Lauren Hutchinson, of Colgate-Palmolive (far right) with Colgate-Palmolive Award and Fellowship recipients (left to right): Aaron Lulla, Jaime Moscovitz, Alexandra Munoz, and Melanie Adler.

The recipients of the 2013 Awards were:

- Aaron Lulla, the University of California in Los Angeles, California.  
**Project Title:** The Dithiocarbamate Fungicide Ziram Results in Endogenous Synuclein Aggregation, Dopaminergic Cell Loss, and Reduced Locomotor Behavior in a Zebrafish Model of Parkinson's Disease.  
**Host Institution:** University of California Los Angeles, Los Angeles, California.
- Jamie Moscovitz, The State University of New Jersey in Piscataway, New Jersey.  
**Project Title:** Utilization of Primary Hepatocytes to Investigate Mechanisms of Chemical Disposition and Toxicity during Pregnancy.  
**Host Institution:** University of Rhode Island, Kingston, Rhode Island.
- Alexandra Munoz, New York University School of Medicine, Tuxedo, New York.  
**Project Title:** Multivariate Analysis and Fuzzy Modeling to Detect Nickel and Arsenic-Induced Gene Signatures in Microarray Data.  
**Host Institution:** University of Applied Sciences, Western Switzerland, Yverdon-les-Bains, Switzerland.

### Award Recipients

- 2000 Jason Gross
- 2001 Jason Biggs, Victoria Richards
- 2002 Kartik Shankar, Chad M. Vezina, Ryan L. Williams
- 2003 Sachin Devi, Midhun Korrapati, Pallavi Limaye
- 2004 Jaya Chilakapati, Marc A. Nascarella
- 2005 Vishaka Bhawe, Ankur Dnyanmote, Jonathan Maher
- 2006 Mary Hassani, Prajakta Palkar
- 2007 Renee Gardner, Prajakta Palkar, Rohit Singhal, Rene Vinas
- 2008 Kimberly A. Hays, Haitian Lu
- 2009 Jennifer Cole, Katie Beth Paul, Samuel Peterson

- 2010 Maxwell C. K. Leung, David T. Szabo, Natalia M. VanDuyn
- 2011 Vijay More
- 2012 Agnes Forgacs, Rene Vinas, Aaron Lulla
- 2013 Aaron Lulla, Jamie Moscovitz, Alexandra Munoz

## Colgate-Palmolive Postdoctoral Fellowship Award in *In Vitro* Toxicology

The Colgate-Palmolive Company sponsors the Colgate-Palmolive Postdoctoral Fellowship Award in *In Vitro* Toxicology through the Society of Toxicology to advance the development of alternatives to animal testing in toxicological research.

The award is given annually and includes stipend and research costs up to \$44,000 for one year (including funding to attend the SOT Annual Meeting to present this research). The award is available to postdoctoral trainees employed by academic institutions, federal/national laboratories, or research institutes worldwide. Preference is given to applicants in their first year of postdoctoral study.



Pictured are 2011–2014 SOT Councilor Dori R. Germolec (left) and Lauren Hutchinson (right) with Colgate-Palmolive Grant for Alternative Research recipient, Lei Li Kerr (center). Hao Zhu is not pictured.

The recipient of the 2013 Fellowship was:

- Melanie Adler, Brigham and Women's Hospital, Boston, Massachusetts.  
**Project Title:** Development and Evaluation of a High-Throughput Platform for Kidney Toxicity Screening and Mechanistic Understanding

### Award Recipients

- 1988 Ernest Bloom
- 1989 Gin Hsieh
- 1990 Dennis E. Chapman
- 1991 Anne Walsh
- 1992 Qin Chen
- 1993 Erika Cretton
- 1994 William Chan
- 1995 Bob Van de Water
- 1997 Alan Parrish
- 1999 Russell Thomas
- 2001 Kevin Kerzee, Christopher Reilly
- 2002 Kevin Kerzee
- 2003 Kimberly Miller
- 2004 Kimberly Miller
- 2005 Francis Tukov

- 2007 Aaron Rowland
- 2008 Aaron Rowland
- 2009 Ankur Dnyanmote
- 2010 Ankur Dnyanmote
- 2011 Cassandra Deering-Rice
- 2012 Melanie Adler
- 2013 Melanie Adler

## Colgate-Palmolive Grants for Alternative Research

The Colgate-Palmolive Grants for Alternative Research will identify and support efforts that promote, develop, refine, or validate scientifically acceptable animal alternative methods to facilitate the safety assessment of new chemicals and formulations. Scientists at any stage of career progression may submit a proposal.

High priority will be given to projects that use *in vitro* or nonanimal models, reproductive and developmental toxicology, neurotoxicology, systemic toxicology, sensitization, and acute toxicity. The maximum award is \$40,000, made as a single lump payment. Awardees can re-apply for funding in subsequent years.

The winners of the 2013 Grants were:

- Lei Li Kerr, Miami University, Oxford, Ohio.  
**Project Title:** Development of Artificial Nose for the Study of Engineered Nanomaterial Toxicity and Accumulation in Brain via Olfactory Pathway Exposure
- Hao Zhu, Rutgers University, Camden, New Jersey.  
**Project Title:** Profiling Chemicals Based on Public BioAssay Data for the Development of Predictive Computational Acute Toxicity Model

### Award Recipients

- 2006 Rola Barhoumi, Abby Benninghoff, Jodie Flaws, Courtney Sulentic, Xiaouzhong Yu
- 2007 Rita L. Caruso, Daniel R. Cerven, Anne R. Greenlee, Glenn M. Walker
- 2008 Daniel R. Ceven, Duncan C. Ferguson, Shashi K. Ramiah
- 2009 Qin M. Chen, Timothy J. Shafer, Mehmet Uzumcu
- 2010 Patrick Allard, Duncan C. Ferguson, Mehmet Uzumcu
- 2011 Patrick Allard, Hao Zhu
- 2012 Mingzhu Fang, Jennifer Freeman
- 2013 Lei Li Kerr, Hao Zhu

For additional information, please visit the [SOT Awards and Fellowships](#) section of the SOT website where you will find applications and additional required documents for download, along with more in-depth description about each of the sponsored awards provided courtesy of Colgate-Palmolive. We encourage you to share this information with your colleagues.

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## SOT/AstraZeneca/SOT Endowment Fund/IUTOX Travel Awards

Once again, the Society of Toxicology (SOT), the Society of Toxicology Endowment Fund, and AstraZeneca are very generously sponsoring ten travel fellowships for scientists to attend the SOT Annual Meeting in Phoenix, Arizona, March 23–27, 2014. Applicants may be either junior or senior scientists, reside in countries where toxicology is underrepresented, and have an active research program or currently be active in the practice of toxicology.

For more information, criteria, and to complete the application, please visit the [IUTOX website](#). Award submission for the 2014 travel awards begins September 1, 2013, and all applications must be received **by October 9, 2013**. Awardees

will be announced in November. You are urged to share this information with members of your society, colleagues in your workplace, and other interested parties. Since IUTOX is administering this awards program, candidates may direct their questions to [IUTOX Headquarters](#).

## Two SOT Award Opportunities: Translational/Bridging Travel and Translational Impact Awards

### 2014 Translational/Bridging Travel Award—Apply for this Award Today!

The SOT Awards Committee provides the Translational/Bridging Travel Award annually to assist up to two individuals to travel to the SOT Annual Meeting. This award is given to a mid- or senior-level scientist/clinician with at least ten years of experience (postdoctoral research/clinical practice) who has an active research program, or is currently active in the practice of: clinical toxicology, medical toxicology, disease prevention, or in the application of translational toxicology. This award will be presented in March at the 2014 SOT Annual Meeting Awards Ceremony in Phoenix, Arizona. The 2013 recipient of the Translational/Bridging Travel Award was M. Shane Hutson, Associate Professor of Physics, at Vanderbilt University in Nashville, Tennessee. His research interests are primarily in biophotonics, how biological systems can be probed and manipulated by light. Pictured is SOT 2013–2015 Treasurer Denise Robinson Gravatt (left) presenting this award to Dr. Hutson (right).



If you wish to apply for this award, please visit the [Awards and Fellowships section](#) of the SOT website for additional information. Applications will be accepted through October 9, 2013. As there are several elements to the application package, begin your application today! Award application packages should include:

- A brief statement about how you will benefit from the travel fellowship;
- Your *Curriculum Vitae* including your email address;
- Proof of membership in a relevant scientific society;
- Demonstrated ability to meet other expenses to attend the meeting;
- An abstract for the meeting is optional and MUST be submitted through the normal abstract process;
- Willingness to write an article about the experience for the SOT *Communiqué* and for your home society;
- Attend Clinical and Translational Toxicology Specialty Section meeting held at SOT Annual Meeting; and
- Contribute to the process for developing ideas for the Scientific Sessions at the 2015 SOT Annual Meeting.

### Translational/ Bridging Travel Award Recipients

- 2012 Xuemei Huang
- 2013 M. Shane Hutson

### 2014 Translational Impact Award—Nominate a Colleague Today!

The Translational Impact Award is presented to an SOT member or non-member scientist whose outstanding clinical, environmental health, or translational research, in the last ten years, has improved human and/or public health in an area of toxicological concern. Scientists leading multidisciplinary teams that contribute to addressing toxicity-related health problems would make excellent candidates. Nominees can include toxicologists as well as other scientists with any background (clinicians, basic scientists, epidemiologists, engineers, etc.).

If you feel you know someone deserving of this award, please begin the nomination process today by going to the [Awards and Fellowships section](#) of the SOT website. Similar to many SOT Awards, nominations for the Translational Impact Award require a primary and seconding letter of nomination from Full members of the Society that include documentation and description of the significant contributions to toxicology by the nominee as well as the nominee's

current *Curriculum Vitae (CV)*. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria.

### Translational Impact Award Recipients

- 2009 Thomas W. Kensler
- 2010 Kenneth E. McMartin
- 2011 Weida Tong
- 2012 John G. Benitez

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## Know Someone Creating A Communications Impact? 2014 Public Communications Award Nomination is Open



The Society of Toxicology (SOT) presents the Public Communications Award to an individual who has made a major contribution to increasing the general public's awareness on toxicological issues. This contribution can be made through any aspect of public communications and should have occurred over a significant period of time. This award will be presented at the SOT Awards Ceremony that will be held at the 2014 SOT Annual Meeting in Phoenix, Arizona, March 23–27, 2014.

Pictured is SOT 2012–2015 Councilor Lorrene A. Buckley (left) presenting Marti Lindsey (right) with the 2013 SOT Public Communications Award. Dr. Lindsey is the director of the Community Outreach and Education Core, Southwest Environmental Health Sciences Center (SWEHSC) at the University of Arizona College of Pharmacy in Tucson, Arizona. Dr. Lindsey draws upon her experience, sharing information from the research results of toxicologists and environmental health scientists. She communicates this information to the public and the K–12 education community as well as facilitates partnerships among all these groups.

Similar to many SOT Awards, nominations for the Public Communications Award require a primary and seconding letter of nomination from Full members of the Society that include documentation and description of the significant contributions to toxicology by the nominee as well as the nominee's current *curriculum vitae (CV)*. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions made and how the nominee meets the award criteria.

If you know a deserving colleague, please begin the nomination process today by visiting the [Awards and Fellowships section](#) of the SOT website. While nominations are accepted through October 9, 2013, you will need to take the time to put together the nomination materials. Nominations for this award can be made for an SOT member or nonmember individual who has made contributions to increase public awareness of toxicology in any of the following qualifying media: books, brochures, continuing education courses, databases, extension bulletins, magazines, newspapers (local or national), public presentations, public forums, radio and television scripts and workshops.

### Public Communications Award Recipients

- 1994 Michael A. Kamrin
- 1995 Philip Abelson
- 1996 Bruce N. Ames
- 1997 Audrey Gotsch
- 1999 Ann de Peyster
- 2001 Anna Shvedova
- 2002 Sam Kacew
- 2003 Charlene A. McQueen
- 2004 Kenneth Olden

- 2005 Robert Kreiger
  - 2007 Linda S. Birnbaum
  - 2010 Philip Wexler
  - 2012 Martin A. Philbert
  - 2013 Marti Lindsey
- 

## **The 2014 Enhancement of Animal Welfare Award - Nominate A Deserving Candidate Today!**

The Enhancement of Animal Welfare Award is presented annually to a member of the Society of Toxicology (SOT) in recognition of contributions made to the advancement of toxicological science through the development and application of methods that replace, refine, or reduce the need for experimental animals. This award recognizes outstanding or significant contributions made by members of SOT to the scientifically sound and responsible use of animals in research. This award also serves to recognize member contributions to the public awareness of the importance of animals in toxicology research. The achievement recognized may be either a seminal piece of work or a long-term contribution to toxicological science and animal welfare. Pictured is 2013 Enhancement of Animal Welfare Award Recipient Martin L. Stephens (left) accepting this award from 2010-2013 SOT Councilor Donald A. Fox (right).



As with most SOT Awards, nominations for the Enhancement of Animal Welfare Award should include the nominee's CV and both a primary and seconding letter of nomination from Full Members of the Society. Please remember to include documentation and description of the significant contributions to toxicology by the nominee. Moreover, note that letters of nomination should include an analysis and discussion of the importance of the contributions made and how the nominee meets the award criteria. Letters simply stating accomplishments found in the CV are insufficient.

If you know an SOT Member that has advanced the welfare of research animals or made other major contributions to public awareness of research animals in Toxicology, please take a moment to nominate them for this award today. To nominate yourself or a colleague, please visit the [Awards and Fellowships](#) section of the SOT website. Nominations will be accepted online through October 9, 2013.

### **Enhancement of Animal Welfare Award Winners**

- 2000 Yves Alarie
  - 2001 Alan Goldberg
  - 2002 Gary Williams
  - 2003 Frank G. Gerberick and Ian Kimber
  - 2005 Daniel Acosta
  - 2006 William S. Stokes
  - 2007 Thomas Hartung
  - 2009 Sally Robinson
  - 2010 Leonard M. Schechtman
  - 2013 Martin L. Stephens
- 

## **Syngenta Fellowship Award in Human Health Applications of New Technologies—Apply Today!**

The Syngenta Fellowship Award in Human Health Applications of New Technologies is presented to either a third year (or later) graduate student or a postdoctoral trainee. Funding in the amount of \$15,000 is to support mode-of-action research aimed at characterizing dose-dependent effects of xenobiotics on mammalian systems in such a way that the causal sequence of key events underlying toxicity is elucidated. The work should permit a quantitative basis for extrapolation of the results from animal bioassays or animal models (*in silico*, *in vitro*) to humans at relevant human doses. The awardee will receive funding to travel to the SOT Annual Meeting to accept the award and for travel to a Syngenta facility to present the results.

The recipient of the 2013 Syngenta Fellowship Award:

- Julia E. Rager, MS, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina  
**Project Title:** Elucidating the Relationship between Exposure-Induced DNA Damage and Dysregulated MicroRNAs



Pictured is SOT 2011–2013 Treasurer John B. Morris (left) and Timothy Pastoor, of Syngenta Crop Protection, Inc. (right) presenting the 2013 Syngenta Fellowship Award to Julia E. Rager (center).

While the deadline to apply for this award is October 9, 2013, please get started with your application package today! For additional information, please visit the [SOT Awards and Fellowships](#) section of the SOT website where you will find applications and additional required documents for download, along with more in-depth description about the sponsored award provided courtesy of Syngenta Crop Protection, Inc.

Award Recipients:

- 2010 Haitian Lu
- 2011 Michelle C. DeSimone
- 2012 Benjamin Moeller
- 2013 Julia E. Rager

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## 2014 SOT Annual Meeting Exhibitor-Hosted Submission Site Is Open For Requests

We are pleased to announce that the always popular Exhibitor-Hosted Session time slots are now available for request! These one-hour sessions provide exhibitors with an opportunity to showcase their products and services. Due to increasing demand, an additional room has been added for more parallel sessions. All submissions must be made through the online system, which can be accessed on the SOT 2014 Annual Meeting website at [Exhibitor-Hosted Session Application Form](#). The Exhibitor-Hosted Sessions sell out fast – book yours today!”

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## Now Is the Time To Reserve Your Booth for ToxExpo 2014

The 2014 SOT Annual Meeting and ToxExpo will bring together 6,300+ academicians, private industry representatives, and federal government officials with direct purchasing authority. Each year over 350 exhibitors gather on the show floor to interact with attendees and discover the variety of business-to-business connections available at their fingertips. [ToxExpo](#) provides the opportunity to build on existing relationships and make new connections.

ToxExpo 2014 is 58 percent booked. Hotel rooms are being reserved. Don't miss your opportunity to join us!

For more information, contact Exhibits Manager [Laura Helm](#).

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## Nominate a “Leading Edge” Scientist for the 2014 SOT Leading Edge in Basic Science Award



The Leading Edge in Basic Science Award is presented to an SOT member or nonmember scientist who, through research conducted within the last five years, has made a significant contribution to the areas of basic science that furthers our understanding of fundamental mechanisms of Toxicity.

The 2013 award recipient was Donald E. Ingber, founding director of the Wyss Institute for Biologically Inspired Engineering, Harvard University; the Judah Folkman Professor of Vascular Biology at Harvard Medical School and Boston Children's Hospital; and Professor of Bioengineering at the Harvard School of Engineering and Applied Sciences.

Dr. Ingber presented the Leading Edge in Basic Science Award Lecture entitled “Human Organs on Chips as Replacements for Animal Testing.”

Pictured is SOT 2010–2013 Councilor Michael P. Waalkes (left) presenting Dr. Ingber (right) with the Leading Edge in Basic Science Award.

Don't delay—begin your nomination today by reading all the requirements for the award on the [SOT Awards and Fellowship](#) section of the website. While nominations are accepted through October 9, 2013, you will need to take the time to put together the nomination materials.

Similar to many SOT Awards, nominations for the Leading Edge in Basic Science Award require a primary and seconding letter of nomination from Full members of the Society that include documentation and description of the significant contributions to toxicology by the nominee as well as the nominee's current *curriculum vitae* (*CV*). Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria.

If you know a colleague or “leading edge” scientist that deserves to be recognized, please take time to honor them with a nomination for this award. Nominations can be made for scientists who presently work in the field of toxicology or whose research findings are likely to have a strong impact on the field of Toxicology. The winner of this award will be invited to deliver the Leading Edge in Basic Science Award Lecture at the 2014 Annual Meeting in Phoenix, Arizona.

### Leading Edge in Basic Science Award Recipients

- 2009 John Katzenellenbogen
- 2010 Richard S. Paules
- 2011 Masayuki Yamamoto
- 2012 Myung-Haing Cho
- 2013 Donald E. Ingber

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## Nominations Sought for the 2014 SOT Founders Award

The first Founders Award was presented in 2008 to recognize the contributions of those professionals who have demonstrated outstanding leadership in the development or application of state-of-the-art approaches that reveal safety levels of chemical and physical agent exposure with a high degree of certainty. This award is funded by the [Founders Fund](#), an [SOT Endowment Fund](#), created to honor the visionaries that organized and dedicated their time to establish the Society of Toxicology. Pictured is SOT 2013–2014 Vice President Norbert E. Kaminski (left) presenting the 2013 SOT Founders Award to William A. Suk (right).



Only Full, Emeritus, or Retired members of SOT are eligible for this award. These members must have made significant contributions to toxicology and also clearly demonstrated leadership in fostering the role of toxicology in safety decision making. Please nominate a deserving SOT member today!

As with the majority of SOT Awards, nominations for the Founders Award should include the nominee's *curriculum vitae (CV)* and both a primary and seconding letter of nomination from Full members of the Society that includes documentation and description of the significant contributions to toxicology by the nominee.

Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria. This summer should be memorable: Nominate Your Colleague for the 2014 Founders Award! Nominations are accepted online via the [Awards and Fellowship](#) section of the SOT website through October 9, 2013.

### Founders Award Recipients

- 2008 John Doull
- 2009 Roger O. McClellan
- 2010 James S. Bus
- 2011 Joseph F. Borzelleca
- 2012 John A. Moore
- 2013 William Alfred Suk

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## Undergraduate Educators Deserve Recognition! SOT 2014 Undergraduate Educator Award Process Open

*Apply for or nominate an outstanding undergraduate educator for the 2014 SOT Undergraduate Educator Award.*



First awarded at the SOT 50th Anniversary Annual Meeting in 2011, the Undergraduate Educator Award is presented to an SOT member who is distinguished by outstanding contributions to the teaching of undergraduate students in toxicology and toxicology-related areas, and whose efforts support SOT's strategic efforts to "Build for the Future of Toxicology."

Sponsored by the SOT Endowment Fund, this award consists of a plaque that is presented at the SOT Annual Meeting Award Ceremony and an award stipend. Pictured is SOT 2012–2015 Councilor Lorrene A. Buckley (left) presenting the 2013 Undergraduate Educator Award to Sidhartha Ray (right).

A qualified undergraduate educator may either apply directly for the award or be nominated by others, including by the

Education Committee. Items required in the application/nomination documents include the following:

- Summary of career teaching responsibilities with specifics for the past three years, including descriptive information such as course assignments, numbers of students enrolled, etc.
- Evidence of teaching accomplishment (institution, student, or other teaching recognition)
- Demonstration of participation in the advancement of the SOT educational mission (such as committee and project involvement)
- Evidence of scholarship of teaching such as the following:
  - Publications including as instructional materials such as textbooks, textbook chapters, lab activities, case studies, etc., and education-related articles in newsletters and journals
  - Presentations related to undergraduate teaching and pedagogy
  - Contributions to regional or national education efforts including attendance at, presentations for and/or leadership of, institutional, community, and professional meetings and workshops
- Student outcomes, such as evidence of impact on students and career path (for example, number of students who have completed graduate school, presented abstracts or published papers, attended regional or national professional meetings)

The nominee (either by self or by others) should be a member of the Society of Toxicology and have a faculty appointment with primary responsibilities in the teaching of undergraduates. In addition, the nominee should have a distinguished undergraduate teaching record and have made significant contributions to undergraduate education in toxicology.

Whether self-nominated or nominated by the Education Committee or others, the application should include:

- Letter of support from Full member of the Society
- Letter of support from campus administrative official
- *Curriculum vitae* of nominee

Both letters of support should provide documentation of undergraduate teaching and training accomplished by the nominee and analyze the significant contributions made by the nominee to undergraduate toxicology education.

As the application deadline is October 9, please take the necessary time to apply or make your nomination today! For additional information, please visit the [SOT Awards and Fellowships](#) section of the SOT website.

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## 2014 Honorary Membership Nominations for Outstanding Achievements in Toxicology: Deadline October 9

*Nominate a Deserving Nonmember of the Society for Outstanding and Sustained Achievements in Toxicology with Honorary Membership*



The Nominating Committee for Honorary Members invites Full and Associate members of the Society of Toxicology (SOT) to nominate a candidate for Honorary Membership. Since 1962, the Society has recognized nonmembers who embody outstanding and sustained achievements in the field of toxicology with Honorary Membership. Candidates are nominated by two Full or Associate members of the Society. Nominations should be accompanied by seconding letters and information regarding career achievements in toxicology. Election of Honorary members shall be by a two-thirds majority vote of the SOT Council.

Per the SOT Bylaws, not more than two Honorary members shall be elected during any one term of Council. To nominate an Honorary Member, go to the [Awards and Fellowships](#) section

of the SOT website and select “Honorary Membership” from the award listing drop down menu and follow all submission instructions. It is a benefit of SOT membership to encourage the recognition of an outstanding individual who is not a member of the Society by nominating her (or him) for Honorary Membership!

The Nominating Committee for Honorary Members (2013–2014) includes William Slikker Jr., Chair, and Members Jon C. Cook and Norbert E. Kaminski.



## Accepting Nominations for the 2014 SOT Education Award



The Society of Toxicology (SOT) is committed to excellence in toxicological education and has recognized educators in toxicology for almost 40 years. As a result SOT bestows the Education Award to an individual who is distinguished in the arena of teaching and training toxicologists and who has made significant contributions to toxicology. Pictured are SOT 2013–2014 Vice President Norbert E. Kaminski (left) presenting the 2013 Education Award to Rick G. Schnellmann (right).

Like most SOT Awards, nominations for the Education Award should include the nominee’s *curriculum vitae* (*CV*) and both a primary and seconding letter of nomination from Full Members of the Society that includes documentation and description of the significant contributions to toxicology by the nominee. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the importance of the contributions and how the nominee meets the award criteria.

If you have benefited from the instruction by a superb educator or know someone highly respected within the realm of education in toxicology who has made meaningful contributions to the field, please take a moment to nominate him or her for the SOT Education Award by visiting the [Awards and Fellowships](#) section of the SOT website. Nominations are accepted online through October 9, 2013.

### Previous Education Award Winners

- 1975 Harold C. Hodge
- 1976 Ted A. Loomis
- 1977 Robert B. Forney
- 1978 (No Award)
- 1979 Sheldon D. Murphy
- 1980 Herbert H. Cornish
- 1981 Frederick Sperling
- 1982 Lloyd W. Hazleton
- 1983 Julius M. Coon
- 1984 Frank Guthrie, Ernest Hodgson
- 1985 William B. Buck
- 1986 Robert I. Krieger
- 1987 Gabriel L. Plaa
- 1988 John Autian
- 1989 Tom S. Miya
- 1990 Charles H. Hine
- 1991 Hanspeter R. Witschi
- 1992 Dean E. Carter
- 1993 Curtis D. Klaassen
- 1994 Robert A. Neal

- 1995 William Carlton
- 1996 Robert Snyder
- 1997 Albert E. Munson
- 1998 David J. Holbrook
- 1999 Jules Brodeur
- 2000 Gary Carlson
- 2001 Harihara Mehendale
- 2002 Joseph Borzelleca
- 2003 Frederick W. Oehme
- 2004 A. Jay Gandolfi
- 2005 Nobuyuki Ito
- 2006 Robert A. Schatz
- 2007 Torbjörn Malmfors
- 2008 Steven Cohen
- 2009 Janice E. Chambers, Serrine S. Lau
- 2010 Tetsuo Satoh
- 2011 Michael Gallo
- 2012 John H. Duffus
- 2013 Rick G. Schnellmann

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## Nominate A Well-Qualified Candidate for the SOT Distinguished Toxicology Scholar Award



The Distinguished Toxicology Scholar Award is one of SOT's preeminent awards. It is presented to a member of SOT who has made substantial and seminal scientific contributions to our understanding of toxicology. The prime consideration for this award is scientific accomplishments. The winner of this award will be invited to deliver the Distinguished Toxicology Scholar Award lecture at the 2014 Annual Meeting in Phoenix, Arizona. Pictured is John J. Lemasters (left) who is being presented with the SOT 2013 Distinguished Toxicology Scholar Award by 2010–2013 Councilor Donald A. Fox (right).

If you know a laudable colleague deserving of such a high honor, please take time to honor them with a nomination for this award. Nominations should be made for individuals that have made significant and influential contributions to, or made strides advancing, our understanding of the science of toxicology. Nominees should be active scientists currently involved in toxicological research.

As with the majority of SOT Awards, nominations for the Distinguished Toxicology Scholar Award should include the nominee's curriculum vitae (CV) and both a primary and seconding letter of nomination from Full Members of the Society that include documentation and description of the significant contributions to toxicology by the nominee. Please note that letters simply listing accomplishments found in the CV are not sufficient without analysis and discussion of the importance of the contributions and how the nominee meets the award criteria.

Make this a memorable summer and nominate a renowned toxicologist for the SOT 2014 Distinguished Toxicology Scholar Award! Nominations are accepted online at the [Awards & Fellowships](#) section of the SOT website through October 9, 2013. Below is a list of the Distinguished Toxicology Scholar Award Winners since its inception.

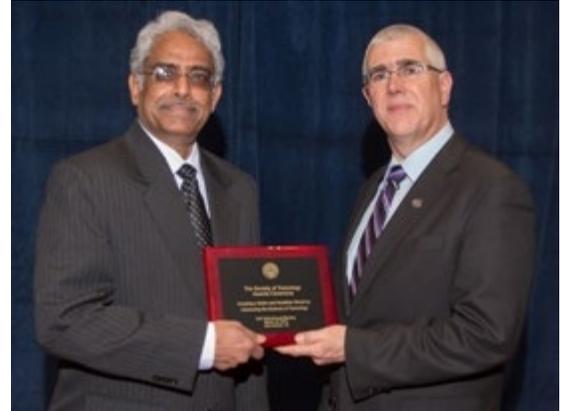
- 2003 Henry C. Pitot
- 2004 Gerald N. Wogan
- 2005 Daniel Nebert
- 2006 Sten G. Orrenius
- 2007 Stephen H. Safe

- 2008 Toshio Narahashi
- 2009 Lance R. Pohl
- 2010 Harihara M. Mehendale
- 2011 Oliver Hankinson
- 2012 Ernest Hodgson
- 2013 John J. Lemasters

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## Nominations Now Being Accepted for the 2014 Arnold J. Lehman Award

The SOT Arnold J. Lehman Award, named to honor SOT cofounder [Arnold J. Lehman](#), is presented to recognize an individual who has made a major contribution to risk assessment and/or the regulation of chemical agents, including pharmaceuticals. This contribution may have resulted from the application of sound scientific principles to regulation and/or from research activities that have significantly influenced the regulatory process. Pictured is 2013 Arnold J. Lehman Award recipient Moiz Mumtaz (left) and SOT Councilor John C. Lipscomb (right). Dr. Mumtaz received this award for his contributions to methods development for the risk assessment of chemicals, particularly as mixtures. If you know a deserving colleague who has made a major contribution to risk assessment and/or the regulation of chemical agents, as described above, please take the time to nominate your colleague this summer. Individuals nominated may be employed in academia, government, or industry. Don't wait until it is too late—Nominate your colleague now!



As with the majority of SOT Awards, nominations for the Arnold J. Lehman Award should include the nominee's *curriculum vitae* (*CV*) and both a primary and seconding letter of nomination from Full members of the Society that includes documentation and description of the significant contributions to toxicology by nominee. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria. This summer should be memorable: Nominate Your Colleague for the 2014 Arnold J. Lehman Award! Nominations are accepted online on the [Awards and Fellowships](#) section of the SOT website through October 9, 2013.

### Historical Listing of the Arnold J. Lehman Award Recipients:

- 1980 Allan H. Conney
- 1981 Gabriel L. Plaa
- 1982 Gary M. Williams
- 1983 David P. Rall
- 1984 Tibor Balasz
- 1985 Frederick Coulston
- 1986 Gerrit Johannes Van Esch
- 1987 John P. Frawley
- 1988 Kundan S. Khera
- 1989 Richard H. Adamson
- 1990 Harold C. Grice
- 1991 Bernard A. Schwetz
- 1992 Roger O. McClellan
- 1993 Thomas W. Clarkson
- 1994 Bruce Ames
- 1995 Emil A. Pfitzer
- 1996 John F. Rosen
- 1997 (No Award)

- 1998 Helmut Alfred Greim
  - 1999 (No Award)
  - 2000 Carole A. Kimmel and Janardan K. Reddy
  - 2001 Samuel M. Cohen
  - 2002 Dennis Paustenbach
  - 2003 Michael L. Dourson
  - 2004 Melvin E. Andersen
  - 2005 Rory Conolly
  - 2006 Kathryn Mahaffey
  - 2007 Harvey J. Clewell
  - 2008 Vicki Dellarco
  - 2009 Michael Bolger
  - 2010 Edward V. Ohanian
  - 2011 Bette Meek
  - 2012 Joe L. Mauderly
  - 2013 Moiz Mumtaz
- 

## Nominate a Deserving Member for the 2014 SOT Achievement Award



The Society of Toxicology (SOT) Achievement Award is presented to a member of the Society who, within 15 years since obtaining the highest earned degree, has made significant contributions to toxicology. One of the longest standing SOT Awards, the SOT Achievement Award, was first conferred in 1967. This is one of the first awards envisioned by the Society and its recipients have achieved success not only early but also throughout their careers. For the significant contributions to toxicology that she has made in the early stages of her career, the SOT 2013 Achievement Award was presented to [Wei Xu](#).

If you know a deserving colleague who is within 15 years of receiving his or her highest degree in 2014 (i.e., MD, PhD, DVM, or other highest degree received in 1999 or later), then please take the time to nominate that individual this summer. Don't wait until it's too late! The SOT Achievement Award has been established to recognize early achievements in toxicology. Thus, the 15-year timeframe is essential in doing so. Similar to many of the SOT Awards, nominations for the Achievement Award should include the nominee's *curriculum vitae (CV)* and both a primary and seconding letter of nomination from Full members of the Society that include documentation and description of the significant contributions to toxicology by the nominee. Please note that letters simply listing accomplishments found in the *CV* are not sufficient without analysis and discussion of the important contributions and how the nominee meets the award criteria.

Make this a summer to remember: Nominate a deserving colleague for the 2014 SOT Achievement Award! Nominations are accepted online from the [SOT Awards and Fellowships](#) section of the SOT website through October 9, 2013.

Recipients of the SOT Achievement Award include the distinguished individuals that follow:

- 1967 Gabriel L. Plaa
- 1968 Allan H. Conney
- 1969 Samuel S. Epstein
- 1970 Sheldon D. Murphy
- 1971 Yves Alarie
- 1972 Robert L. Dixon
- 1973 (No Award)
- 1974 Morris F. Cranmer
- 1975 Ian C. Munro

- 1976 Curtis D. Klaassen
  - 1977 James E. Gibson
  - 1978 Raymond D. Harbison
  - 1979 Michael R. Boyd
  - 1980 Philip G. Watanabe
  - 1981 (No Award)
  - 1982 Frederick P. Guengerich
  - 1983 (No Award)
  - 1984 Melvin E. Andersen
  - 1985 Alan R. Buckpitt
  - 1986 Sam Kacew
  - 1987 James S. Bus
  - 1988 Jeanne M. Manson
  - 1989 James P. Kehrer
  - 1990 Michael P. Waalkes
  - 1991 Debra Lynn Laskin
  - 1992 Michael P. Holsapple
  - 1993 David L. Eaton
  - 1994 James L. Stevens
  - 1995 Lucio G. Costa
  - 1996 Kenneth Ramos
  - 1997 Kevin E. Driscoll
  - 1998 Rick G. Schnellmann
  - 1999 Michel Charbonneau
  - 2000 Christopher Bradfield
  - 2001 Martin Philbert
  - 2002 Ruth Roberts
  - 2003 Lois D. Lehman-McKeeman
  - 2004 David Dorman
  - 2005 (No Award)
  - 2006 Jose E. Manautou
  - 2007 Jeffrey M. Peters
  - 2008 Ivan Rusyn
  - 2009 Russell S. Thomas
  - 2010 Gary W. Miller
  - 2011 Nathan Cherrington
  - 2012 Donna D. Zhang
  - 2013 [Wei Xu](#)
- 

## **Become a 2014 Tox ShowDown Contestant!**

*Submitted by Phil Wexler and Alessandro Venosa*

### **Your Chance at Fame—Become a 2014 Tox ShowDown Contestant!**

So you think you're a hot shot toxicologist? Interested in testing your wits against SOT colleagues who have no less of an opinion of themselves? If so, and you don't mind being interrogated with questions that run the gamut from serious science to frivolous fantasy, SOT's boisterous annual Tox ShowDown may be just up your alley, and it's baaack with revenge, at the SOT 53rd Annual Meeting in Phoenix, on Tuesday, March 25 at 7:30 pm.

Although we are holding it in the air-conditioned comfort of the Sheraton Hotel, sweat is sure to trickle down your brow no less profusely than if you were standing under the noonday Phoenix sun, as you struggle to answer challenging, enigmatic, and sometimes simply unanswerable questions. But you can do it; you know you can; we know you can; you

better...or else. If you are among the hardy and the foolhardy, the wise and the wise guys, or the unflappable and the flabbergasted, we want you to volunteer as a contestant. Let's face it, you've done crazier things in your life or, if you haven't, here's your chance. Think of it as a toxicologist coming of age quest. You'll be assigned to one of three teams of three players each—the Endocrine Disruptors, Free Radicals, or Toxic Metabolites.

Some sample questions from the 2012 game include the following:

*By some accounts, the word "toxicology" derives from the Greek "toxon," which is one component of an ancient two-piece weapon. What is the English name of this weapon?*

*What protein binds metals such as cadmium and zinc in the liver and kidneys?*

*Christopher P. Wild of the International Agency for Research on Cancer coined this term to encompass the concept, now gaining an increasing prominence in toxicology, of life-course environmental exposures from conception to death. What is the term?*

For more information, see the report on the [2013 ShowDown](#).

Closet or repressed comedians especially welcome.

Please send expressions of interest with your full name, affiliation, SOT Regional Chapter, Special Interest Group, or Specialty Section membership(s) if any, contact information, and a brief statement about why you want to join (the competition for slots this year will be stiff, so make it good) as soon as possible (beat the rush), but no later than November 1, to [Phil Wexler](#) or [Alessandro Venosa](#). Tox ShowDown is sponsored by the [Graduate Student Leadership Committee](#).

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## **Now Is the Time to Book Your Ancillary Meetings and Hospitality Suites— Deadline December 13**

Plans are underway for the 2014 SOT 53rd Annual Meeting, March 23–27, 2014 in Phoenix, Arizona. All requests for hospitality suites and ancillary meetings must be approved by SOT Headquarters. To reserve a hospitality suite, contact [Heidi Prange](#). To reserve a meeting room, please complete the [Ancillary Meeting Form](#) online. 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 Convention Center in nearby hotels.\* Hospitality suites and Ancillary Meeting spaces book fast—submit your request now! Only meeting requests made by December 13, 2013, will be listed in the Annual Meeting Calendar in the *Program*. If your organization plans on holding an off property event, please let [Kristina Pietro](#) know by **February 10, 2014**. The Society would like to be able to provide a listing of all SOT-related events to the city bureau and INA Security. This information is helpful in ensuring that everyone in Phoenix related to the convention is well informed.

**No hospitality functions or Ancillary Meetings may be scheduled during the following SOT events:**

Sunday, March 23, 8:15 AM–12:00 Noon & 1:15 PM–5:00 PM: **Continuing Education**

Sunday, March 23, 5:15 PM–7:30 PM: **Awards Ceremony & Welcome Reception**

Monday, March 24, 8:00 AM–9:00 AM: **Keynote Plenary**

Monday, March 24, 9:15 AM–12:00 Noon & 2:00 PM–4:45 PM: **Scientific Sessions**

Tuesday, March 25, 9:00 AM–11:45 AM & 1:30 PM–4:15 PM: **Scientific Sessions**

Wednesday, March 26, 8:00 AM–9:00 AM: **MRC Lecture**

Wednesday, March 26, 9:00 AM–11:45 AM & 1:30 PM–4:15 PM: **Scientific Sessions**

Thursday, March 27, 9:00 AM–11:45 AM: **Scientific Sessions**

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

The very foundation of the Society is to create a safer, 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 goals, or past actions are deemed counterproductive to those of the Society of Toxicology.

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## **Another Successful 2013 CE Course Prepares SOT for 2014**

*Submitted by Lynne LaSauteur*

On Sunday morning, March 10, 2013, at the SOT 52nd Annual Meeting in San Antonio, Texas, Lynne LeSauteur (Charles River) and Jonathan D. Urban (ToxStrategies Inc.) chaired a Continuing Education (CE) course entitled “Approval of Biosimilar Monoclonal Antibodies: Scientific, Regulatory, and Legal Challenges.” While established standard analytical methodologies enable manufacturers of generic small molecule drugs to demonstrate pharmaceutical equivalence, the complex and sensitive nature of even the most similar biologic manufacturing systems makes producing identical copies of the innovative monoclonal antibody products impossible.

This CE course successfully integrated case studies to compare and contrast the scientific and regulatory approaches used for mAb biosimilar drug development in addition to an overview of global biosimilar guidelines by Barbara Mounho-Zamora (ToxStrategies Inc.) as well as instruction on the Biologics Price Competition and Innovation Act and the role of patent and data exclusivity provisions by Kimberly Greco (Amgen).

Christine Grimaldi (Boehringer-Ingelheim) presented analytical preclinical strategies to support clinical development of biosimilar monoclonal antibodies. This presentation emphasized the aims of preclinical biosimilar mAb programs that include establishing similarity of key quality attributes with reference originator product, applying a stepwise approach (e.g., *in vitro* studies done prior to *in vivo* studies), studies designed to identify potential differences of relevance, establishing immunogenicity, and enabling clinical trials. Danuta J. Herzyk (Merck) presented a case study describing the toxicological evaluation of a biosimilar to anti-CD20 mAb, and Michael W. Leach (Pfizer) provided a comprehensive summary of the development strategies of four additional biosimilar mAbs. Marjorie Shapiro (US Food and Drug Administration) ended the session with an overview of the regulatory considerations for biosimilar monoclonal antibodies by outlining the approved mAbs and Fc-fusion proteins, the definition of biosimilarity, and analytical evaluation of protein products. She also provided a regulatory understanding of the process to produce product with consistent quality attributes.

Given the interest in this field and the development of biosimilars by several companies worldwide and the changing regulatory guidelines, this session generated a lot of interest and thought with regards to the development of biosimilar mAbs.

For a preview of the Continuing Education courses that will be held at the 2014 SOT 53rd Annual Meeting, please visit the [SOT Annual Meeting website](#).

### **Science News**

## **Science News Alert—Upcoming Meetings That May Be of Interest To You**

SOT Science News Alert August 2013

Below are a number of SOT-sponsored meetings and events that may be of interest to you. For more information, contact the organizers directly.

**Environmental Mutagenesis and Genomics Society 44th Annual Meeting—Late Breaking Abstract  
Deadline is August 28, 2013**

The Environmental Mutagenesis and Genomics Society (EMGS) is the primary professional society for scientists involved in research into environmental causes and consequences of damage to the genome and epigenome. The 44th Annual Meeting will be held September 21–25, 2013, at the Hyatt Regency Monterey, in Monterey, California. This year's theme is "Embracing the Science of the Future through Cross-Disciplinary Research." The Society's Annual Meeting is unique in bringing together scientists who carry out basic research with those involved in risk estimation and regulatory concerns related to the consequences of exposure to environmental, industrial, and pharmaceutical agents. The result is a dynamic meeting that is sufficiently large to cover a broad range of contemporary topics, yet focused to facilitate interactions between students and renowned scientists in academia, government, and industry. This is a meeting not to be missed. For additional information, visit the [EMGS 2013 Annual Meeting website](#).

**Practical Application of Toxicology in Drug Development, September 9–13, 2013, Edinburgh Capital Hotel,  
United Kingdom**

This course, taught by distinguished experts, is designed to provide a basic training in toxicology. Participants will obtain an overall understanding of the principles of nonclinical safety assessment of drug development with emphasis on the practical application of these principles and interpretation of nonclinical safety data. The course will include a discussion of regulatory case studies and a review of a drug application. This toxicology course is intended to benefit individuals working with small and large molecules from biotechnology and pharmaceutical companies, along with those from CROs and regulatory agencies who are interested in toxicology. Regulatory toxicology in drug development will be emphasized, particularly from the European perspective. To register and for more information, please visit the [Practical Application of Toxicology in Drug Development website](#).

**Safety Pharmacology Society Annual Meeting, September 16–19, 2013, Rotterdam, Netherlands**

The Safety Pharmacology Society (SPS) 13th Annual Meeting will be held September 16–19, 2013, in Rotterdam, The Netherlands, and will provide a dynamic forum for sharing the latest in safety pharmacology. The scientific program offers in-depth discussion of relevant topics to keep you "in the know." This meeting will feature a diverse range of scientific sessions organized into thematic tracks, covering issues such as, Reducing Safety Related Attrition, Expanding the Frontiers of Safety Pharmacology, Improving Support to Clinical Development, Translation of Safety Pharmacology Studies to Humans, Update and Feedback on CSRC-HESI-FDA Workshop, and a Best Practices Workshop on Comparing Safety Pharmacology as "Stand Alone" to SP-Endpoint Inclusion in Toxicology. The meeting also will offer a full day of Continuing Education courses on September 16, both on an introductory level as well as advanced courses for the expert, and the Diplomat SPS (DSPS) Certification exam will be held the day before the meeting on September 15. For preliminary meeting information, please visit the [2013 SPS Annual Meeting Website](#).

**Product Quality Research Institute Workshop on Nanomaterial Drug Products: January 14–15, 2014**

The Product Quality Research Institute (PQRI) Workshop on "Nanomaterial Drug Products: Current Experience and Management of Potential Risks" will be held January 14–15, 2014, at the US Pharmacopeia (USP) Meeting Center, Rockville, Maryland. The overarching goals and objectives of this meeting include a review of analytical science and methods for characterizing nanomaterials and discussion of their application to the characterization and quality control of drug products. Participants will share experiences and results and discuss approaches to the management of potential risks of nanomaterials in drug products starting from early drug development and throughout product lifecycle. The implications for maintaining quality, safety, and efficacy will be highlighted. The expected outcomes are to establish opportunities for collaboration between academia, industry, and government-sponsored research programs and to develop a summary report of the workshop discussions and recommendations. For more information and to register for this meeting, please visit the [Workshop on Nanomaterial Drug Products website](#).

## NANOTOX 2014, 7th International Nanotoxicology Congress: Abstract Deadline January 15, 2014

NANOTOX 2014 will be held April 23–26, 2014, in Antalya, Turkey. This congress continues the series of international nanotoxicology meetings that has included: 2006 Miami, 2008 Zurich, 2010 Edinburgh, and 2012 Beijing. Commercialization of emerging nanotechnologies influences societal responses to their development and applications and demands for better evaluations of their effects on the environment and human health. Sessions of the congress will highlight the hot topics of nanotoxicology with the world-leading experts in this field. Moreover, this congress will create opportunities for participants to present and share experiences, explore new directions, and debate topics with experts from across the globe in the field of nanotoxicology. The abstract deadline is January 15, 2014. For additional information, please visit the [NANOTOX 2014 website](#).

## FutureTox II CCT: Pathways to Prediction—January 16–17, 2014

The FutureTox II: *In Vitro* Data and *In Silico* Models for Predictive Toxicology Contemporary Concepts in Toxicology (CCT) conference will be held January 16–17, 2014, at the William and Ida Friday Center for Continuing Education, University of North Carolina, Chapel Hill, North Carolina. The conference aims to address the pathway-based strategy by bringing together basic research into a congress that integrates newer *in vitro* methodologies and computational (*in silico*) modeling approaches with advances in systems biology. An overarching goal is to clarify the usefulness and validity of new and emerging technologies and approaches so that expectations can be managed in both the regulatory and regulated scientific communities. There will be ample opportunities to network with experts in this fast changing growth area. Some aspects of this topic were covered in the October 2012 FutureTox CCT meeting. This FutureTox II CCT will provide a forum for a detailed scientific discussion of how the biological pathways of interest will be elucidated, characterized, and qualified for pathway-based risk assessment. Breakout groups will address four key areas: Regulatory Toxicology, Liver Disease and Hepatotoxicity, Developmental/ Reproductive Toxicity, and Cancer. There is global interest in “Adverse Outcome Pathways” (AOPs) as a conceptual framework for mode-of-action approaches in these four areas. Focusing the CCT on scientific issues where new methodologies and advances can move us beyond reliance on animal models will benefit all researchers and regulators as a way of identifying key questions that need research. Partial travel support for graduate students and postdoctoral scholars will be available. To register and for additional information about this conference, please visit the [FutureTox II website](#).

SOT sponsors two types of meetings outside of the SOT Annual Meeting: [Contemporary Concepts in Toxicology \(CCT\)](#) and [Non-SOT meetings](#). CCT meetings are one- to two-day focused, open registration, scientific meetings in contemporary and rapidly progressing areas of *Toxicological Sciences*. Non-SOT meetings are sponsored by other not-for-profit organizations and SOT will either endorse or provide sponsorship money to toxicology-related meetings.

## Four 2013 SOT Annual Meeting Sessions to Be Presented at AAAS Meeting

Four 2013 SOT Annual Meeting sessions will be presented at the [2014 AAAS Annual Meeting](#), February 13–17, 2014, in Chicago, Illinois.

The sessions include the following:

- Genetic and Epigenetic Determinants of Susceptibility to Environmental and Occupational Toxicants, *chaired by Berran Yucesoy and Victor Johnson*
- Life-Course Models for Ensuring Children’s Health Protection, *chaired by Sally Darney and Elaine Faustman*
- Molecular Basis of Age-Related Susceptibility to Chemicals and Environmental Hazards: From Model Systems to Humans, *chaired by Janice Lee and James Fuscoe*
- Role of Air Pollution As a Risk Factor for Central Nervous System Diseases and Disorders, *chaired by Deborah*

SOT thanks our members for sharing the science of toxicology with scientists in other disciplines.

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## **NIH Common Fund Collaborating with National Institute of General Medical Sciences**

The National Institute of General Medical Sciences is inviting applications for projects from individual investigators or small groups to collaborate with the NIH Common Fund for Medical Research National Centers for Biomedical Computing (NCBCs). The Centers are intended to be the core of the networked national effort to build the computational infrastructure for biomedical computing in the nation, the National Program of Excellence in Biomedical Computing (NPEBC). There are seven funded centers that cover systems biology, image processing, biophysical modeling, biomedical ontologies, information integration, and tools for gene-phenotype and disease analysis. The centers will create innovative software programs and other tools that enable the biomedical community to integrate, analyze, model, simulate, and share data on human health and disease. The intention of the collaborating projects is to engage researchers across the nation in building an excellent biomedical computing environment, using the computational tools and biological and behavioral application drivers of the funded NCBCs as foundation stones. This Funding Opportunity Announcement (FOA) will use the NIH Research Project (R01) award mechanism.

Eligible applicants are for-profit or nonprofit organizations; public/state-controlled institutions of higher education; private institutions of higher education; units of state and local governments; units of state and local Tribal government; Hispanic-serving institutions; Historically Black Colleges and Universities (HBCUs); Alaska Native and Native Hawaiian Serving Institutions; Tribally Controlled Colleges and Universities (TCCUs); Small Business; eligible agencies of the federal government; domestic or foreign institutions/organizations; and faith-based or community-based organizations. More than one PD/PI or multiple PDs/Pis may be designated on the application for projects that require a team science approach that clearly does not fit the single-PD/PI model. For more information about this funding opportunity, please visit the [NIH website](#).

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## **NIAID Soliciting Applications for the STIs Cooperative Research Centers Program**

The National Institute of Allergy and Infectious Diseases (NIAID) is soliciting applications for the Sexually Transmitted Infections Cooperative Research Centers (STI CRC) program. The STI CRC program facilitates multidisciplinary, synergistic collaborations that will increase our understanding and further our knowledge of co-infections of two or more specific STIs, as well as the interactions between and among different STI pathogens that may cause or enhance polymicrobial infections of the urogenital tract, e.g., bacterial vaginosis (BV), pelvic inflammatory disease (PID), intraamniotic infection (IAI), and nongonococcal urethritis (NGU). This collaborative effort is expected to catalyze the discovery of new approaches to prevent, diagnose, and treat co-infections, polymicrobial infections, and other clinical outcomes that affect reproductive health.

The deadline for letters of intent is September 23, 2013, and applications should be submitted by October 23, 2013. For more information go to, please visit the [NIH website](#).

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## **Burroughs Wellcome Fund Now Accepting Applications—2014 Career Awards at the Scientific Interface**

The Burroughs Wellcome Fund [Career Awards at the Scientific Interface](#) provide \$500,000 to bridge advanced

postdoctoral training and the first years of faculty service. These awards are intended to foster the early career development of researchers with backgrounds in the physical/mathematical/computational sciences and engineers whose work addresses biological questions.

These awards are open to US and Canadian citizens or permanent residents as well as to US temporary residents.

**Eligible candidates for this award may self-nominate by submitting a preproposal by September 3, 2013.**

Preproposals will be reviewed by the Interfaces in Science Advisory Committee, and selected candidates will be invited to submit a full application. **Full invited applications must be submitted by January 9, 2014.**

For further information, please view the [video](#) developed by the Burroughs Wellcome Fund.

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## **EFPIA and PhRMA Issue Joint Principles for Responsible Clinical Trial Data Sharing**

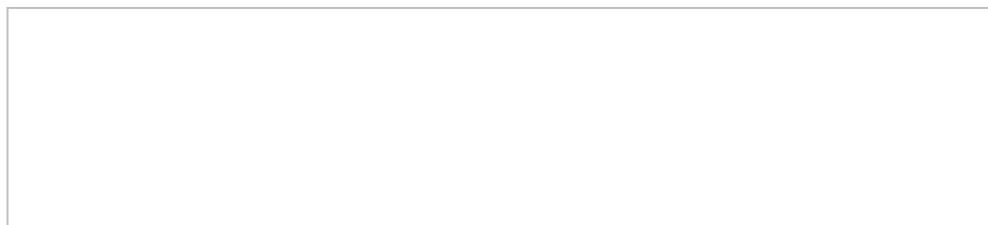
The European Federation of Pharmaceutical Industries and Associations (EFPIA) and the Pharmaceutical Research and Manufacturers of America (PhRMA) recently endorsed *Principles of Responsible Clinical Trial Data Sharing: Our Commitment to Patients and Researchers*. Under these new principles, biopharmaceutical companies will increase the amount of information available to researchers, patients, and the public. Among other things, the principles call for:

- The exchange of study-level clinical trial data, full clinical study reports, and protocols from clinical trials in patients for medicines approved in the United States and the European Union with qualified scientific and medical researchers of patient-level clinical trial data.
- The distribution of factual summaries by companies working with regulators of clinical trial results to patients who participate in clinical trials.
- The synopses of clinical study reports for clinical trials in patients submitted to the US Food and Drug Administration, European Medicines Agency, or national authorities of EU member states will be made public upon approval of a new medicine.
- Biopharmaceutical companies will publish clinical trial results regardless of the outcome.

To learn more about the principles go to the [EFPIA website](#).

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## **Publish Faster with *ToxSci*-SOT's Official Journal**



*Toxicological Sciences*, a top-tier original research journal, features a rigorous review process with an average time to final decision on submitted manuscripts of 24 days. If accepted, the average time to online publication of your paper is only 9 days. This means rapid dissemination of your research in an essential resource for all toxicologists.

For more information about submitting, please visit the [Toxicological Sciences](#) website.

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**September 2013, Vol 135, Issue 1, *Toxicological Sciences* Available Online**



The September 2013, Vol. 135, Issue 1 of *Toxicological Sciences* 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](#).

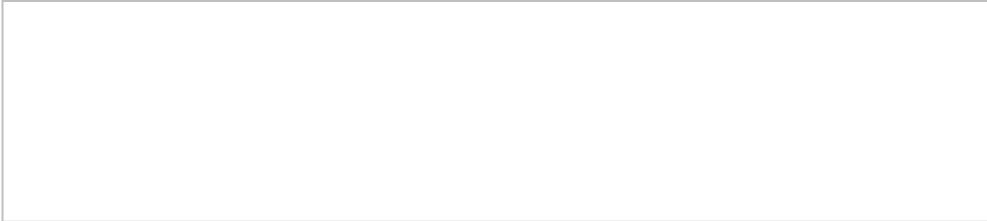
The paper chosen for the Editor's Highlight in this issue is [Increases in Oxidized Low-Density Lipoprotein and Other Inflammatory and Adhesion Molecules With a Concomitant Decrease in High-Density Lipoprotein in the Individuals Exposed to Arsenic in Bangladesh](#) by Md. Rezaul Karim, Mashiur Rahman, Khairul Islam, Abdullah Al Mamun, Shakhawoat Hossain, Ekhtear Hossain, Abdul Aziz, Fouzia Yeasmin, Smita Agarwal, Md. Imam Hossain, Zahangir Alam Saud, Farjana Nikkon, Mostaque Hossain, Abul Mandal, Richard O. Jenkins, Parvez I. Haris, Hideki Miyataka, Seiichiro Himeno, and Khaled Hossain.

The Editor's Highlight in this issue prepared by Intermin Editor-in-Chief Matthew Campen states that: "Karim and colleagues present a straightforward population-level analysis of the association between arsenic intake (assessed by drinking water levels and buffeted by nail clipping and hair measurements) and several novel markers of cardiovascular disease, namely oxidized low density lipoprotein and vascular cell adhesion molecule. It is unclear whether these outcomes represent simple biomarkers or drivers of pathology. While the study design does not permit the determination of causality or lend insight into the underlying mechanism, it is a clear motivator to better explore these relationships in populations exposed chronically to arsenic at or around levels within current "safe" limits."

*Toxicological Sciences*, the official journal of SOT, is among the most highly cited original research journals in Toxicology.

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## **August 2013, Vol 134, Issue 2, *Toxicological Sciences* Available Online**



The August 2013, Vol. 134, Issue 2 of *Toxicological Sciences* 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](#).

The paper chosen for the Editor's Highlight in this issue is [Environmental Toxin-Linked Nonalcoholic Steatohepatitis and Hepatic Metabolic Reprogramming in Obese Mice](#) by Ratanesh Kumar Seth, Ashutosh Kumar, Suvarthi Das, Maria B. Kadiiska, Gregory Michelotti, Anna Mae Diehl, and Saurabh Chatterjee. The Editor's Highlight prepared by Intermin Editor-in-Chief Matthew Campen states that "Seth and colleagues examined a two-hit model for nonalcoholic steatohepatitis, showing that bromodichloromethane interacts with a high fat diet to induce liver inflammation and metabolic alterations in a CYP2E1-dependent manner. Moreover, bromodichloromethane dramatically affected the satiety-inducing leptin pathway, which appears to be mechanistically involved in the metabolic pathogenesis. In addition to characterizing the phenomenon, this study highlights the potential that genetic polymorphisms and diet may play in determining susceptibility to the metabolic outcomes of common environmental contaminants. The overall metabolic disturbances are likely to be more complex and systemic than described in the present article and future

research in this area will be exceedingly valuable to understanding the impact of environmental contaminants on public health.”

*Toxicological Sciences*, the official journal of SOT, is among the most highly cited original research journals in Toxicology.

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## July 2013, Vol. 134, Issue 1 *Toxicological Sciences* Available Online



The July 2013, Vol. 134, Issue 1 of *Toxicological Sciences* 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](#).

The paper chosen for the Editor’s Highlight in this issue is [Temporal Concordance Between Apical and Transcriptional Points of Departure for Chemical Risk Assessment](#) by Russell S. Thomas, Scott C. Wesselkamper, Nina Ching Y. Wang, Q. Jay Zhao, Dan D. Petersen, Jason C. Lambert, Ila Cote, Longlong Yang, Eric Healy, Michael B. Black, Harvey J. Clewell III, Bruce C. Allen, and Melvin E. Andersen. The Editor’s Highlight prepared by *Toxicological Sciences* Associate Editor Jeffrey Fisher states that: “In this manuscript, a temporal comparison between *in vivo* gene expression and histologic markers of toxicity demonstrates significant concordance. These results shed light on which gene changes may be the most important for targeted *in vivo* analysis and additional consideration in risk assessment. The advancement of high-throughput *in vivo* assays to assess genetic changes may represent significant resource saving opportunities for toxicologists when *in vivo* findings corroborate the involvement of specific genes in a toxicity pathway. Studies such as this provide assurance that relying on *in vivo* data describing gene changes has an important role in health risk assessment.”

*Toxicological Sciences*, the official journal of SOT, is among the most highly cited original research journals in Toxicology.

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## Upcoming Grant Deadlines from the Burroughs Wellcome Fund

### Career Awards for Medical Scientists

Awards foster the development and productivity of physician-scientists who are early in their careers and help them make the critical transition to becoming independent investigators.

**Application Deadline:** October 1, 2013

Five-year \$700,000 awards for physician-scientists bridge advanced postdoctoral/fellowship training and the early years of faculty service. Proposals must be in the area of basic biomedical, disease-oriented, or translational research. Proposals in health services research or involving large-scale clinical trials are ineligible. Awards are made to degree-granting institutions in the US or Canada on behalf of the awardee.

For full grant details, please visit the [Burroughs Wellcome Fund website](#).

View the [Career Awards for Medical Scientists video](#).

## **Investigators in the Pathogenesis of Infectious Disease**

Awards for assistant professors to study infectious disease pathogenesis, with a focus on the intersection of human and pathogen biology. This program is intended to shed light on how infectious disease systems work by encouraging assistant professors to take on fundamental biological questions at the intersection of human and microbial biology.

**Application Deadline:** November 1, 2013

Five-year awards provide \$500,000 for opportunities for accomplished investigators at the assistant professor level to study pathogenesis with a focus on the intersection of human and microbial biology. The program is intended to shed light on the overarching issues of how human hosts handle infectious challenge. The awards give recipients the freedom and flexibility to pursue new avenues of inquiry and higher-risk research projects that hold potential for advancing significantly the biochemical, pharmacological, immunological, and molecular biological understanding of how infectious agents and the human body interact.

For full grant details, please visit the [Burroughs Wellcome Fund website](#).

View the new [PATH video](#).

## **Innovation in Regulatory Science Award**

Awards to provide support for academic researchers developing new methodologies or innovative approaches in regulatory science that will ultimately inform the regulatory decisions the Food and Drug Administration and others make. This would necessarily draw upon the talents of individuals trained in mathematics, computer science, applied physics, medicine, engineering, toxicology, epidemiology, biostatistics, and systems pharmacology, to name a few.

**Application Deadline:** November 18, 2013

Five-year awards provide up to \$500,000 to support academic investigators who are addressing research questions that will lead to innovation in regulatory science, with ultimate translation of those results into improving the regulatory process.

Visit the [eligibility page](#) for more information.

## **Legislative and Regulatory Update**

### **SOT Sends Letter Regarding Federal Participation at Meetings to Heads of Executive Branch**

Laying out concerns in a two-page letter to the heads of various government agencies, SOT 2013–2014 President Lois D. Lehmann-McKeeman made an appeal about the way in which an Office of Management and Budget Memorandum, M-12-12, is being interpreted and implemented. The Memorandum concerns federal employee travel to conferences and meetings. Dr. Lehman-McKeeman pointed out that “attendance at scientific conferences, seminars, and meetings promotes federal agency interests as well as the professional development and competency of government scientists.” She noted that “Government scientists contribute broadly to the scientific program of our meeting (SOT Annual Meeting and ToxExpo), representing more than ten percent of all scientific papers and bringing appropriate regulatory and scientific perspectives to all of our keynote sessions and symposia.” In addition, she stated that reductions in their participation would “reduce the overall scientific quality of our meetings.”

Letters were sent to the director of the Office of Management and Budget, the National Institutes of Health, the

Secretary of the Department of Agriculture, the National Aeronautics and Space Administration, the Assistant Secretary of Labor for the Occupational Safety and Health Administration, the Secretary of Labor, the Commissioner of the US Food and Drug Administration, and the Administrator of the US Environmental Protection Agency. You can view the full [letter](#).

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## **SOT Past Presidents Speak Out on TSCA Reform Bill**

In a letter addressed to the Chair and Ranking Member of the Senate Committee on Environment and Public Works and the Chair and Ranking Member of the Subcommittee on Superfund, Toxics and Environmental Health, 20 Past Presidents of the Society of Toxicology (SOT) reported they agree that S. 1009, The Chemical Safety Improvement Act (CSIA), would create a systematic and transparent framework under which the US Environmental Protection Agency would assess the safety of chemicals in commerce. S. 1009 is a proposed approach to reforming the Toxic Substances Control Act (TSCA). The letter goes on to say that “The CSIA promotes use of best available science, fosters tiered testing and assessment, encourages development and application of advanced toxicological methods to reduce or replace lab animal studies where appropriate, and requires integration of exposure information to improve the understanding of the safety of chemicals under conditions of intended use.” The signatories go on to point out that as core emphases of toxicology, “these provisions of the CSIA form a solid foundation from which improvements to TSCA can be built.” In closing, SOT’s former leaders graciously offer to assist Congress in ensuring that “TSCA improvements fully reflect the principles and best practices of toxicology.” In addition to the 20 Past President who signed the letter, Past Presidents Joseph F. Borzelleca and Linda S. Birnbaum expressed their support for the letter. Dr. Birnbaum noted that her views do not represent the views of the National Institute of Environmental Health Sciences, National Institutes of Health, or the United States. [Read the letter in its entirety](#).

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## **Senate Environment and Public Works Committee Holds Hearing on TSCA**

Recently, the Senate Committee on Environment and Public Works held a lengthy hearing on Toxic Substances Control Act (TSCA) legislation entitled, “Strengthening Public Health Protections by Addressing Toxic Chemical Threats.” The Senate Committee focused attention on S. 1009, the Chemical Safety Improvement Act (CSIA), which was introduced by the late Senator Frank Lautenberg (D-NJ) and David Vitter (R-LA). The bill has broad bi-partisan support, but the hearing largely focused on some of the most contentious parts of the bill, which include preemption by states. Minority staff released a report the day before the hearing indicating that the “CSIA will never preempt the traditional state roles of regulating water quality, air quality, waste treatment, or disposal and does not preempt wholesale state regulatory programs.”

Under S. 1009, the United States Environmental Protection Agency (US EPA) would require manufacturers to develop new information if US EPA can show need in the context of an evaluative framework for chemical risk assessment and management. The bill also would require that US EPA screen all chemicals in commerce and assign each a high or low priority for risk assessment or require manufacturers to produce additional information. Under the bill, approximately 9,000 chemicals would be prioritized and the bill mandates that manufacturers substantiate some requests for protection of confidential business information from public disclosure.

Other issues included multiple requirements that US EPA develop policy frameworks for prioritizing, assessing, and managing chemicals, which some believe could be difficult and time consuming. Some concerns include adequate protection for vulnerable populations, need for more US EPA resources, and the lack of priority action on chemicals that are persistent, bioaccumulative, and toxic.

It has been speculated that Chair of the Committee Sen. Barbara Boxer (D-CA) may introduce her own version of TSCA reform legislation. She also has indicated she intends to keep TSCA reform legislation moving.

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## **Federal Travel Bill Before the Full House This Week: Voice Your Views or Concerns**

Earlier, SOT reported that the House Committee on Oversight and Government Reform had introduced legislation, H.R. 313, which is entitled, "Government Spending Accountability Act of 2013." The bill was reported out of that committee and is set to come before the full House for a vote this Wednesday or Thursday, July 31 or August 1.

Under this legislation, all conference materials that are presented by employees of any federal agency are to be posted on the agency's public website. These postings will include visual, digital, video, or audio materials as well as photographs, slides, and audio-visual recordings. In addition, the agency is limited to expending \$500,000 to support a single conference unless the head of an agency waives this limitation. This bill also mandates that no agency pay the travel expenses for more than 50 employees who are stationed in the US for any international conference unless the Secretary of State determines that attendance for such employees is critical to the agency's mission. Likewise, the agency is required to post on the public website a report on each conference that costs more than \$10,000 for which the agency paid travel expenses. The agency is obligated to post itemized expenses including travel, lodging, and meals and any other agency funds that were used to support the conference.

Other items that must be posted include the primary purpose, the location, and the date of the conference; a brief explanation of how the participation by employees from such agency advanced the mission of that organization; and the total number of individuals whose travel or other conference expenses were paid for by the agency. Moreover, the agency may not make or obligate to make expenditures for travel in an aggregate amount greater than 70 percent of the amount of such expenses for fiscal year 2010.

The bill also requires that each agency submit to the House Committee on Oversight and Government Reform and the Senate Committee on Homeland Security and Governmental Affairs a report that contains a justification for any expenses that were excluded. No later than September 30, 2013, the Director of Management and Budget shall establish guidelines to determine what expenses constitute travel expenses. These guidelines shall identify specific expenses and classes of expenses that are to be treated as travel expenses.

To express your views or concerns, please visit the [USA.gov website](#) to reach your Member of Congress.

SOT will continue to update you on all developments with respect to this legislation.

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## **Senate Approves FY2014 Appropriations Bill for HHS**

The Senate Appropriations Committee approved their version of the FY2014 Labor, Health and Human Services, and Education, and Related Agencies Appropriations Bill on a party line vote. Overall the bill provided for \$164.3 billion in discretionary spending for the US Department of Health and Human Services, Labor, and Education, which is \$7.8 billion above the FY2013 funding level BEFORE the sequester. For the National Institutes of Health, the bill provided for \$31 billion in FY2014, which would restore the sequester cuts, and is above the level requested by the President in his budget. The bill provided \$1.33 billion for the National Institute of Child Health and Human Development for FY2014. The summary of the bill from the committee can be found here on the [Senate website](#). In addition, you can access the accompanying [report](#). There is no indication yet as to when the House plans to mark up their version.

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## **Gina McCarthy Appointed Administrator of the US Environmental Protection Agency**

Gina McCarthy has recently been named the Administrator of the United States Environmental Protection Agency (US EPA). She was appointed by President Obama in 2009 as Assistant Administrator for the US EPA Office of Air and

Radiation. She previously served as the Commissioner of the Connecticut Department of Environmental Protection. For the past 30 years she has worked at both the state and local levels on critical environmental issues and helped coordinate policies on economic growth, energy, transportation, and the environment.

## **Russell Thomas Named Director of US EPA Office of the National Center for Computational Toxicology**

Russell Thomas of The Hamner Institutes for Health Sciences has been named Director of the Office of the National Center for Computational Toxicology of the US Environmental Protection Agency (US EPA). Dr. Thomas will assume this new position in September.

He brings to this position a wealth of leadership and research experience in toxicology, risk assessment, and molecular biology. Most recently, he served as the Director of the Institute of Chemical Safety Sciences at The Hamner Institutes, where he also held a number of other leadership positions including Director of the Center for Genomic Biology and Bioinformatics and Director of the Gene Expression Core. Since 2009, he has also held an appointment as an Adjunct Assistant Professor at the University of North Carolina at Chapel Hill in the Division of Pharmacogenomics and Individualized Therapy.

Dr. Thomas has an extensive publishing record, including numerous scientific articles and book chapters and he has received multiple professional awards for his work in toxicology and risk assessment. He earned his undergraduate degree in Chemistry at Tabor College, Hillsboro, Kansas, and a Masters of Science in Radioecology and Health Physics and a PhD in Toxicology at Colorado State University, Fort Collins, Colorado. He completed postdoctoral training in genomics and molecular biology at the McArdle Laboratory for Cancer Research in Madison, Wisconsin.

He has served on a number of professional boards and committees, including as the President of the Molecular Biology Specialty Section of the Society of Toxicology, as a member of the Emerging Issues Committee for the Health and Environmental Services Institute, and as a member of the Expert Advisory Panel for Safety Evaluation Ultimately Replacing Animal Testing, a Joint Program by the European Commission and European Cosmetics Association. He also served as a member of US EPA's Board of Scientific Councilors.

### ***Position Advertisement(s)***

## **SOT Job Bank, Your Source For Career Opportunities—NIOSH Director Featured Position**



The [SOT Job Bank](#) is your source for **Career Opportunities** in toxicology! Whether you are advancing your career or recruiting for an open position, the Job Bank can help.

### **Job Seekers**

Are you an SOT Member looking for career advancement? [Log in to the SOT Job Bank](#) today to browse our database of current, toxicology-related positions with a new or current registration. This service is free to SOT 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 there an opening in your organization that may be a perfect fit for an SOT member? Simply [click here](#) to get started by creating an Employer Account!\* Employers can browse resumes, contact active Job Seekers, and post all the information needed to recruit their next toxicologist! New Job Bank postings will be emailed to all enrolled job seekers within the first two weeks of posting in our bi-weekly digest.

Thinking about using the [SOT Job Bank](#)? Log in today to [browse the complete listings](#) or to [post your own position!](#)

## Featured Position

### Director, NIOSH-Health Effects Laboratory Division (HELD)

HELD has over 160 employees. Science disciplines are represented among branches of allergy and clinical immunology, biostatistics and epidemiology, exposure assessment, engineering and control technologies, pathology and physiology, and toxicology and molecular biology. Our staff works together, across disciplines to enhance scientific understanding. All teams are located in a new state-of-the-art facility in West Virginia.

The Director of the Health Effects Laboratory Division (HELD) is responsible for improving existing programs in scientific investigation of worker populations; developing intervention programs that lead to the prevention of disease and death in the workplace; and providing the flexibility for future changes in research goals and needs. The Director plans, develops, manages, and evaluates a comprehensive program to reduce and prevent workplace related injuries, illnesses, and premature death caused by exposure to workplace hazards by leading efforts to identify causal mechanisms and potential interventions.

\*Or have your HR recruiter contact [SOT Headquarters](#) for more information.

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## Career Opportunities Are at Your Fingertips at SOT Job Bank: FDA Systems Biology Director Featured

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 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 nonmembers.

You may activate your Job Bank account to allow your *curriculum vitae* 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 the Society of Toxicology? Simply [register online](#) 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**

### **Director, Division of Systems Biology, US Food and Drug Administration (US FDA)**

The Division of Systems Biology is focused on using new approaches to solve problems that have a detrimental effect on human health. Studies are conducted to identify important translational biomarkers and pathways of responses that provide predictive, diagnostic, and prognostic value in both the preclinical testing of compounds and the management of patients. An integrated systems biology strategy utilizing genomics, metabolomics, and proteomics technologies is being applied to questions related to the safe and effective use of US FDA-approved drugs and devices, and the toxicity of tobacco products.

As Director for the Division of Systems Biology, the incumbent will provide leadership, managerial oversight, and direction for all research-related activities within the Division. The incumbent will address Agency scientific issues using a systems approach that links data from “omics” technologies with *in-vivo* data to provide a comprehensive mechanistic assessment. The incumbent will also provide expertise to NCTR/ US FDA scientists responsible for directing various model systems used to address critical issues including hepatotoxicity, cardiotoxicity, developmental toxicity, and disease and toxicity/disease susceptibility.

\*Or have your HR recruiter contact [SOT Headquarters](#) for more information.