

ONLINE



Communiqué

Spring Issue 2014

SOT News

President's Message



President
Norbert E. Kaminski

May marks the official time of the transition of our Society's leadership. This past year was both an honor and pleasure to work with Lois D. Lehman-McKeeman, our outgoing President, as well as with Council and SOT Membership. Going forward into 2014–2015, I am both enthused by how active our membership is within the Society as well as humbled by the honor to serve as this coming year's president. In this first of four *Communiqué* messages during the next twelve months, I would like to recap several highlights from this past Annual Meeting as well as briefly discuss initiatives for the coming year in the areas of strategic planning and continuing education.

The 53rd Society of Toxicology (SOT) Annual Meeting, held in Phoenix, Arizona, was a remarkable success, both with respect to the science presented and total attendance. The Annual Meeting featured over 162 scientific sessions, 13 continuing education courses, 2,524 posters with a total of 2,890 abstract submissions. Total attendance for the 2014 Annual Meeting was 6,509, the third highest attendance in the history of the SOT.

This also was the second year, in which attendees had the opportunity to view the Annual Meeting *Program*, as well as organize their meeting schedule, on a smart phone, iPad, or tablet using an electronic app. A new feature of this year's Annual Meeting Mobile Event App was the ability to upload as well as view electronic copies of posters. Approximately a quarter of the posters presented in Phoenix also were uploaded for electronic viewing. Attendees had the ability to preview posters prior to viewing them at the Convention Center or, if faced with a scheduling conflict, could still view the science that was being presented. To further enhance electronic viewing of posters, a viewing station with large screen displays was provided within the ToxExpo Exhibition Hall. As with all new technologies, continued improvements will be made to the app for the coming year in response to comments and suggestions by meeting attendees. Certainly not having to carry the large and heavy print copy of the Annual Meeting *Program* for four consecutive days was a pleasure.

A major focus for Council in the coming year will be to conduct a comprehensive review of the SOT Strategic Plan. The SOT annually updates and also periodically reviews its strategic plan. In essence, the strategic plan is "evergreen, continuously evolving and changing. Since the last periodic review, our discipline and Society has experienced many changes, some of which necessitate consideration by SOT since they impact us as a society. Arguably, some of the most profound changes have been the technological innovations that in turn continue to drive advancements in the sciences at an ever-increasing pace. These advancements continue to impact and expand the boundaries of how we approach toxicology as a discipline.

Likewise, SOT has experienced changes in membership demographics, including an increase in international members. There also has been a heightened awareness worldwide of toxicological issues, which often also are coupled to

environmental impacts. In addition, economic pressures have decreased resources for basic and applied research including toxicology-related research. The aforementioned are only a few of the ongoing changes that continue to influence SOT and the discipline of toxicology. To best position SOT for the next four years, Council will be seeking member input in the summer of 2014 and conducting a facilitated Council strategic planning retreat in September. The details of the 2015–2018 plan will be shared with the SOT membership in March 2015.

A second focus for Council in the coming year will be to continue to enhance SOT's Continuing Education (CE) programs. Continuing education is an important member service and consonant with the basic core values of the SOT. Under Dr. Lehman-McKeeman's leadership this past year, many enhancements in CE were implemented, including offering seven CE courses by remote access and two as live webcasts. In addition, five CE courses presented at this year's Annual Meeting are being made available online. To be explored in this coming year will be the feasibility as well as the interest of our membership in new CE learning opportunities outside of the Annual Meeting. Historically, SOT CE courses have been offered in conjunction with the Annual Meeting. In the coming year, Council will consider ways in which CE courses could be offered including through live webcasts and/or at designated locations as one day or day and a half courses periodically during the year. These new offerings would be in addition to the traditional courses provided at the Annual Meeting.

In closing, I look forward to a productive year and the opportunity to work with you to continue to enhance the SOT and the services it provides.

Norbert E. Kaminski, PhD
2014–2015 SOT President

Global Senior Scholar Exchange Program Scholar Application Deadline June 15

The Society of Toxicology (SOT) invites applications from toxicologists in [Developing Countries](#) for one of two Global Scholar positions available in 2014–2015. The deadline for [Scholar applications](#) is June 15, 2014.

The Scholar will attend the 2015 SOT Annual Meeting and spend about 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 mid-career to senior scientists through relationships supported by SOT. The Scholars who are selected are expected to build on this opportunity by strengthening toxicology within their universities and countries.

Previously Scholar applications were due in the fall; this will be the only Scholar application deadline for this year. When the next Scholars are announced, applications will be sought from potential Hosts with related interests and established toxicology programs around the world. With the new earlier application deadline, more time will be available for Hosts to prepare applications and for matching of interests. [Host applications](#) will be due September 16, 2014. The program provides up to \$15,000 for each pair, with up to \$10,000 travel support for the Scholar and \$5,000 for the Host. Support is not provided for equipment, laboratory supplies, or renovations.

More information about the Global Senior Scholar Exchange Program, including the application forms and a list of previous recipients, is available on the [SOT website](#).

SOT Global Initiatives Include Participation in the West African SOT Meeting

From the time the plane landed and we stepped onto Nigerian soil, the compassion and hospitality began. The friendship and warmth of our host,



Orish Orisakwe, the inaugural 2012 SOT Global Scholar winner, met us with a smile and open arms that quickly put the stress of our long trip and the many required vaccinations behind us. Our accommodations were delightful and we got to experience a wide variety of local food and drink. “Point and kill” was a unique mechanism by which one’s dinner could be selected. In this case, one points to a fish in the bucket and within minutes it is served hot in any one of a number of different appetizing scenarios, the best being hot and spicy fish soup.

That, along with the palm wine, made for a delightful meal. Pictured at the left are the dancers who welcomed attendees on the second day of the meeting.

SOT members Judith T. Zelikoff, Alvaro Puga, and José E. Manautou were joined by Catherine B. Klein, past president of the Environmental Mutagenesis and Genomics Society (EMGS), to attend the third annual West African Society of Toxicology (WASOT) Conference, held from February 19–22, 2014 at the University of Lagos campus in Akoka, Nigeria. It was an amazing scientific meeting that attracted over 100 scientists, students, and postdoctoral trainees. The theme of the 2014 conference was “Global Understanding of Chemicals in Health, Diseases, and Economics” with six sub-themes ranging from environmental pollution and risk assessment to herbal medicine.



Pictured above are SOT visitors and hosts including (from left to right) Alvaro Puga, Orish Ebere Orisakwe (WASOT President), José E. Manautou, Judith T. Zelikoff, Catherine B. Klein, Kingsley Patrick-Iwuanyanwu (WASOT Assistant Secretary), and Babatunde Bolaji (WASOT, Publicity and Financial Secretary). Dr. Puga was the keynote speaker, and scientific lectures, along with presentations on grantsmanship, careers in toxicology, and a “Day in the Life of a Toxicology Researcher,” were given by all four US toxicologists over the three days.

Amongst the many lectures from Nigerian scientists and students were numerous posters for viewing. The poster presentations were all outstanding and three top winners were selected who each received a cash prize. Pictured at the left are some of the scientists who participated in the WASOT Meeting. Moreover, there was a surprise awaiting us during the meeting when we were all escorted to a radio station with a listening audience of 16 million, for this [interview](#) live about the meeting and environmental issues that face Nigerians. Following the scientific meeting, a cocktail hour and dinner reception were held for the attendees and invited guests.

After the meeting, the four US scientists toured Lagos and visited a huge E-waste recycling center that did much to capture our imagination. E-waste is a serious issue (pictured below at the left). After electronics have been picked over, the material is burned to reduce the surface area of the pile (pictured at right below).



The WASOT Executive Board profoundly thanked SOT for contributing to this meeting and helping to make it a success. The Subcommittee for Non-SOT Meetings provided Global Initiatives Funding for Drs. Puga and Manautou to attend WASOT and also generous financial support.



Dr. Zelikoff received Global Senior Scholar Exchange Program funding to go to Nigeria as the Host for Scholar Dr. Orisakwe. One of the other outcomes of the exchange is the recent publication of Orisakwe OE, Blum JL, Sujak S, and Zelikoff JT. (2014) [Metal Pollution in Nigeria: A Biomonitoring Update](#). *J Health and Pollution* 4(6):40-52

Overall, the trip to Nigeria provided each of us with eye-opening experiences, as well as many opportunities to meet and discuss toxicology with outstanding West African scientists and students. Prior to departing, we were welcomed into the home of the Dean for Graduate

Studies from the University of Lagos, which set the stage for beginning scientific collaborations with our new global colleagues. There was much to give—and much to learn—in Nigeria and I think another trip is definitely on our horizon.

Njala University Welcomes SOT International ToxScholar



Jennifer Galvin is pictured center in the photo above

Jennifer Galvin, retired Global Manager of Industrial Hygiene and Toxicology, ConocoPhillips, Bartlesville, Oklahoma, was one of this year's recipients of the Society of Toxicology (SOT) International ToxScholar Outreach Grants. Dr. Galvin used the grant to promote toxicology at Njala University in Sierra Leone. Njala University is a public university, the second largest in Sierra Leone, with approximately 25,000 students and two campuses, one on Bo and a second in Njala. The Bo campus has three schools, Education, Community Health Services, and Social Sciences.

During her visit January 20–23, 2014, Dr. Galvin gave a talk entitled “The Science of Toxicology and Why It Is Important” to students and faculty at the Bo campus. A second presentation entitled “Career Pathways in Toxicology” was given to upper classmen and faculty. As detailed in her personal [blog](#) describing her trip, not only was her visit impactful for the university, it opened doors for future collaborations and also provided SOT with important insights about the complexities of health issues related to toxicology that the Sierra Leonians have to address.



Class at the Njala University Bo campus

Applications for the 2014–2015 [International ToxScholar Outreach Grants](#) are due October 9, 2014.

Issues Faced by International Postdocs

This year the Postdoctoral Assembly (PDA) convened a team of postdocs to discuss the many issues presented to international postdocs, and charged them with compiling a useful list of resources to aid postdocs in transitioning to life in a new country. The PDA International Postdoctoral Taskforce included: Sindhura Ramasahayam, Smitha Infante, Andaleb Kholmukhamedov, and Alicia Bolt. Please see the results of their findings below.

The majority of postdoctoral scholars (60 percent) are foreign nationals. The largest numbers of scholars come from Europe, Australia, China, India, South/Latin America, and African and Middle Eastern countries. International postdocs and mentors often are faced with distinct challenges such as immigration, cultural, and communication barriers. It is extremely important to address these challenges. The National Postdoctoral Association (NPA) has recognized a few of these issues and provided necessary solutions to these challenges as summarized below.

Immigration Issues

One of the most sensitive issues for international postdocs is visa status, which can be a tedious, expensive, and confusing endeavor. There are different types of visas (F-1, J-1 H-1B, etc) available that determine the duration of stay and whether or not a spouse can obtain employment authorization. It is crucial for the postdoc and the mentor to understand the important deadlines and requirements in advance so that the status of the trainee is never jeopardized during the length of the training period. Also, it is important to stay abreast of any changes in immigration and visa policies.

Transitioning to Life in the US

Acclimating to a new country and understanding the culture might be overwhelming for international postdocs. Institutions should provide assistance to the new trainees in terms of housing suggestions, information on setting up bank accounts and utilities, obtaining a Social Security number, understanding tax issues and legal matters, mentoring advice, safety, and transportation.

Dealing with Communication Barriers

Communicating with peers or mentors as well as trying to understand social and workplace etiquette also might be challenging initially. Although a few of the international postdocs may be fluent in English, there will be others who will need to further this skill by taking English as a Second Language (ESL) as offered by many institutions. The inability of the postdoc to communicate with the mentor might potentially hinder the postdoc's capability to prosper. Learning to communicate well will help postdocs become better professionals.

SOT PDA Resources for International Postdocs

1. The NPA has a great [resource list](#) on their site, including information on visa status, legal seminars, income taxation, and mentoring advice.
2. NPA also has a very useful document entitled "[International Postdoc Survival Guide](#)."
3. North Carolina State University (NCSU) has a great webpage with resources, including translator services, detailed guides of what to do upon arrival to the US, obtaining housing and utilities services, getting a driver's license as well as a Social Security Number. The webpage is [On- and Off-Campus Resources for International Postdocs](#).
4. [Stanford University's international Postdoc webpage](#) is very useful. This webpage provides links to workshops and seminars that are held on campus for their postdocs as well as PDF files of the workshop presentations that include numerous useful links that would be of interest to international postdocs. Topics include items such as tax information, spouse/partner information, and scholarship information.
5. Below are additional links to postdoctoral fellowships for noncitizens:
 - a. The Rockefeller University has compiled a list of [Postdoctoral Fellowship Funding Sources](#).
 - b. A lab website from [Brandeis](#) includes funding for non-US-citizens, European citizens, and research exchange programs.
 - c. The Smithsonian has two or three [postdoc fellowships](#) that are open to everyone.
 - d. The National Institutes of Health (NIH) provide fellowships open to non-US citizens:
 - i. [Postdoctoral Training in the NIH Intramural Research Program: Postdoctoral Research Training Awards \(IRTAS\) and Visiting Fellowships](#)
 - ii. [Postdoctoral Training in the NIH Intramural Research Program: Postdoctoral Research Training Awards \(IRTAS\) and Visiting Fellowships](#)

Links to these and other non-SOT resources for postdocs can be found on the [SOT website](#).

Securing Our Strong Partnership With NIEHS

I am pleased to report that, today, I joined NIEHS Director and SOT Past President Linda Birnbaum to sign a memorandum of understanding (MOU) between SOT and NIEHS.

SOT has had a strong relationship with NIEHS for many years, as the institute's mission "to discover how the environment affects people in order to promote healthier lives" aligns very closely with our mission of improving human and environmental health through toxicology. Almost 100 SOT members are employed within the NIEHS, and the institute has been an active participant and sponsor of sessions at the SOT Annual Meeting and other events.



Because of these close connections, it seemed only natural for SOT and NIEHS to formalize our robust, working relationship. By signing a MOU with NIEHS, SOT has committed to “pursue collaborative efforts such as liaison communications, partnerships, and events that promote best practices associated with common interests and missions” in efforts to “improve the identification, characterization, and prevention of environmentally related disease.”

Essentially, SOT and NIEHS will be proceeding as we always have: working together to improve environmental health. The only difference is that we now have a public document acknowledging this beneficial and profound partnership. My thanks go to Director Birnbaum and her team for supporting and joining us today.

SOT’s Financial Operations Are in Good Order—Report from the Audit Committee

It has been my pleasure to be the Chair of the SOT Audit Committee for the 2013–2014 term. This is an important job in SOT, but fortunately because of strong internal controls and a solid bank balance, it is not stressful. Although not-for-profit organizations are not specifically required by Sarbanes Oxley regulations to have an audit committee, SOT’s independent auditors and Finance Committee felt that establishing such a group would further enhance SOT’s internal controls, so in 2008 SOT established an Audit Committee. The Committee has the responsibility of examining the processes, procedures, and controls in place for the daily financial operation of the Society; engaging the independent auditors; and otherwise overseeing the annual independent financial audit.

The accounting firm of Dixon, Hughes and Goodman (DHG) performed the 2013 audit. The financial statements were found to be “fairly stated” and the audit was “clean,” meaning that it did not include a management letter with recommendations for enhancements of accounting practices. Because the Society’s journal, *Toxicological Sciences* (*ToxSci*) is published by Oxford University Press (OUP) with financial records kept in the UK, the SOT audit was qualified for those accounts, which were not audited. In 2012–2013, the Audit Committee engaged DHG to travel to the OUP offices in Oxford, UK to review the *ToxSci* records and processes. The audit revealed no concerns and the few suggestions for enhancement of internal controls have been sent by the Audit Committee to OUP.

In the fall of 2013, Kim Boekelheide, Audit Committee member, and I traveled to SOT Headquarters for the bi-annual evaluation of office financial practices. We met with the staff, starting with the receptionist who logs in the checks received by mail, and including the registration and endowment record manager, the e-commerce manager, and the Director of Accounting. We discussed accounting controls, procedures for archiving financial data, and routine back-up procedures for protecting the integrity of the data, as well as procedures for risk management. All was in excellent order. To complete the 2013 Audit Committee review, Jim Klaunig reviewed our Morgan Stanley investment statements and reported that the policies and procedures for SOT investments were being followed as specified per fund in the SOT Financial and Investment Policies.

Overall, Society members can rest assured that the Society has an excellent system of accounting checks and balances and that its financial operations are in good order.

SOT Supports 2014 Summer Internships at Five Institutions

SOT Council directs resources to important strategic activities, and a high priority for the SOT and the Education Committee is to encourage research experiences for undergraduate students. Research experiences are excellent motivators for graduate school and careers in toxicology. Five institutions hosting interns this summer will receive funding from SOT to match half of the cost for SOT-supported interns. Three intern hosts also received SOT funding last year, including William Atchison at Michigan State University, Craig Marcus at Oregon State University, and Lauren Aleksunes at Rutgers University (see [previous blog](#) to read about these students). Additional research organizers receiving funding for summer 2014 include Ken McMartin at Louisiana State University Health Sciences Center in Shreveport and Nysia George at the National Center for Toxicology Research.

Research experiences for high school, undergraduate, and graduate students are listed at [Student Research Internships in Toxicology](#). Please send information about your internship program to [Betty Eidemiller](#) so that it may be included. We also would appreciate contact information for interns so that we can connect them to other opportunities through SOT.

Non-SOT Publications of Interest & Discounts Provided on SOT Website

The [SOT Publications of Interest & Discounts](#) is a comprehensive listing of all submitted scientific publications as well as discounts offered to SOT members on specific journals and books.

We invite you to submit a [Non-SOT Publication Listing](#) to the SOT website. Only publications related to the field of toxicology or pertinent to science are permissible. All submissions are reviewed and approved before they display in the Publications of Interest.

Discounts on References and Textbooks or Other Society Journals

SOT Members are eligible to receive discounted rates for the following:

- [Environmental Risk Assessment: A Toxicological Approach](#)—SOT members are eligible to receive a 20% discount when they enter promo code BMN29 at checkout.
- [Handbook of Toxicology, Third Edition](#)—SOT members are eligible to receive a 20% discount when they enter promo code CMN57 at checkout.
- [Human and Ecological Risk Assessment](#)—\$45 USD available to all SOT members for both the print and online versions of the journal.
- [Nanotoxicology: Progress toward Nanomedicine, Second Edition](#)—SOT members are eligible to receive a 20% discount when they enter promo code CMN58 at checkout.
- [Ovarian Toxicology, Second Edition](#)—SOT members are eligible to receive a 20% discount when they enter promo code JMM28 at checkout.
- [Principles of Toxicology Testing, Second Edition](#)—SOT members are eligible to receive a 20% discount when they enter promo code JMM29 at checkout.
- [Reproductive Toxicology](#)—\$110 USD available to reproduction and development section.
- [Toxicologic Pathology: Nonclinical Safety Assessment](#)—SOT members are eligible to receive a 20% discount when they enter promo code GMM44 at checkout.
- [Toxicology and Applied Pharmacology](#)—\$120 USD available to all SOT members.

Recording of PDA Webinar on Toxicology Board Certifications Is Available

The Postdoctoral Assembly (PDA) would like to announce the amazing success of their most recent career development webinar, “Toxicology Board Certifications across Sectors: The Benefits of Certification in the Job Market and for Career Development” with over 180 SOT members participating! The recording is now available on the [PDA website](#).

Coordinated and hosted by 2013–2014 PDA Councilors Katie Paul and Rhiannon Hardwick, speakers included Virginia C. Moser, US Environmental Protection Agency; Janis E. Hulla, US Army Corps of Engineers, Sacramento District; James C. Lamb IV, Exponent®; and José Manautou, University of Connecticut. The webinar covered the pros and cons of board certifications for toxicologists, including becoming a Diplomate of the American Board of Toxicology (DABT) and a Fellow of the Academy of Toxicological Sciences (ATS).

The primary goal of the webinar was to present how board certification may be beneficial to career development across multiple sectors of toxicology. The speakers provided excellent advice on how to achieve board certification and the optimal timing to do so for different career paths. In addition, they shared personal descriptions of how being a DABT or Fellow of ATS has advanced their individual careers.

We encourage all SOT members that may have missed the webinar to view the recording, and thank all who participated for stimulating excellent discussions!

Bring in the Spring!—Upload or Update Your ToXchange Profile Picture Today!

Spring is the time of year to clean out your car, update your resume, or even get a brand new haircut for the warmer weather. There is no better way to show off your new haircut than by sharing it on ToXchange in your profile picture, like I did! No matter how you decide to bring in the spring, take a moment and make sure that uploading or updating your profile picture is one of them!

Here’s how:

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.

This is what your “My Page” looks like:

The screenshot shows the ToXchange website interface. At the top, there is a navigation bar with 'Home', 'Members', 'Member CVs', 'Blogs', and 'Communities'. Below this is a search bar and user options. The main content area is titled 'MyPage for Ashley Pomper'. On the left, there is a profile picture placeholder and a 'Badges' section. The central part of the page is divided into two tabs: 'Contact Information' and 'Demographic Information'. The 'Contact Information' tab is active, displaying fields for Full Name, Company, Job Title, Department, Address, Email, Phone, and Fax. The 'Demographic Information' tab shows SOT Leadership, Join Date, Member Type, SOT Honors, and Other Honors. On the right, there is a 'About this MyPage' box with instructions on how to share information and a 'Go to Your MyPage' button. At the bottom, there are 'Add Widget' buttons and a copyright notice for 2014 Society of Toxicology.

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 your question in the space provided and we’ll write a response to assist you.

ToXchange—It’s Your Network!

Note From the SOT Nominating Committee Chair

The Society of Toxicology (SOT) election results are in and once again, SOT is assured of talented and committed leadership. Have you ever wondered how candidates for SOT ballot are selected? As a graduate student, this certainly crossed my mind and now, after completing my service as the Chair of the 2013–2014 Nominating Committee, I can tell you.

To start the process, the Regional Chapters, Special Interest Groups, Specialty Sections, Past Presidents, and President put forward candidates, from which the SOT voting members elect a Nominating Committee. This representative Nominating Committee helps ensure that the ballot is comprised of individuals from a variety of scientific, geographic, and other demographic sectors. The goal is to bring a diversity of thought and perspective when developing the SOT ballot.

In the summer, the Nominating Committee solicits nominations from the membership, reviews stacks of member volunteer service lists, and puts forward the names of individuals they think have provided stellar service to the Society. For me, looking at hundreds of pages of member volunteer names was a very humbling experience. Each member of the

Nominating Committee is asked to select 5–10 names for consideration for each position.

In the fall, the Nominating Committee meets at the SOT Headquarters office and puts together a list of candidates for each elected position based on the names submitted by the Nominating Committee. The candidates for elected committees (Awards and Fellowship) come from the lists of members who have served SOT as leaders in Regional Chapters, Special Interest Groups, Specialty Sections, *Toxicological Sciences*, Graduate Student and Postdoctoral leadership positions. The SOT Council candidates are drawn from those lists, plus the elected committee lists, and Secretary- and Treasurer-Elect position candidates include members with previous Councilor service. The Vice President-Elect, for which the learning curve is very steep, most often has served on Council previously.

After a day of comparing notes and doing research, the Nominating Committee creates a final slate, making adjustments for balance and also to ensure that SOT is building a strong and diverse pool of candidates for future service. Often, the slate contains some if/then scenarios to prevent situations such as multiple candidates from one organization running against each other.

As Nominating Committee Chair, I was able to call the proposed candidates to confirm that each would serve if elected and to make certain they understood the time commitment. SOT is very lucky. Most candidates wanted to serve and those that didn't often cited extenuating circumstances and asked to be considered in the future.

Each year, before January 1, a ballot that is composed of extraordinary members who for many years have worked for the science and Society, is sent to voting members, from which they are able to select the candidates they think will best help SOT to reach its objectives.

I don't know many other groups with such a rigorous process and I believe that this is a primary reason for SOT's success. We have many highly qualified committed volunteers who through years of service to SOT learn the organizational culture, values, and objectives. From this group, the ballot candidates are selected and then elected. It is very rare that someone who is elected cannot fulfill his or her obligations, more often, the elected members exceed expectations and go beyond what has been done to ask what else can be done! How great is that?

So, the next time you wonder how candidates for Council are selected, remember that you, too, can be on the ballot through your outstanding service in Regional Chapters, Special Interest Groups, Specialty Sections, Graduate Student and Postdoctoral leadership positions, editorial boards, committees, task forces, and Annual Meeting participation.

My years on SOT Council were some of the most meaningful in my professional life. Even though we come from diverse backgrounds, the overriding concern was always what is the best decision for our Society. We worked very hard to ensure our Society's Vision and Mission will be sustained. We also developed great friendships that I will cherish throughout my life. So when the call comes to serve, I hope you will enthusiastically say Yes!

SOT Affiliates Support the Society and Reap Many Benefits

Do You Want to Increase Your Visibility at the SOT Annual Meeting?

Are You Hiring?

Have You Considered Becoming An SOT Affiliate?

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."

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.

- Access to member-restricted information on the SOT website.
- Reduced rate for SOT Job Bank services.
- Complimentary Annual Meeting registration for one attendee.
- Prominent listing on the SOT website, in the SOT *Membership Directory*, and Annual Meeting signage and materials, including the *Preliminary Program* and *Program*.
- SOT Member Publications, including Annual Meeting information and the newsletter, *Communiqué*.
- Complimentary room rental for one meeting at the SOT Annual Meeting.
- 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](#).

Around the Interwebs:

Around the Interwebs—Week of May 11, 2014

The Society of Toxicology has a new issue statement on hydraulic fracturing available, while our members had research published in *Environmental Health Perspectives*, *Toxicological Sciences*, and *Particle and Fibre Toxicology*. Let's see what they have found.

SOT News



The June 2014 issue of [Toxicological Sciences](#) features a forum article titled “The Role of Toxicological Science in Meeting the Challenges and Opportunities of Hydraulic Fracturing.” This paper is the culmination of work conducted by an SOT Council-appointed group tasked with developing materials that present a toxicological perspective on the issue of hydraulic fracturing. An executive summary of the paper can be found on the SOT website’s [Issue and Position Statements page](#).

SOT Member Research

Ruthann A. Rudel and colleagues have published new research aimed at identifying exposure biomarkers for use in studying and preventing breast cancer. The paper in [Environmental Health Perspectives](#) outlines 17 chemicals or chemical groups that the authors’ research suggests be a high priority for study, biomonitoring, and exposure reduction.

New research by **Joseph A. Cichocki**, **Gregory J. Smith**, **John B. Morris**, **Alan R. Buckpitt**, and **Laura S. Van Winkle** tries to discover the cause of toxicological response differences to naphthalene between male and female rats. In the [Toxicological Sciences](#) paper, they find that “Although speculative, sex differences in the Nrf2-ARE antioxidant response to naphthalene may contribute to the sex difference in the carcinogenic response.”

In a newly published [Particle and Fibre Toxicology](#) paper, **Justin Teeguarden** and colleagues present new information on *in vitro* nanotoxicology assays, finding that the agglomerate characteristics of nanoparticles affect the dose delivered to cells.

SOT Members in the News

David L. Eaton is quoted in an [International Business Times](#) story on Samsung’s apology to the families of South Korean workers who have died from cancer in recent years. Some claim that the company’s work conditions in manufacturing its computer chips has led to an unusually high number of cancer deaths. Dr. Eaton provides perspective on the effects of benzene, one of the solvents used in Samsung’s manufacturing process.

Science Headlines

- [Yale researchers identify gene that causes obesity-related metabolic syndrome](#) (*Yale University*)
- [NIH Takes Steps to Address Sex Differences in Preclinical Research](#) (*NIH*)
- [Oblivious to Science](#) (*Chemical & Engineering News*)
- [Statins: BMJ investigates claims over side effects](#) (*BBC News*)
- [Do You Know Who Grows Your Food?](#) (*EPA Connect*)
- [Bee Deaths Prompt Calls for US to Follow EU Pesticides Ban](#) (*Bloomberg Businessweek*)
- [Senators Call on FDA to Protect Users and Bystanders from Release of Harmful Chemicals from E-Cigarettes](#) (*US Senate Committee on Health, Education, Labor & Pensions*)
- [PhRMA Warns US Could Lose 149,000 Jobs](#) (*Genetic Engineering & Biotechnology News*)
- [Release of Final Policy Assessment Document Related to the Review of the National Ambient Air Quality Standards for Lead](#) (*US Federal Register*)
- [Farm sludge contaminates soil with drugs, other chemicals](#) (*Environmental Health News*)
- [Possession, Use, and Transfer of Select Agents and Toxins; Biennial Review, Technical Amendment](#) (*US Federal Register*)
- [Shire Acquires Lumena for \\$260M+](#) (*Genetic Engineering & Biotechnology News*)
- [Pfizer admits takeover of AstraZeneca would lead to cuts in UK jobs and R&D](#) (*The Guardian UK*)
- [Frogs' immune systems weakened by chemicals, study finds](#) (*Environmental Health News*)
- [Request for Information: The National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods Requests the Nomination of Reference Chemicals](#) (*US Federal Register*)
- [Companies, universities and charities vow to reveal more on animal testing](#) (*The Guardian UK*)
- [Draft Guidance for Industry on Clinical Pharmacology Data to Support a Demonstration of Biosimilarity to a Reference Product; Availability](#) (*US Federal Register*)

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

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

Around the Interwebs—Week of May 4, 2014

SOT members were busy this week, as interviews appeared in diverse outlets, from *TIME* to *Environmental Health Perspectives*. It was also a big week for science news, as news continues to develop in the UK regarding Pfizer and AstraZeneca and chemical and science funding and regulation remains a hot topic.

SOT Member Research

Nicknamed ecstasy (pictured at right) on the street, 3,4-(±)-methylenedioxymethamphetamine (MDMA) is the subject of the May 2014 [Toxicological Sciences](#) Editor's Highlight. The research by members Joseph M. Herndon, Aram B. Cholanians, Lucina E. Lizarraga, Serrine S. Lau, and Terrence J. Monks looks at the role catechol-O-methyltransferase (COMT) plays in the fraction of MDMA that is converted to potentially neurotoxic metabolites.



Nancy Kerkvliet and her colleagues at Oregon State University have discovered a chemical compound that may help treat autoimmune disorders. As reported in NIEHS' [Environmental Factor](#), Dr. Kerkvliet and team made the discovery while studying a known toxicant called TCDD, displaying how basic toxicology research can have a wide influence.

Lisa M. Diehl explains her research on the effects of Isoproterenol HCl and Moxifloxacin HCl on cardiovascular, ECG, and blood pressure parameters in an audio podcast made available by [Charles River](#).

SOT Members in the News

A recent [TIME](#) article delved into the topic of microbeads, examining what research has and has not discovered about their effects on the environment. Jay Ansell provides a toxicological perspective of microbeads in the piece.

In April, National Institute of Environmental Health Sciences and the Energy Future Coalition held a workshop to discuss the health impacts of ultrafine particles from vehicle emissions. SOT Past President Linda Birnbaum helped moderate the event, while Dan Costa and Andre Nel served as speakers. NIEHS' [Environmental Factor](#) covered the workshop and discussion topics.

A new [Environmental Health Perspectives](#) feature contains quotes and research from many SOT members, including Aaron Barchowsky, Samuel Monroe Cohen, Joseph H. Graziano, and Susan Griffin. The article explores arsenic research, focusing specifically on the dose-threshold of the element.

As announced by the [George Washington University School of Medicine & Health Sciences](#), Nikki Posnack received a \$209,926 grant from the NIEHS to study plastics and their potential human health risks, particularly in the cardiovascular system. This grant will support the study of bisphenol A (BPA) and di-2-ethylhexylphthalate (DEHP), specifically.

Nancy B. Beck discusses the challenges for improving risk assessments with Robinan Gentry and Julie E. Goodman in the American Chemistry Council's [American Chemistry Matters](#) blog.

Science Headlines

- [A Path to 21st Century Cures](#) (*US Energy and Commerce Committee*)
- [White House Science Adviser Criticizes FIRST Act](#) (*Science Insider*)
- [US city health officials want tighter restrictions on e-cigarettes](#) (*Reuters*)
- [In letter to Obama, chemical industry groups see no need for further regulation](#) (*The Dallas Morning News*)
- [EPA Hasn't Shown Its Tests Can Detect Endocrine Disruptor Harm, Critique Says](#) (*Bloomberg BNA*)
- [Why Congress Can't Fix Our Crazy Chemical Safety System](#) (*National Journal*)
- [Food Fights: To address online consumer activism, food makers are advised to embrace openness](#) (*Chemical & Engineering News*)
- [Pfizer Mulls Options After AstraZeneca Snub](#) (*Drug Discovery & Development*)
- [The Next Frontier in the War Over Science](#) (*The Huffington Post*)
- [Settlement to remove suspected carcinogen from some cosmetics](#) (*KPCC Southern California Public Radio*)
- [German research agencies condemn animal-rights attack on neuroscientist](#) (*Nature*)
- [Two New Centers of Regulatory Science Excellence Launched by FDA](#) (*Regulatory Focus*)
- [Nanotube-Infused Clothing May Protect Against Chemical Weapons](#) (*National Institute of Standards and Technology*)
- [Nanopesticides: Guiding Principles for Regulatory Evaluation of Environmental Risks](#) (*Journal of Agricultural and Food Chemistry*)
- [EPA delays formaldehyde rules for composite wood](#) (*The Hill*)
- [Breakthrough in Artificial Genetic Code Could Lead to Custom Drugs](#) (*Discover*)
- [EPA weighs rule requiring disclosure of fracking chemicals](#) (*The Hill*)
- [Genetically modified foods confuse consumers](#) (*Associated Press*)
- [Berkeley Lab Develops Nanoscope to Probe Chemistry on the Molecular Scale](#) (*Lawrence Berkeley National Laboratory*)
- [Health: Are Octopuses Rocking Too Much Heavy Metal?](#) (*Scientific American*)
- REPORT: [Review of EPA's Integrated Risk Information System \(IRIS\) Process](#) (*The National Academies Press*)

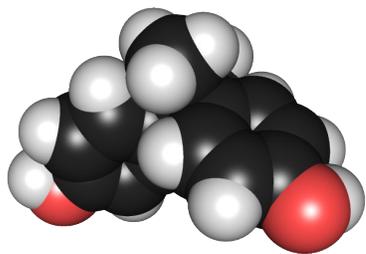
To stay abreast of these types of items throughout the week, be sure you ["like" SOT on Facebook](#) and ["follow" SOT on Twitter](#).

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

Around the Interwebs—Week of April 27, 2014

Awards, press interviews, research! SOT members were involved in a plethora of activity this week.

SOT Member Research



SOT members had a few different studies on BPA published in the last few weeks. In the [Journal of the American Heart Association](#), Frank J. Gonzalez and Changcheng Zhou look into links between BPA and risk of cardiovascular disease, finding that BPA increases atherosclerosis in pregnane x receptor-humanized ApoE deficient mice. Meanwhile, [University of Cincinnati](#) researcher Shuk-Mei Ho says levels of BPA in men's urine could be a marker of prostate cancer.

Gunnar F. Nordberg and **Monica M. Nordberg** examine the health effects of cadmium exposure with respect to risk assessment in the newest issue of [Environmental Health Perspectives](#). They found that non-renal health effects, such as the metal's effect on bones, should be considered in human health risk assessments.

SOT Members in the News

Past President James Bus talked with [The Western Producer](#) about Manitoba's new legislation banning cosmetic pesticide use on lawns, school grounds, and playing fields out of concern for children's health. Dr. Bus tells the Canadian publication, "There is no regulatory agency in the world...that regards 2,4-D as a human carcinogen or as a threat to children's health."

The National Institute of Environmental Health Sciences' (NIEHS') [Environmental Factor](#) features a profile on **Madisa Macon**, who was recently awarded with the University of North Carolina at Chapel Hill Graduate Education Advancement Board's 2014 Impact Award.

[Bethel College](#) alumnus and SOT Vice President **Peter L. Goering** is receiving the university's 2014 Distinguished Achievement Award.

In an [Associated Press](#) story on Baker Hughes of Houston's decision to disclose 100 percent of the chemicals used in its hydraulic fracturing fluid, retired member **Bernard Goldstein** is quoted, saying "This really good news. It's a step in the right direction."

Science Headlines

- [ACC Announces New Principles to Enhance Chemical Hazard and Risk Assessments](#) (*American Chemistry Council*)
- [Skin layer grown from human stem cells could replace animals in drug, cosmetics testing](#) (*Science Daily*)
- [Grants: Funder storm](#) (*Nature*)
- [AstraZeneca shares soar after Pfizer confirms bid talks](#) (*BBC News*)
- [Male Scent May Compromise Biomedical Research](#) (*AAAS Science Now*)
- [Graphene Not All Good](#) (*University of California-Riverside*)
- [NCI, NCRI and EORTC working group outline risk-assessment approach for biomarker-driven cancer clinical trials](#) (*EORTC*)
- [One third of Americans mixing supplements with meds: study](#) (*Reuters*)
- [Drug Resistance Found Worldwide, New Drugs Needed](#) (*Drug Discovery & Development*)
- [Waxman suggests "scaling back" chemical reform bill](#) (*The Hill*)
- [Toxic chemical regulation overwhelmingly supported in House vote](#) (*VT Digger*)
- [US develops framework for environmental health assessments](#) (*Chemical Watch*)
- WORKSHOP SUMMARY: ["Identifying and Reducing Environmental Health Risks of Chemicals in Our Society"](#) (*Institute of Medicine*)

REPORT: [“Reducing Investigators’ Administrative Workload for Federally Funded Research”](#) (*National Science Foundation*)

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

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

Around the Interwebs—Week of April 20, 2014

Happy Earth Week! While climate change seemed to be the dominant theme for this week’s news, some other science was able to squeeze through the Earth-loving clutter.

SOT Members in the News

Nancy Beck authored an editorial for the [American Chemistry Council \(ACC\)](#) about the US Environmental Protection Agency’s (EPA) new Human Health Risk Assessment framework. The piece says that the new framework is a step in the right direction and goes on to outline some of the elements that the ACC is especially pleased to find in the guidance document.

NIEHS’ [Environmental Factor](#) featured a synopsis of a March 5 seminar featuring Richard Peterson, this year’s SOT Distinguished Toxicology Scholar Award winner. While visiting the National Institute of Environmental Health Sciences (NIEHS), Dr. Peterson discussed his pioneering research on dioxin and dioxin-like chemicals.



On [AltTox.org](#), Kamin J. Johnson and Edward W. Carney present ideas for new strategies for developmental toxicity assessment based on adverse outcome pathways. In the piece, they write, “The toxicology community now sees before it an opportunity to reshape developmental toxicology and produce a regulatory testing strategy that potentially generates immediate mechanistic information with limited animal usage in a higher throughput manner.”

Science Headlines

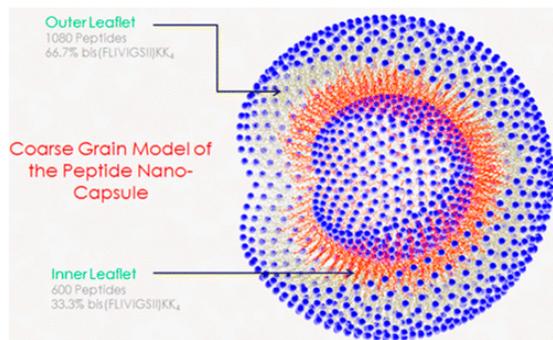
- [FDA proposes to extend its tobacco authority to additional tobacco products, including e-cigarettes](#) (*US FDA*)
- [Gal Science: Stop Being Terrified of Chemicals](#) (*The Toast*)
- [Hawaii is genetically engineered crop flash point](#) (*Associated Press*)
- [Supplemental science: Chemical firms that make dietary nutrients are investing in research and better formulations to win over customers and skeptics](#) (*Chemical & Engineering News*)
- [BP oil spill: Scientists struggling to understand effects four years later](#) (*The New Orleans Times-Picayune*)
- [Pending OMB Review, OSHA Could Restart Effort to Update Chemical Exposure Limits](#) (*Bloomberg BNA*)
- [Illinois could be first state to ban microbeads](#) (*Chicago Tribune*)
- [NIH to Relax “Two Strikes” Grant Submission Policy](#) (*Science Insider*)
- [Treated Sewage Solids Contain Troubling Nitrosamines](#) (*Chemical & Engineering News*)
- [Who did what? Clarifying author roles benefits researchers, publishers and students](#) (*Scientific American Blogs*)

Around the Interwebs:Week of April 13, 2014

Nano-spheres, olestra, and integrated testing strategies are a few of the topics being researched by SOT members that were featured on the Society’s social media channels this week.

SOT Member Research

Researchers, including Robert P. Hanzlik, have found that peptide nano-spheres (*pictured at right, photo credit: John M. Tomich/Kansas State*



University) can be used to store and transport harmful isotopes. The newly published research in [Biochimica et Biophysica Acta](#) describes how these nano-spheres retain radioisotopes without leakage, reducing the amount of nontargeted radioactive daughter ions released into the body during radiation therapies.

Olestra, a fat substitute commonly found in snack foods such as potato chips, may safely reduce body burdens of PCBs according to research in [The Journal of Nutritional Biochemistry](#) co-authored by James R. Olson.

Efforts to develop an integrated testing strategy (ITS) for identifying potential skin sensitizers without conducting animal tests have resulted in a new open source software implementation of an ITS based on a Bayesian network. Nicole Churchill Kleinstreuer, Thomas A. Burns Jr., Judy A. Strickland, Lori Rinckel, and Warren M. Casey are all authors on a short communication published by [ALTEX](#), which describes the ITS model and software.

Certain engineered nanoparticles may damage DNA, according to new research in [ACS Nano](#) co-authored by Bevin P. Engelward. Using an assay known as CometChip, developed by Dr. Engelward and a colleague in 2010, the authors studied the effects of silver, zinc oxide, iron oxide, cerium oxide, and silicon dioxide nanoparticles on DNA and found dose-dependent increases in DNA damage.

SOT Members in the News

Pamela J. Lein, Ellen Fritsche, Steve Stice, Mary Alice Smith, Seth W. Kullman, Edward D. Levin, and Theodore Slotkin were recently awarded [grants from the US EPA](#) for research into the development and use of adverse outcome pathways that predict adverse developmental neurotoxicity.

[Tshwane University of Technology](#) spotlighted the 2014 SOT Annual Meeting and ToxExpo poster presentation of Salmon Adebayo, a doctoral degree candidate at the university, on its website. Mr. Adebayo's presentation discussed the cytotoxicity of the extracts of plant species used to treat inflammation-related conditions in South Africa (Poster #785). His research found that the three tested extracts were not cytotoxic to kidney and liver cell lines when compared with the controls, but additional *in vivo* studies are needed.

Science Headlines

- [Chemists design nanoparticles that can deliver three cancer drugs at a time](#) (*Nanowerk*)
- [Potent, puzzling and \(now less\) toxic: Team discovers how antifungal drug works](#) (*University of Illinois*)
- [Casual pot use causes brain abnormalities in the young: study](#) (*Reuters*)
- [Ingredient safety center to be located at MSU](#) (*MSU Today*)
- [Summary of the Technical Roundtable on EPA's Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources](#) (*US EPA*)
- [Radiation able to be securely stored in nontoxic molecule, study finds](#) (*Kansas State University*)
- [Air pollution link to 28,000 deaths](#) (*BBC News UK*)
- [Influence of vapor wall loss in laboratory chambers on yields of secondary organic aerosol](#) (*PNAS*)
- [Super Sequencing Predicts Toxicity of Superbug Strains](#) (*Genetic Engineering & Biotechnology News*)
- [Legislation would ban state GMO labeling measures](#) (*USA Today*)
- [We Worry About Trace Amounts of BPA While Playing Russian Roulette with Dietary Supplements](#) (*Forbes*)
- [Dr. Yvonne T. Maddox to serve as Acting Director of NIMHD](#) (*NIH*)
- [U.S. appeals court upholds Obama administration limits on air toxics](#) (*Los Angeles Times*)
- [Nano shake-up: UD researchers demonstrate that processing can affect size of nanocarriers for targeted drug delivery](#) (*University of Delaware*)

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

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

Around the Interwebs—Week of April 4, 2014

Below is a summary of the information posted this week on SOT's social media platforms as well as diverse science news headlines.

SOT Member Research

Hoping to better understand the vascular toxic effects of carbon nanotubes, SOT member Jan Simak of the US Food and Drug Administration and a research team investigated the toxicity of carboxylated multiwalled carbon nanotubes in endothelial cells. Their research, published in *Nanomedicine* discovered that “pharmacological stimulation of the autophagic flux may represent a new method of cytoprotection against toxic effects of nanomaterials.” For more, see [Nanowerk's](#) article on the research. (Multiwalled carbon nanotube. Credit: Eric Wieser/Wikimedia Commons)



[“Toxic or Not?”](#) This is the question SOT member Angela Slitt asks her University of Rhode Island students, but the scientific answer is only the beginning of the lesson. Dr. Slitt helps her students navigate the murky waters of news and reporting in the digital age, encouraging them to weed through misleading and false information on the internet, while spreading more accurate information through the class' Twitter feed.

Stimulant use, not a diagnosis of ADHD, is associated with higher BMI and obesity according to new research by SOT Member Brian S. Schwartz and colleagues at Johns Hopkins Bloomberg School of Public Health. The research, published in “Pediatrics,” studied the electronic health records of 163,820 children aged 3 to 18 in central and northeastern Pennsylvania, discovering a connection between treatment of ADHD with stimulants and changes in body mass index. For more information, please visit the [Johns Hopkins Bloomberg School of Public Health website.](#)

Polychlorinated biphenyls (PCBs) with their more than 200 different congeners based on the multiple positions for chlorination are the focus of the *Toxicological Sciences* Editor's Highlight for the April 2014 issue of the journal. The research, [PCB 136 Atropselectively Alters Morphometric and Functional Parameters of Neuronal Connectivity in Cultured Rat Hippocampal Neurons via Ryanodine Receptor-Dependent Mechanisms](#), by SOT Members Dongren Yang, Izabela Kania-Korwel, Atefeh Ghogha, Hao Chen, Marianna Stamou, Diptiman D. Bose, Isaac N. Pessah, Hans-Joachim Lehmler, and Pamela J. Lein.

Science Headlines

- *Toxicological Sciences* Editor-in-Chief Gary W. Miller is quoted in [BPA: The Scientists, The Scare, The 100-Million Dollar Surge](#) (*Forbes*)
- [Scientists Uncover New Brominated Flame Retardant in Consumer Electronics](#) (*Chemical and Engineering News*)
- [Epigenetics starts to make its mark](#) (*Nature*)
- [Disease Burdens Associated with PM2.5 Exposure: How a New Model Provided Global Estimates](#) (*Environmental Health Perspectives*)
- [European Parliament Approves Bill To Increase Clinical Trial Transparency](#) (*Science*)
- [Maine study shows possible link between arsenic in drinking water and intelligence](#) (*Kennebec Journal*)

To stay abreast of these types of items through the week, be sure to ["like" SOT on Facebook](#) and ["follow" SOT on Twitter](#).

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

Around the Interwebs—Week of March 30, 2014

As you can imagine, last week was all about SOT's 53rd Annual Meeting and ToXExpo. There were [tweets](#), [Facebook posts](#), and [ToXchange blogs](#) galore.

This week, we turned our attention beyond Phoenix to see how and where SOT members are making an impact. This is what we found.

SOT Member Research



SOT members Wayne E. Cascio and Andrew J. Ghio had a study on exposure to particles and noise during highway maintenance work published in [Environmental Health Perspectives](#). The research looked at the potential cardiovascular health risk posed by highway workers' exposure to fine particulate matter, ultrafine particles, and noise. The authors concluded that "exposure to particles and noise during highway maintenance work might pose a cardiovascular health risk."

[Environmental Health Perspectives](#) also recently featured research by member Daniel J. Klein into whether or not commercially available plastic resins and products, including baby bottles and other manufactured merchandise advertised as bisphenol A (BPA) free, release chemicals having estrogenic activity. The authors say that their study shows that many of the tested plastic products leached chemicals having reliably detectable estrogenic activity, including those advertised as BPA free.

SOT Members in the News

An article in *Scientific American* titled "[How Risky, Really, Is That Chemical?](#)" featured quotes from SOT member Tracey J. Woodruff. The article examines how to accurately assess and report scientific research around chemicals and exposure.

Member Aubrey Miller is quoted in a story by [Environmental Health Perspectives](#) into newly published research on birth defects and mothers' proximity to natural gas drilling.

Science Headlines

- [New TOXNET Interface Coming in Spring 2014](#) (*NLM Technical Bulletin*)
- [Pesticides; Consideration of Spray Drift in Pesticide Risk Assessment: Extension of Comment Period](#) (*Federal Register*)
- [Obesity primes the colon for cancer, according to NIH study](#) (*NIH*)
- [Good Vibrations: Using Light-Heated Water to Deliver Drugs](#) (*UC San Diego Health System*)
- [Spinning Magnetic Nanoparticles Destroy Cancer Cells](#) (*Chemical & Engineering News*)
- [7 million deaths annually linked to air pollution](#) (*World Health Organization*)
- [Women who eat organic foods no less likely to develop cancer, research finds](#) (*The Guardian UK*)
- [FDA not budging on labels for GMO foods](#) (*The Hill*)
- [Nano\[Ag\]ressions](#) (*Inside Science*)
- [Manufacturers Urge EPA to Apply TSCA Consistently in Final Rules for Six Mixtures](#) (*Bloomberg BNA*)
- [Misconduct Found in Acid-Bath Stem Cell Study](#) (*Genetic Engineering & Biotechnology News*)
- [Pesticides; Agricultural Worker Protection Standard Revisions](#) (*Federal Register*)
- [The Future of Biomedical Research](#) (*NIH*)
- [FDA Wants Your Perspective on Clinical Trial Demographic Data](#) (*FDA Voice*)

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

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

Around the Interwebs—Week of March 16

How were SOT members and their research making waves on the web this week? Let's check it out.

SOT Member Research

Bevin P. Engelward and colleagues had a paper published online in [ACS Nano](#). The paper presented the group's results of using the newly developed CometChip technology to test engineered nanoparticles, concluding that "The presented CometChip platform enabled efficient and reliable measurement of ENP-mediated DNA damage."

Newly published research from Bruce Ames and a colleague at the Children's Hospital & Research Center Oakland show that three brain hormones that affect social behavior (serotonin, oxytocin, and vasopressin) are all activated by vitamin D, which could provide insight into autism treatment and prevention. The research appeared in [The FASEB Journal](#).

[Environmental Health Perspectives](#) features research by Qinghua Sun and Jack R. Harkema, alongside 2014 Annual Meeting presenter Robert D. Brook and other colleagues, on the effect of exposure to coarse particulate matter in rural locations on the cardiovascular system. Their study shows that inhaling coarse particulate matter may cause a rapid elevation in blood pressure and heart rate.

Science Headlines

- [Scientists Search for Toxins in Cigarette Smoke Residue](#) (*NPR*)
- [Senators Meeting Regularly on TSCA Reform, but have No Time Frame for Moving Bill](#) (*Bloomberg BNA*)
- [States Fight Chemical Industry Over Proposed Rules](#) (*The Washington Post*)
- [Warning Signs: How Pesticides Harm the Young Brain](#) (*Food & Environment Reporting Network and The Nation*)
- [Experts Call for More *In Vitro* Tests for Nanomaterials](#) (*Chemical Watch*)
- [Building New Drugs Just Got Easier](#) (*The Scripps Research Institute*)
- [New Research Shows Air Pollution Might Make You Bad at Your Job](#) (*The Washington Post*)
- [Pests Worm Their Way into Genetically Modified Maize](#) (*Nature*)
- [New Technology Aims to Minimize Animal Testing for Drug Discovery](#) (*Fox News*)

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

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

Around the Interwebs—Week of March 9, 2014

In this new weekly feature, we'll be sharing the SOT member research, interviews, and more that we've been highlighting over the past week on SOT's various communication channels, such as the website, Facebook, and Twitter. We'll also be sharing some of the top headlines and articles related to toxicology and science that came across our computer screens throughout the week. So without further adieu, let's take a look at this week's hot topics.

SOT Member Research

The research of Gary Miller's Emory University Rollins School of Public Health laboratory into connections between alterations to the storage of the neurotransmitter dopamine Parkinson's disease is featured in [NIEHS' Environmental Factor newsletter](#). Since environmental pollutants such as PCBs are known to inhibit dopamine and are connected to Parkinson's, Dr. Miller's team hopes their research leads to new insights on the disease.

[Volume 48, Issue 5 of Environmental Science & Technology](#) contains research from the Wise Laboratory of Environmental and Genetic Toxicology of the University of Southern Maine. Carolyne Falank, James T. F. Wise, John

Pierce Wise, Jr., John Pierce Wise, Sr., Sandra S. Wise, and Hong Xie all contributed to the article, which looks at chromium and nickel concentrations in Gulf of Mexico populations of Bryde's and sperm whales to determine potential effects from the Deepwater Horizon oil spill.

Super lice are on the rise according to research by J. Marshall Clark and his team from the University of Massachusetts Amherst. The [Detroit Free Press](#) interviews Dr. Clark about the newly published research, which details that 99.6 percent of lice tested between 2007 and 2009 were genetically resistant to the pyrethrin- and permethrin-based chemicals most frequently used to treat them.

Scientists around the country are investigating bisphenol A (BPA) and its effect on the endocrine system. The [2014 Special Issue of Johns Hopkins School of Public Health magazine](#) shines a spotlight on the work of Julie Goodman, James D. Yager, Thomas Hartung, and DeLisa Fairweather, who are each studying unique aspects of the controversial subject.

SOT Member Interview

Tina Bahadori is interviewed by [US EPA's Science Matters blog](#). A choice quote: "We squash the American Dream when we deprive our children of a healthy environment in which they can thrive."

Science Headlines

- [Notre Dame Chemists Discover New Class of Antibiotics](#) (University of Notre Dame)
- [Bracelets Can Detect People's Chemical Exposures](#) (Environmental Health News)
- [FDA, Cosmetics Industry Remain at Odds Over Outdated Regulations](#) (The Washington Post)
- [Patience Wearing Thin on Chemical Safety Push](#) (The Hill)
- [Groups sue EPA to Force it to Move on Pesticide Disclosures](#) (Reuters)
- [Cities Take the Lead in Regulating Electronic Cigarettes](#) (NPR)
- [Almost 500 Foods Contain the "Yoga Mat" Compound. Should We Care?](#) (NPR)
- [Deconstructing Inherently Safer Technology](#) (Chemical & Engineering News)
- [Controversy Clouds E-Cigarettes](#) (Chemical & Engineering News)

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

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

In Memoriam

In Memoriam

Frederic R. Alleva

Charlotte Mertz Witmer

William Joseph Waddell

Frederic R. Alleva

The Society of Toxicology (SOT) has learned that SOT Member Frederic R. Alleva passed away on December 11, 2013. Dr. Alleva joined SOT in 1979.

Charlotte Mertz Witmer

The Society of Toxicology (SOT) has learned of the passing of SOT Member Charlotte Mertz Witmer on October 15, 2013. A celebration of her life will be held on Saturday, May 10, 2014 at 1:00 pm at the Trinity Reformed United Church of Christ, Collegetown, Pennsylvania. Dr. Witmer was a biochemist and toxicologist with degrees from Ursinus College and Villanova University. She taught and conducted research at Rutgers University, Jefferson Medical College, University of Pennsylvania Medical School, and the Institute of Toxicologie in Tübingen, Germany. She joined SOT in 1979 and was a member of the Mid-Atlantic Regional Chapter and the Comparative and Veterinary, Mechanisms, and Metals Specialty Sections.

William Joseph Waddell

William J. Waddell, MD, passed away on Sunday, March 2, 2014. Dr. Waddell chaired the Department of Pharmacology and Toxicology at the University of Louisville for 20 years (1977–1997). He began his academic career in the Department of Pharmacology at the University of North Carolina, from which he received a BA in Chemistry and MD degree. He was the founding president of the Ohio Valley Regional Chapter of the Society of Toxicology and served as the president of the Association of Medical Schools. His published obituary noted that “Over his career, he consulted with many drug and chemical companies, served as an expert witness on toxic tort cases, and served on many national committees.” For additional information, please visit the [Louisville Courier Journal website](#).

Regional Chapters, Special Interest Groups, and Specialty Sections:

SOT Provides Funding to Encourage Regional Chapters to Engage in Toxicology Education Outreach

To encourage involvement in toxicology outreach, the Society of Toxicology (SOT) is providing resources for members, including funding, materials, and advice. Many SOT members already are engaged in outreach to K–12 students, and many more indicated on the Fall 2013 K–12 Interest Survey a strong desire to be involved in helping students learn more about science and especially careers in toxicology. Members of SOT Regional Chapters (RC) are involved in education and out-of-school activities in their communities and have the contacts and knowledge to effectively leverage SOT interest in outreach with meaningful activities, whether it is participating in local or regional STEM events, assisting in classrooms, speaking for career days, judging science fairs, or facilitating incorporation of toxicology activities in scouting and other informal science education opportunities.

Proposals from RCs for support of strategic activities, including outreach, are made to the NonSOT Annual Meeting Funding Subcommittee (see the [SOT website](#) for the application form and instructions). An RC may apply each year for up to \$2,000 for speaker travel and strategic activities. The SOT fiscal year begins in July and deadlines are July 1, October 1, January 1, and April 1, so apply early while funds are available. SOT is especially interested in promoting toxicology careers to students in the higher grade levels. To stimulate creative proposals to bring toxicology to the K–12 environment, the strategic funding budget has been increased to enable supporting additional prioritized requests from the RCs.

The SOT Education Committee K–12 Subcommittee is at the ready to suggest resources and ideas for the RCs and works in coordination with the K–12 RC Outreach Contacts. Information is found at [K–12 Outreach for Scientists](#) on the SOT website. Please be in touch with your [RC outreach contact](#), staff at SOT Headquarters ([Betty Eidemiller](#)), or [K–12 Subcommittee members](#) to discuss your ideas, access resources, and report what you are doing.

Examples of outreach activities previously funded include a [Girl Scout Science Day](#) supported by the National Capital Area Chapter and science fair recognition by Allegheny-Erie Regional Chapter.

Thank You to the 2014 Annual Meeting Reporters!



During the 2014 Society of Toxicology Annual Meeting and ToxExpo this past March, SOT engaged one of its greatest assets—its members!—to help cover the scientific sessions and events happening throughout the Phoenix Convention Center. These intrepid reporters were everywhere, from the continuing education courses on Sunday to symposium sessions and from trainee discussions with our guest lecturers to poster sessions on the ToxExpo floor. What resulted from their efforts were more than 50 blog posts illuminating the wonderful discussions and presentations that were occurring throughout the meeting so that even those not in attendance—or those in attendance, but unable to attend a specific session—were able to

experience this year's meeting.

While these reporters' names appeared as bylines on pieces throughout the meeting, we wanted to take some time and recognize them here for their extraordinary efforts, as each wrote multiple pieces throughout the meeting and often delivered them within hours of sessions' completions to bring you the action as quickly as possible. We are indebted to their grace under pressure!

Thank you to:

- **Maureen Bungler**, SciKon Innovation, Inc.
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- **Peter Petrochenko**, student, University of North Carolina
- **Gary O. Rankin**, Marshall University
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- **Karilyn E. Sant**, Graduate Student, University of Michigan
- **Margaret H. Whittaker**, ToxServices LLC

In case you missed any of the wonderful posts produced by your fellow members, we'll be re-featuring them in the *Communiqué* blog over the next few weeks.

Survey Results Are In: SOT Is Fostering Successful Strategies for Funding Opportunities

More than 120 scientists attended the 2014 Strategies for Funding Opportunities Luncheon on Tuesday, March 25 during the SOT Annual Meeting in Phoenix, Arizona. Following the Annual Meeting, a survey was sent to these attendees to seek their valuable insights. Survey responses were enthusiastic, noting that "The presentations and discussions in the Research Funding Luncheon matched my expectations." The survey results also reported that luncheon attendees (approximately 80%) found this event very useful to increasing knowledge about research funding opportunities. For more information about this luncheon and two webinars (recorded) that were presented during the

meeting, please see the blog article [SOT Annual Meeting Strategies for Funding Opportunities Included Two Recorded Webinars](#).

The survey respondents also indicated they found the Research Funding Information Resource Room was very useful. SOT appreciates the agency representatives who provided their time and expertise to staff the resource room. Scientists from the National Institute of Environmental Health Sciences included Janice Allen, Linda Bass, Danielle Carlin, Astrid Haugen, Michelle Heacock, Jerry Heindel, Heather Henry, Jonathan Hollander, Mike Humble, Annette Kirshner, Alfonso Latoni, Cindy Lawler, Rose Anne McGee, Pat Mastin, Sri Nadadur, Thad Schug, Carol Shreffler, and Bill Suk. Also representing their agencies were Patricia Greenwell, National Institutes of Health, The Center for Scientific Review; Dana M. van Bommel, US Food and Drug Administration; and Intaek Hahn, US Environmental Protection Agency.

Based on the responses, there is an appreciation for the [Research Funding Blog](#), which is a resource for research and training opportunities as well as information to enhance grantsmanship. Moreover, there was great interest expressed (83%) in educational webinar(s) relative to research funding conducted outside of the SOT Annual Meeting.

Thanks to those individuals who responded to this survey as this input is helpful as plans are developed for the SOT 54rd Annual Meeting, March 22–26, 2015, San Diego, California.

SOT Annual Meeting Serves as the Global Hub for Scientific Discussion and Debate

The SOT Annual Meeting is the largest congress of its kind in the world. The content of the scientific sessions, whether symposia, roundtables, workshops, or oral and poster presentations, provides a broad range of topics for toxicologists to learn about and discuss new findings. Meeting attendees also come from a variety of backgrounds representing the breadth of training and experience that makes our Society vibrant and engaging. This intellectually stimulating atmosphere provides the opportunity for variations in opinions, the very feedstock for scientific exploration and growth.

The Scientific Program Committee carefully reviews about 2,800 abstracts for the SOT meeting. Although abstracts are very brief, those that are judged to encompass sound science and adequate results are scheduled for presentation in the scientific program. Whether the presenter is a senior SOT member, a graduate student, or a high school student (yes, even high school students have papers accepted for scientific sessions), the SOT meeting provides an open forum for more in-depth discussion of the methods used to generate the results along with the interpretation and significance of the findings.

SOT cannot prescribe the nature of interpersonal interactions during the many discussions that occur during the scientific sessions. However, we want to emphasize the importance of professional dialog and discourse, and we encourage meeting attendees to always approach authors with respect and consideration. Careful expression of alternate ways the work might have been conducted or debating alternative conclusions from those results will provide a learning opportunity for both parties. This is particularly important for those scientists who are in the early years of their scientific careers, because such interactions can help to guide their research as well as their perspective on possible career pathways. All meeting attendees can contribute to our strategic objective of building for the future of toxicology by offering thoughtful, constructive interaction with scientists at every stage of their career.

Scientific discourse is fuel for improving our science. The Annual Meeting is an important venue for such debate, and our discussions should always be courteous, with no prejudice concerning the position of the author in the field, his or her employer, geographic origin, or other such factors. We encourage all members to be professional and objective when discussing our science. We can and should learn from each other.

Free Radicals Triumph at 3rd Annual Tox ShowDown

Submitted by Phil Wexler

SOT's wildly popular (and just plain wild) Tox ShowDown quiz game this year drew an audience of over 100 toxicologists foaming at the mouth to see teams of their colleagues cut down to size by a series of withering questions.



With "11th hour" replacements filling in for three of the original contestants, and a new Judge (Ed Ohanian, replacing Harry Salem, who had to cancel just days before the event), we cannot declare that the ShowDown went on without a hitch, but we wouldn't have it any other way. Sponsored by the Graduate Student Leadership Committee (GSLC) this is a game where we expect the unexpected.



Free Radicals (from left to right: Traci Brown, Christine Curran, Josh Gray)

While the *Endocrine Disruptors* (Sarah Lacher, Gary Marchant, Judith T. Zelikoff) and the *Toxic Metabolites* (Mary Beth Genter, Prathap Kumar, Bill Mattes) put up a good fight, it was the *Free Radicals* (Traci Brown, Christine Curran, Josh Gray) who emerged from the mayhem as the uncontested winning team (see photo below). Sue Ford's timekeeping skills were challenged by a timer with its own mind. Holly Hewitt strived to keep score while juggling a rainbow of colored markers. GSLC Secretary Alessandro Venosa struggled valiantly with an uppity laptop. The dusty legal skills of our judge Ed Ohanian were put to the test, and he just squeaked by, we think. The sometime-sober moderator, Phil Wexler, barraged the contestants with questions from hell.

While the *Endocrine Disruptors* (Sarah Lacher, Gary Marchant, Judith T. Zelikoff) and the *Toxic Metabolites* (Mary Beth Genter, Prathap Kumar, Bill Mattes) put up a good fight, it was the *Free Radicals* (Traci Brown, Christine Curran, Josh Gray) who emerged from the mayhem as the uncontested winning



Endocrine Disruptors (from left to right: Sarah Lacher, Gary Marchant, Judith T. Zelikoff)

\$75 worth of gift cards. Books and DVDs on the theme of water were presented to the Judge (who helps lead US EPA's Office of Water).

An array of toxicology books (thanks to the generous donations of publishers, Elsevier and Taylor and Francis) were distributed as prizes to all the contestants and the members of the winning team also came away with

Several lucky audience members also received books as door prizes and the grand door prize winner, Dahea You, found herself the recipient of an Amazon Kindle Fire, donated by Elsevier.



Toxic Metabolites (from left to right: Mary Beth Genter, Prathap Kumar, Bill Mattes)

It is not too early to volunteer to be a contestant next year in San Diego. Yes, good sense notwithstanding, we're doing it again, folks. One naive SOT member already has committed (or should that be *has been committed?*). Please send expressions of interest to the GSLC Tox ShowDown [organizers](#).

Tox ShowDown experience is just the boost your CV needs.



Nobel Laureate John Gurdon Shared Advice with 40 Students and Postdocs at Trainee Discussion



Nobel Laureate John B. Gurdon shared career advice with 40 students and postdocs at the Society of Toxicology (SOT) Trainee Discussion with Plenary Lecturer

“I do not have lab meetings” was the Nobel Laureate’s response to one of the students in the audience when asked how he manages his lab. In fact, Dr. Gurdon is equally admirable and unorthodox in the way he describes his work ethic and habits in the lab. He does not understand the motivation for having separate lab and office space and goes on to express disappointment that most new buildings separate professors’ offices from the lab bench area where the students are expected to work. “I have my microscope right in my office,” he continued, and his office happens to be adjacent to the lab. To add to his presence in the lab, he explains how Tuesday for many years remains his dedicated day for conducting experiments. On this day, Dr. Gurdon removes himself from his computer and other distractions to do what he enjoys—run experiments. Instead of scheduling meetings and filling up his day, he pokes around and is hands on with each student or postdoc. He keeps his lab relatively small, only about seven or so members in total. The spontaneous meetings are short when everything is going well, “but the long meetings,” he jokes, “usually happen when an experiment is not working.” Attendees included the scientists pictured above from left to right: Niha Bhatt (Center for Devices and Radiological Health, CDRH-US Food and Drug Administration, US FDA), Shelby Skoog (CDRH-US FDA), Dr. Gurdon, Peter Petrochenko (US FDA-CDRH), and Trish Eustaquio (US FDA-National Center for Toxicological Research, NCTR).

Dr. Gurdon answered many questions for an hour and readily gave out advice to the small audience. His background is that of overcoming challenges, mainly consisting of a memory he carries as a reminder to this day about a schoolmaster telling him that his dream of becoming a scientist was ridiculous. In fact, he admits he was no good at science and credits his parents for supporting him and providing extra classes after school. He has been lucky and cites a time early in his career when he was out butterfly hunting with his net, only to catch one odd looking fly; so odd, that it landed him a new species. Overall, it seems everyone took away some snippet of career advice. One that stuck for me is to read papers in the morning; he pointed out that’s when the mind is fresh. As I write, I hope you will be reading this article before lunchtime.

SOT 2014 Annual Meeting Plenary Lecture and Medical Research Council Lecture Recordings Available

If you missed hearing Sir John B. Gurdon at the Opening Plenary Lecture or Dr. John D. Scott at the MRC Lecture while in Phoenix, recordings of both are now available on the SOT 2014 Annual Meeting website.

Opening Plenary Lecture: [The Origins and Future of Pluripotency and Cellular Reprogramming. Lecturer: Sir John B. Gurdon, Wellcome Trust/Cancer Research UK, Institute of Cancer and Developmental Biology, University of Cambridge, Cambridge, United Kingdom.](#)

Keynote Medical Research Council (MRC) Lecture: [Guiding Signals through Anchored Enzyme Complexes: Implications for Disease. Lecturer: John D. Scott, Howard Hughes Medical Institute, Department of Pharmacology, University of Washington, Seattle, WA.](#)

Over 6,500 Toxicologists from Around the World Attended the 2014 SOT Annual Meeting

The 2014 Society of Toxicology (SOT) Annual Meeting attracted more than 6,500 toxicologists to scenic Phoenix, Arizona, March 23–27. Participants from around the globe attended the 53rd SOT Annual Meeting, with international attendees accounting for 20% of participants who arrived from countries that included France, Germany, Japan, New Zealand, Mexico, and Brazil.

There were 2,890 abstracts submitted and the resulting scientific program featured five thematic tracks, Advancing Clinical and Translational Toxicology and Application of Biomarkers, Enhancing Strategies for Risk Assessment, New Science and Perspectives Surrounding Environmental and Occupational Exposures, Safety Assessment: Mechanisms and Novel Methods, and Stem Cell Models for Integrated Biology.



More than 75 scientists were involved in the organization of the 13 Continuing Education Sessions that drew over 1417 attendees. Courses focused on topics such as Current Trends in Genetic Toxicology; Methodologies in Human Health Risk Assessment; Nanotoxicology: Past Achievements, Future Challenges, and Potential Solutions; and Nonclinical Pediatric Drug Development: Considerations, Study Design, and Strategies.

ToxExpo was a beehive of activity with 339 booths this year as well as 59 Exhibitor-Hosted Sessions. ToxExpo is the preeminent toxicology tradeshow—showcasing the latest cutting-edge tools and technologies of greatest interest to toxicologists.

The Global Gallery, now in its fourth year at the SOT Annual Meeting, included 32 posters that presented the formation, key accomplishments, strategic initiatives, and current and future activities of these sister societies. The goal of SOT and of all these societies is to further the science of toxicology to advance human health and disease prevention. The participating societies included the British Toxicology Society (BTS), Association of Government Toxicologists (AGT), Federation of European Toxicologists and European Society of Toxicology (EUROTOX), Japanese Society of Toxicology (JSOT), Environmental Mutagenesis and Genomics Society (EMGS), Teratology Society (TS), Mexican Society of Toxicology (SOMTOX), American College of Toxicology (ACT), Russian Society of Toxicology, Turkish Society of Toxicology (TST), German Society of Toxicology (GT), International Society of Regulatory Toxicology and Pharmacology (ISRTP), Asian Society of Toxicology (ASIATOX), Croatian Toxicological Society (CTS), Society of Toxicologic Pathology (STP), INHAND Nomenclature Project, Toxicologists Without Borders (TWB), European



Association of Poison Centres and Clinical Toxicologists (EAPCCT), International Neurotoxicology Association (INA), Society of Toxicology of Canada (STC), American Academy of Clinical Toxicology (AACT), The Toxicology Society of South Africa (TOXSA), Academy of Toxicological Sciences (ATS), Safety Pharmacology Society (SPS), Society of Toxicology (SOT), African Society for Toxicological Sciences (ASTS), International Union of Toxicology (IUTOX), Irish Society of Toxicology (IST), Australasian College of Toxicology and Risk Assessment (ACTRA), Swiss Society of Toxicology, American Society for Cellular and Computational Toxicology (ASCCT), and Italian Society of Toxicology.

SOT thanks the Annual Meeting [Supporters](#) and [Exhibitors](#) for helping the Society forward its mission of “creating a safer and healthier world by advancing the science of toxicology.” Plans already are well underway for the 2015 SOT Annual Meeting in San Diego!

SOT Annual Meeting Strategies for Funding Opportunities Included Two Recorded Webinars

During the 2014 SOT Annual Meeting, attendees had a number of opportunities to gain in-depth information for researchers at every stage of their career. The Strategies for Funding Opportunities Brown Bag Luncheon held on Tuesday, March 25, 2014 was attended by more than 100 participants who gathered to receive practical, implementable information to facilitate seeking and securing funding. The luncheon program included the following speakers and presentations:

- Research Funding for Toxicology: NIH and Beyond!, Robert A. Roth, Center for Integrative Toxicology, Michigan State University, East Lansing, Michigan.
- Important Essentials in Grantsmanship, Annette Kirschner, Health Scientist Administrator, National Institutes of Health, National Institutes of Environmental Health Sciences, Research Triangle Park, North Carolina.
- Tobacco Regulatory Science: Research Priorities and Funding Opportunities, Dana M. van Bommel, Assistant Deputy for Research, Office of Science, Center for Tobacco Products, US Food and Drug Administration, Washington, DC.
- Navigating the K99/R00 and ONES Grant Programs as a Junior Investigator, Lauren M. Aleksunes, Assistant Professor, Pharmacology and Toxicology, Piscataway, New Jersey.

In addition, Monday–Wednesday at the SOT Annual Meeting, program officers from a number of agencies were available to meet with attendees in the Research Funding Room. Moreover, you can access for viewing on the SOT website two webinars (see below) that were presented in the Research Funding Room.

[Research Funding Information Webinar: Extramural Funding Opportunities with EPA: The STAR Program](#), James H. Johnson, Director, National Center for Environmental Research, US Environmental Protection Agency

[Research Funding Information Webinar: Research Interests at Eunice Kennedy Shriver National Institute of Child Health and Human Health Development](#), Tyl Hewitt, Chief, Developmental Biology and Structural Variation Branch, NICHD, NIH

We encourage you to provide us with information about Research Funding Opportunities to post to the [Research Funding Blog](#). Please send funding news by email to [Marcia Lawson](#).

Awards Abound at the 2014 SOT Annual Meeting

Last night, SOT honored some of its best scientists, postdoctoral researchers,



educators, and students at the 2014 SOT Awards Ceremony.

SOT President Lois D. Lehman-McKeeman (center of image) kicked off the ceremony by congratulating all of the award winners and all of the attendees for continuing to advance and promote the field of toxicology.

The first awards of the evening were bestowed on [Sir John B. Gurdon, this year's plenary speaker, and Donald E. Ingber, who both became honorary members of SOT.](#)

- Dr. Gurdon (far right in image) is a distinguished group leader at the Wellcome Trust/Cancer Research UK, Gurdon Institute, University of Cambridge, England, whose career has concentrated on nuclear transplantation and experiments to discover the value of mRNA microinjection, mechanisms of response to morphogen gradients, and, recently, mechanisms of nuclear reprogramming by xenopus oocytes and eggs.
- Dr. Ingber (far left in image) is the 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 a professor of bioengineering at the Harvard School of Engineering and Applied Sciences. At the Wyss Institute, he oversees a multifaceted effort to identify the mechanisms that living organisms use to self-assemble and to apply these design principles to develop advanced materials and devices.

SOT is honored to have them both join our ranks.

Next, SOT recognized the [2014 SOT Global Senior Scholar Exchange Program winners](#): Gonzalo Diaz from Colombia and Ebenezer O. Farombi from Nigeria. Through this program, SOT is sponsoring specific collaborations between universities in the United States and in developing countries by enabling an exchange visit of senior scientists between the partnered universities to address identified gaps in the developing country university's core toxicology curriculum; support courses or symposia on toxicology topics of high priority in the developing country; and fund the senior scholars' attendance at the SOT Annual Meeting as an opportunity to present research and establish networking opportunities. Dr. Diaz will be hosted by Wilson K. Rumbeiha at Iowa State University as part of the program, and James Klaunig of Indiana University School of Public Health will host Dr. Farombi.

This year, 11 junior and senior scientists (pictured right) from around the globe were awarded [SOT/AstraZeneca/SOT Endowment Fund/IUTOX Travel Fellowships](#) to attend the SOT Annual Meeting, while 70 graduate students received SOT Graduate Student Travel Support awards, supported in part by Battelle and the Burroughs-Wellcome Fund. In addition, 11 undergraduate students won [Pfizer SOT Undergraduate Student Travel Awards](#), which recognize outstanding undergraduates who are presenting research at the Annual Meeting with a goal of fostering interest in graduate studies in the field of toxicology. All of the winners and their hosts were honored and recognized at tonight's ceremony.



During the ceremony, SOT welcomed Dr. David Nuber of Colgate-Palmolive to present [the awards supported by the company](#):

- [The Colgate-Palmolive Awards for Student Research Training in Alternative Methods](#) were awarded to Laura E. Armstrong of the University of Rhode Island and Christin M. Grabinski of the US Air Force Research Laboratory in Dayton, Ohio.
- [The Colgate-Palmolive Postdoctoral Fellowship Award](#) in *In Vitro* Toxicology, the longest continuously sponsored award by Colgate-Palmolive, was presented to Jonathan J. Shannahan from University of Colorado School of Pharmacy.
- [The Colgate-Palmolive Grants for Alternative Research](#) are intended to support efforts that promote, develop, refine, or validate scientifically acceptable animal alternative methods to facilitate the safety assessment of new

chemicals and formulations. This year's winners are Patricia E. Ganey, professor, Department of Pharmacology and Toxicology, Michigan State University, and Matthew Troese, research associate at MB Research Laboratories.

Thank you to Colgate-Palmolive for supporting and advancing toxicological research through this award sponsorship.

2014 marks the fifth year of the Syngenta Fellowship Award in Human Health Applications of New Technologies, which is presented to either a third year or later graduate student or to a postdoctoral trainee. This year's [Syngenta Fellowship Award in Human Health Applications of New Technologies](#) was given to Dilshan S. Harischandra of Iowa State University for his project "Role of the Environmental Neurotoxicant Manganese in Cell-to-Cell Transmission on α -synuclein in Parkinson's Disease."

Next on the program was the awarding of the SOT Awards.

- Matthew J. Campen of the University of New Mexico received the [SOT Achievement Award](#), one of the longest-standing SOT Awards. Dr. Campen has contributed a great deal to our understanding of how airborne toxicants, such as particulate matter and ozone, cause systemic vascular insult and has established methods to assess mode of action of vascular dysfunction and mediator-based injury.
- "The Threshold Length for Fiber-Induced Acute Pleural Inflammation: Shedding Light on the Early Events in Asbestos-Induced Mesothelioma" was the title of the winner of the [SOT Board of Publications' Award for the Best Paper in Toxicological Sciences](#). The authors of the paper are Anja Schinwald, Fiona Murphy, Adriele Prina-Mello, Craig Poland, Fiona Byrne, Dania Movia, James Glass, Janet Dickerson, David Schultz, Chris Jeffree, William MacNee, and Ken Donaldson.
- The 34-year-old [SOT Arnold J. Lehman Award](#) was awarded to B. Bhaskar Gollapudi (pictured on right with SOT Treasurer Denise Robinson Gravatt) of Exponent, Inc. Dr. Gollapudi has significantly advanced the field of risk assessment through innovative thinking and principled risk assessment practice.
- The [SOT Distinguished Toxicology Scholar Award](#), formerly known as the Scientific Achievement Award, was given to Richard Peterson of the University of Wisconsin-Madison. Dr. Peterson has made a number of seminal contributions in the areas of reproductive and developmental toxicology, ecotoxicology, cardiovascular toxicology, and risk assessment.
- Each year, the [SOT Education Award](#) is presented to an individual who is distinguished by the teaching and training of toxicologists and who has made significant contributions to education in the broad field of toxicology. This year's recipient is Herman N. Autrup of the University of Aarhus in Denmark.
- John Thomas of the Indiana University School of Medicine has won the [SOT Founders Award](#). Dr. Thomas wins this award for his efforts to improve the ability to make distinctions between safe and unsafe levels of chemical exposure—for his breadth of research on xenobiotic chemicals' effect on the male reproductive system.
- The [SOT Leading Edge in Basic Science Award](#) is given to a scientist for research contributing to the understanding of the fundamental mechanisms of toxicology. This year's recipient, Vishal Vaidya of Harvard Medical School, has aided this understanding through his work on a biomarker for kidney injury known as Kim-1.
- On its 10th anniversary, the [SOT Public Communications Award](#) has been bestowed on David Eaton (pictured on right with SOT Councilor Lorrene Buckley) of the University of Washington for his multiple publications in the area of general education and also for his efforts to educate lawyers about toxicology and in promoting multidisciplinary scientific endeavors.
- First presented in 2009, the [SOT Translational Impact Award](#) is presented this year to Timothy Phillips of Texas A&M University. Dr. Phillips has conducted pioneering research in the US and Africa on dioctahedral smectite clays and aflatoxin B1.
- William Atchison of Michigan State University has been awarded the [SOT](#)





- [Undergraduate Educator Award](#), which is sponsored by the SOT Endowment Fund. Among the many opportunities that Dr. Atchison has provided to undergraduates is the establishment of an NIH, NINDS-funded R25-Diversity Education grant in collaboration with the University of Puerto Rico that provides research experiences for Latino undergraduates.
- The [SOT Merit Award](#) was the first award ever presented by the Society. Tonight, it was given to Jay I. Goodman for his distinguished contributions to toxicology. Dr. Goodman's research has focused on discerning epigenetic mechanisms underlying carcinogenesis and other chemical-induced toxicities.

Congratulations again to all of the 2014 SOT Award winners. We are honored to have you all at the 2014 Annual Meeting and ToxExpo.

SOT Annual Meeting—Saturday in Pictures



Officially, the 53rd Annual Meeting and ToxExpo starts today, but for some ambitious undergraduates, their program commenced last night with the initial events of the 2014 SOT Annual Meeting's Undergraduate Education Program. This program, hosted by SOT's Committee for Diversity Initiatives, features activities designed to introduce students to toxicology, its careers, and its importance. Participants are winners of Minority and Undergraduate Student Travel Awards.

Activities last night included a welcoming/ice breaker event that featured this year's "inductees" into the "Tox Squad" (pictured here), followed by the recognition of the 2014 Perry J. Gehring Diversity Student Travel Award winner, Pamela B. Tijerina, and honorable mention, Zuleirys Santana

Rodriguez. The evening concluded with a reception and cutting of a cake recognizing the 25th anniversary of the Undergraduate Education Program for Minority Students.

Check out the [full gallery of photos on the SOT Facebook page](#).

SOT Annual Meeting—Sunday in Pictures

What do an impromptu toxicology lecture in Phoenix's fresh air; Continuing Education courses; a new partnership with NIEHS; undergraduate mentoring and education; networking, wining, and dining at a multitude of receptions; and [an assembling of some of toxicology's best and brightest scientists](#) have in common? SOT's 53rd Annual Meeting and ToxExpo of course!

We captured some of Sunday's best moments, so check out the SOT Facebook page for [Sunday in Pictures](#). If you haven't already, [like us on Facebook](#) and [follow us on Twitter](#) to receive all of the 2014 Annual Meeting highlights and updates, as they're happening!



SOT Annual Meeting—Monday in Pictures



Monday marked the official start of the [2014 Annual Meeting Scientific Sessions](#) and the first day of the 2014 ToxExpo. How are those for show stoppers? Or should that be how are those for show toppers? Monday also featured a focus on our global partners with the Global Collaboration Coffee and the opening of the Global Gallery of Toxicology Posters. Our Undergraduate Education Program continued its enlightenment with the *In Vitro* Toxicology Lecture and Luncheon, Dr. Helena Kandarova presenting. Dr. Jay Goodman delivered his [Merit Award lecture](#), while some attendees joined a [Special Symposium: Conversation with NIEHS Director, Dr. Linda Birnbaum](#). A heated debate took place over the question “Are nonmonotonic dose-responses at low dose levels toxicology relevant?” (Dr. Dieter Schrenk

took the debate, arguing the against position.) And all of this amidst some wonderful exhibitor-hosted sessions, capped by some swinging exhibitor-hosted parties. All-in-all it was a fine day at the Phoenix Convention Center. And you can relieve it with our [Facebook Monday in Pictures album](#).

Not enough photos for you? Check out the brand new [2014 Annual Meeting and ToxExpo Photo Gallery](#) on the SOT website.

SOT Annual Meeting—Tuesday in Pictures

On Tuesday, the 53rd SOT Annual Meeting and ToxExpo hit the halfway mark! The [Scientific Sessions](#) continued to inform and educate, while our ToxExpo exhibitors helped attendees with products and services. SOT Council visited with exhibitors to thank them for taking part in this year’s event, while SOT President Lois D. Lehman-McKeeman presented our 25-year exhibitors with special recognition plaques. Some postdocs were also receiving plaques at the Postdoctoral Assembly Luncheon, where the winners of the 2014 SOT Postdoctoral Publication Award were recognized. Those of you in the West Building or the ToxExpo floor might have noticed some very young faces roaming around, as high school students attended some workshops and presented some scientific posters.



View the highlights in our [Facebook Tuesday in Pictures album](#) or through the [Photo Gallery on the SOT website](#).

SOT Annual Meeting—Wednesday in Pictures



Yesterday began with a fascinating [MRC lecture by Dr. John D. Scott](#), who also met with trainees later in the day. It was also another packed day of scientific sessions, interspersed with committee, specialty section, and regional chapter meetings. We said goodbye to our amazing ToxExpo exhibitors, but are excited that so many of them have already committed to joining us in San Diego next year. Some members put on suits, dresses, and heels to attend Lois D. Lehman-McKeeman’s swan song at the President’s Reception or other events and receptions last night.

Photos from yesterday’s activities are available on the [SOT Facebook page](#). On that page, you can also find pictures from [Saturday](#), [Sunday](#), [Monday](#), and [Tuesday](#), as well as the [Past Presidents’](#)

[Fun Run](#). Not big on Facebook? You can see a [gallery of photos](#) from this year's meeting on the SOT website as well.

GSLC Announces 2014 YouTox Video Challenge Winners

The SOT Graduate Student Leadership Committee (GSLC) is excited to announce the winners of this year's YouTox Video Challenge!

1st place (\$300): Valerie Minarchick from West Virginia University. [View the video](#).

2nd place (\$200): Alessandro Venosa from Rutgers University. [View the video](#).

3rd place (\$100): Murli Mishra from the University of Kentucky. [View the video](#).

The goal of the YouTox Video Challenge is to communicate to the general public the importance of toxicology by answering questions about topics such as: Who is a toxicologist?, What is it they do?, Why is toxicology research important?, and How does toxicological research occur?.

Congratulations to the winning videos for taking very different and creative approaches in tackling some of these topics.

Be on the lookout for future contests and opportunities to spread the word about toxicology and the people behind all the great science!

MRC Lecturer John D. Scott Meets with SOT Student and Postdoctoral Scholar Members

The Keynote Medical Research Council (MRC) Lecture, Guiding Signals through Anchored Enzyme Complexes: Implications of Disease, was presented on March 26, 2014 by John D. Scott, Howard Hughes Medical Institute, Department of Pharmacology, University of Washington during the 53rd SOT Annual Meeting in Phoenix, Arizona. Following this lecture, Dr. Scott met informally for discussion with SOT student and postdoctoral scholar members and a summary of this event is below.



After what I considered to be the best lecture at the conference thus far, I was happy to be one of the few students who was able to sit down and have a discussion with the MRC Lecturer John Scott. I felt the lecture beforehand benefitted from Dr. Scott's calm and direct way of presenting his ideas, two traits I am sure have helped him on the road to great discoveries. In the session, Dr. Scott fielded questions from around 20 students gathered in one of the smaller breakout rooms in the Phoenix Convention Center.

He spoke on a number of topics, from the importance of written and oral communication, to advice on staying humble with your peers and competitors but fearless in the face of scientific adversity. I can say the most important tidbit of information I learned was that good science will shine, provided you are able to communicate well. The best scientists, including all of the previous MRC speakers, are not driven by the plaudits they gain, but are driven by a hunger to do the basic science required to discover something new expanding knowledge in a field. If you only are driven by possible glory, it is unlikely you will enjoy your career. It is a trait that is difficult to accept for some, but imperative in science. Overall, the discussion was refreshing, the hour flew by, and I am happy to say I was fortunate enough to get a seat in the room.

SOT Translational Impact Award Lecture: Using Clay to Improve Human and Animal Health

Timothy D. Phillips began his Translational Impact Award Lecture, titled “[Ancient Medicine for the Mitigation of Aflatoxin Exposures](#),” with the sobering statistic that more than one billion people and animals are hungry and undernourished globally. His research into mycotoxins is aimed at helping address this issue. This presentation was delivered on March 26, 2014 at the Society of Toxicology (SOT) 53rd Annual Meeting in Phoenix, Arizona.



Mycotoxins, toxic metabolites of fungi, are a long-standing problem in food, forming in places of high humidity and warm temperatures. Aflatoxin B is the most studied of the mycotoxins and has been found to be a co-factor for hepatocellular carcinoma. It is also hepatotoxic, immunotoxic, and antinutritional.

The people most vulnerable to aflatoxin exposure are the young and poorest people, and climate change and drought are expected to exacerbate the problem. Humans, though, aren't the only ones at risk, as animals exposed to aflatoxin suffer from growth retardation, affecting the animal industry.

Dr. Phillips discussed how clays have been used by ancient cultures for the treatment of diarrhea, wound healing, and skin infections, while also being used as binding agents for toxins. Studying one of these clays, dioctahedral smectite clay, he discovered it can tightly bind aflatoxin with more than 90 percent of aflatoxin being bound in the interlayer of dioctahedral smectite clay. Testing the clay further, Dr. Phillips found no adverse health effects from the consumption of the clay and strong evidence for specificity in animals, finding that dioctahedral smectite clay may protect animals against aflatoxicosis.

Next, Dr. Phillips and his team began clinical trials on humans, testing a form of dioctahedral smectite clay that was developed for human consumption called NovaSil™. A US-based Phase I trial showed no significant differences in hematology, liver, and kidney interaction, among other positive results. A Phase II trial in Ghana confirmed the safety and efficacy of NovaSil.

Researchers are currently working on how to include the clay in maize meal—one of the most common food ingredients in developing nations—and how to get it into nutritional supplements provided to malnourished infants and children. This is actually one of the main aims of Dr. Phillips' research: to reduce dietary aflatoxin exposure to improve nutrition and food safety in children. Translational impacts, indeed.

Jay I. Goodman Delivers Merit Award Lecture: “Toxicology is Part of the Solution”



The Society of Toxicology (SOT) 2014 Merit Award Recipient Jay I. Goodman delivered the Merit Award Lecture, Toxicology is Part of the Solution, on Monday, March 24, at the 53rd Annual Meeting of SOT. He invited the audience to take a journey with him over the past decades of his research by reviewing a number of his publications, extending from 1968 to an article accepted a week before the SOT Annual Meeting. According to Dr. Goodman, this journey takes place within the context of the theme that is the integral component of his research and teaching, “toxicology is part of the solution.”

Dr. Goodman described how “toxicological research plays a crucial role in enabling the use of chemicals (e.g., medicines, consumer products, and agricultural chemicals) to enhance the quality of people's lives and the environment.” He presented the salient aspects of his research in the area of “epigenetics meets toxicology.” He told the hundreds of scientist who attended this lecture that

“...my focus is on understanding the role that epigenetic alterations play in chemical carcinogenesis, and testing the hypothesis that susceptibility to carcinogens is related inversely to the capacity to maintain the normal epigenetic status.”

Dr. Goodman is a Professor in the Department of Pharmacology and Toxicology and a Faculty Member at the Center for Environmental Toxicology, Michigan State University. He has served as a mentor and adviser for many PhD students and postdoctoral fellows, many of whom he acknowledged during this Merit Award Lecture. Moreover, he has participated actively on numerous SOT Committees and Task Forces including Awards, Nominating, and Program Committees and has served as the President of the Michigan Regional Chapter, SOT Secretary, and SOT 1999–2000 President. For additional information, please visit the [SOT website](#).

A Conversation with Linda Birnbaum



This session has been a unique feature of SOT over the years. In the past years, there have been many directors on the spot, but this year, the organizers limited the forum to one: Dr. Linda Birnbaum, director of NIEHS. Channeling James Lipton, Dr. Norbert Kaminski set up the North Ballroom with an Inside the Actors Studio-like set and began the conversation by asking Dr. Birnbaum about what makes NIEHS unique. There was no prescribed direction for the conversation from there, but Kaminski led the way and then opened up the microphone to the audience to allow SOT attendees to ask Birnbaum about anything they desired.

Remarkably, there wasn't a barrage of investigators complaining about the abysmal NIH funding levels and asking what Birnbaum is doing about it. Instead, we heard from a half dozen or so undergraduate students asking important questions about the role NIEHS plays in real-world issues. They included questions about arsenic in the environment in Arizona, the drought in California, and the pre-term birth problems plaguing Puerto Rico. What did we learn? That NIEHS is involved in it all, at some level, and that Birnbaum has fun talking about arsenic.

Throughout the conversation, a few additional themes emerged that has earned Birnbaum a lot of respect for her leadership over the past several years. First, she returned to the concept of human variability multiple times during the session. In this regard, she advocated that researchers acknowledge that the extremes matter and that there are sensitive and resistant populations that can't be ignored as “outliers” in the standard deviation spread. A second theme that she has pushed from within NIEHS is to define the environment more broadly, pointing to the role of infectious disease, nutrition, social stressors, and the microbiome as key components of the environment that deserve greater attention. Finally, when asked about training the next generation of toxicologists, she spoke about improving the training aspect of all NIEHS-funded students and postdocs, not just ones funded through training grants.

As far as practical information goes, Birnbaum noted that the R01 payline for 2014 is 10 percent, just about the worst ever. Luckily, this did not dominate the hour, although the impact is clear.

Hooking a New Generation on Toxicology—Tales from the Undergraduate Education Program

Laughter, insightful questions, energetic presentations, mentoring, derby hats, and an emphasis on the need for the best and brightest undergraduates to join us in the field of toxicology have been the resounding themes thus far in the 2014 SOT Undergraduate Program at the 53rd Annual Meeting and ToxExpo.

While last night's events were more about breaking the ice, today's activities were all about getting the students—almost all of whom are not

toxicology majors—excited about the field and science of toxicology. SOT President Lois Lehman-McKeeman began the morning by telling the students that SOT “believes in building for the future,” which is why we invest in this program, before turning the program over to Antonio T. Baines, PhD, 1993 program alumnus, North Carolina Central University, to provide an introduction to toxicology.



Dr. Baines centered his talk on the fundamentals, such as the dose alone determines the toxicity. At the same time, he highlighted the importance of toxicology in real-world decisions and applications by sprinkling his presentation with discussions of current events, like the West Virginia chemical spill and the growing popularity of e-cigarettes. Other interesting components of his presentation included a caution to the students to be careful when you hear statements from the media that a chemical is good or bad, as the science is usually more complicated than that—and that we’re looking to them, as the future generation of scientists, to be the ones to help us determine the safety levels of chemicals. Despite a fire alarm partway through the presentation, Dr. Baines and the participants persevered, continuing the lecture outside in the sun.

Moving back indoors, Judith A. Zelikoff, PhD, SOT Council member, New York University School of Medicine, presented her research the use of smoked and smokeless tobacco products during pregnancy. And she had some scary statistics to share:

- There are more than 6,000 chemicals in cigarette smoke.
- While overall smoking rates are decreasing in developed countries, rates for smoking among teenage girls are rapidly rising, and in some countries, the girls are “out-smoking” their male counterparts.
- Globally, 14 million women smoke while pregnant.
- One hour-long hookah session is equivalent to smoking 100 cigarettes.
- It’s estimated that the hookah smoking rate amongst college students in the US is 40 to 48 percent.



As if these statistics weren’t eye-opening on their way, she then shared the research going on in her lab, where the effects of smoking during pregnancy on offspring are being researched. Some of the results show that childhood obesity and increased likelihood of childhood cancer can be connected with a mother smoking while pregnant.

The last presenter on the morning docket was Martin A. Philbert, PhD, ATS, University of Michigan, who discussed the difficulty of developing new medicines. He then went into detail on his and others’ research into theragnostics with nanoparticles and the creation of biodegradable polymers.

Dr. Philbert emphasized the important role that toxicologists can play in cross-disciplinary research and teams, stating bluntly, “My job is to say no.” He elaborated by saying that now more than ever, we need toxicologists who can talk across disciplines to mathematicians, engineers, and others to make sure that safety is coming first when developing new techniques, technology, and treatment.

Such a wealth of information was shared—and it was only the start, as the Undergraduate Program continues today and through tomorrow. Glad to have all of the students and mentors with us!

CDI Reunion: Celebrating the 25th Anniversary of the Minority Undergraduate Program

When I was selected to be part of the 2001 Minority Undergraduate Program, I had no idea the impression it would make on my life. At the time, I was not aware of toxicology as a research field or of the many opportunities that abound for careers in toxicology. The program introduced me to the broad field of toxicology, the different types of research occurring, various career fields, and a wonderful group of people.

I was so enthralled with the program that I made it a mission to become and stay involved with it so I could help undergraduate students discover toxicology and a love for scientific research. I volunteered with the program as a peer mentor throughout graduate school and as a host mentor after beginning my career in toxicology, with the goal of aiding the program in impacting the lives of other undergraduate and graduate students as it impacted my life and career decisions.

I remember one particular year in which I was a host mentor. There were a couple of undergraduate students in my group who were there because their advisors made them apply for the program, but they didn't comprehend why their advisors wanted them to participate. After talking with them a bit, I asked about their science interests and what research they were interested in. When I described their interests and research to them in a way that highlighted toxicology, their eyes lit up and their minds opened. Afterwards their interest in being there increased, as did their participation. That is what it is all about: turning the light bulb on about what is available and open to them as toxicologists.

As this year marks the 25th anniversary celebration of the Minority Undergraduate Program, it is motivating to look back over the history of the program and see how we have made a difference in the lives of so many who would have never had the opportunity to learn about and join the field of toxicology. It is also exciting to plan for the many more who will be a part of the program in future years.

As an added bonus, being a part of the program introduced me to friendships that have lasted over the many years. While we may not see each other during the year due to busy and varied schedules, we know that we will be together at the SOT CDI Reunion each year that the Annual Meeting. Tonight, I am looking forward to interacting with this year's group of students and mentors, as well as catching up with friends to celebrate the 25th anniversary of the Minority Undergraduate Education Program.

Jennifer L. Rayner is a 2001 alumna of Minority Undergraduate Education Program and was the 2011-2012 Chair of the SOT Committee on Diversity Initiatives.

SOT Annual Meeting High School Poster Exposition

A Student High School Poster Exposition was held on March 25, 2014, in conjunction with 53rd Society of Toxicology Annual Meeting

Back when I was in high school.....sigh.....our science projects did not involve measuring lung function, assessing changes in gene expression in rat liver, or looking at changes in DNA secondary structure in response to potential treatments targeting the KRAS promoter in pancreatic cancer. Our complex computational tool was Encyclopedia Britannica..... But I digress.

Tuesday morning found me in the presence of 13 high school students from right around the corner in Phoenix and as far away as Durham, NC (TX, LA, MD, VA were also proudly represented). I was glad to be asked to "view the posters and interact with the students," rather than to "judge the posters"...because the latter would have been really tough. These kids have really taken advantage of whatever resources (human and physical) to which they had access and presented the results of very interesting research projects. Gone are the days of waiting for bean seedlings to wilt after application of whatever Mom had under the kitchen sink—these were very sophisticated research projects. From each presenter (or presenting team), I learned the background of their projects, the question that they were asking/hypothesis that they were testing, their methods (most of them seem really excited about this part!), and finally the results.

Most were aware of the scientific method, importance of replicates, etc. I was impressed! For example, from Heba

Haleem (Chandler, AZ), I learned that inhaled arsenic decreases collagen expression in and impairs the function of developing lungs. Justin Chang (Durham, NC) told me about his efforts to identify novel gene transcripts in rat liver following treatment with low doses of aflatoxin B1. It turns out that there are still unknown transcripts out there, and Justin hopes that one of them might be a useful early biomarker of liver carcinogenesis. It was humbling to learn that there is a high school student out there who knows more about the KRAS promoter that I have forgotten, but Natalie Van Ert is just that person, and she described her project dealing with drugs that alter DNA secondary structure of this promoter as a potential novel means to identify drugs that are potential chemotherapeutics for pancreatic cancer. The survival rate for this cancer is very low (less than 10% of those diagnosed live for 5 years thereafter), and she has found some drugs that work *in vitro*, so let's hope that her initial efforts make it into the clinic to tackle this very grave condition.

These are just a few of the many projects I viewed, and I thank all of the students (and their mentors) for their time and effort to come to the meeting, post and present their results, and interact with the more senior scientists at the meeting. While not all of the students expressed an interest in pursuing a career in research, (I heard of other career goals ranging from medicine to philosophy), the training that they have received in the scientific method and presenting their results will translate well into whatever fields they eventually decide to pursue. And who knows...when we're old and approaching senility, perhaps one of them will come up to us and ask "...do you remember me...I told you about my project 'Tesla with Time' at the SOT Annual Meeting in Phoenix..."—wouldn't that be great!!

Mentee Insight into the SOT Mentoring Program

My mentoring breakfast started with an early wake up time of 5:00 am. I am not one to choose this time normally, but I felt the [SOT Mentoring Breakfast](#) was worth the missed sleep.

In the sciences, I find it difficult to find mentors. Although collaborations are encouraged, it is difficult to cast aside the competitiveness that is inherent in the field, so the fact that the Society of Toxicology feels this session is important enough to run for its third year is a breath of fresh air.

I went to the breakfast expecting to meet my mentor there, but found out quickly that the mentoring was not something that would happen in that room. The setup of the meeting is simple: There was a greasy breakfast with coffee, perfect for waking me up for the coming day. The organizers then explained that the facilitator assigned to your table would be working with you to find a perfect fit for what you want out of the mentorship, and I realized this would work much better than meeting a mentor that fits just by chance. It allows for a more intelligent decision, one that increases the likelihood that you and your mentor will stay in touch.



This up-front research also allows for a beneficial transaction both ways between the mentor and mentee. It allows you and your mentor to grow and learn with each other. I am so happy I ended up going to this mentoring breakfast, and I am sure due to my facilitator's good research on me, my interests, and needs that I will soon be matched with an excellent mentor—once again underlining the importance of that 5:00 am wakeup call.

Insight into the SOT Mentoring Program

This morning, I attended the third annual mentoring breakfast of the SOT Annual Meeting and ToxExpo. It is certainly an event that is already a tradition during our Annual Meeting, and I have been lucky enough to participate in the event since the creation, as a facilitator and on the event planning committee.



For those of you that are not familiar with this program, it was created by the SOT's Women in Toxicology Special Interest Group, and it is now sponsored by Career Resource and Development Committee. It began at 6:15 am this morning, and the end goal is to focus on aiding early scientist toxicologists in finding mentors in their sector of choice and to help them in their career development.

During the breakfast, a "facilitator" sits with four potential mentees and discusses their needs and desires. The facilitators then go back home with the mission of finding a match mentor for each one of the mentees that was at

his/her table.

This year, the event was chaired by Sol Bobst and co-chaired by Barb Kaplan. It started with an excellent breakfast, with plenty of fruits, coffee, and other goodies that I can't name because I try to avoid them all together. Dr. Bobst opened the section and welcomed the attendees, followed by Ofelia Olivero saying a few words representing Council. This year, a mentee from previous years, John Ross, talked to the audience about his own experiences.

Once the short talks ended, I had a nice conversation with the trainees that joined my table. Viny Srinivasan and I were very lucky to share our table with six mentees from all over the US. We had postdocs, grad students, and a master graduate. The trainees received, as a gift, the book written by Ofelia Olivero, *Interdisciplinary Mentoring in Science: Strategies for Success*.

Going home, my next step is doing an extensive search in the mentor match website to find the perfect match for my trainees.

SOT 2013 Annual Meeting Sessions Presented at 2014 AAAS Annual Meeting

On February 13–17, 2014, four 2013 SOT Annual Meeting sessions were presented at the [2014 AAAS Annual Meeting](#) in Chicago, Illinois. All four sessions were well received and attended.

The sessions were as follows:

- 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 Cory-Slechta and Michelle Block*

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

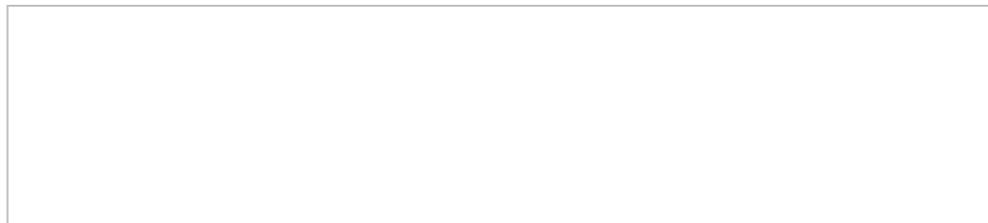
2014 SOT Annual Meeting Lost and Found

Thank you for attending the Society of Toxicology (SOT) 53rd Annual Meeting in Phoenix, Arizona, March 23–27, 2014. At the conclusion of this meeting, several items remained unclaimed in the SOT Headquarters Office Lost and Found. These items include a women's black blazer (size 8), a pencil case with a Kept. Logo, sunglasses (white and

gray frames and blue-tinted lenses); three pair of women's readers (mauve, bright pink, and black with rhinestones), women's patent leather belt, and a jump drive. To retrieve an item you have lost, please contact [SOT Headquarters](#).

Science News

June 2014 *Toxicological Sciences*, Vol. 139, Issue 2 Now Available Online



The [June 2014 Vol. 139, 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, please [register](#) online.

The Forum article in this issue is [The Role of Toxicological Science in Meeting the Challenges and Opportunities of Hydraulic Fracturing](#) by Bernard D. Goldstein, Bryan W. Brooks, Steven D. Cohen, Alexander E. Gates, Michael E. Honeycutt, John B. Morris, Jennifer Orme-Zavaleta, Trevor M. Penning, and John Snawders. An [Executive Summary](#) of this article serves as an Issue Statement for the Society of Toxicology (SOT) on Hydraulic Fracturing. As part of the Society's mission to build for the future of toxicology and to promote the recognition of Toxicology by increasing the reliance of policy, regulatory, and corporate decision-makers on the science of Toxicology, SOT has developed a procedure for writing [Issue Statements](#).

The paper selected for the Editor's Highlight in this issue is [Prenatal Arsenic Exposure and Shifts in the Newborn Proteome: Interindividual Differences in Tumor Necrosis Factor \(TNF\)-Responsive Signaling](#) by Kathryn A. Bailey, Jessica Laine, Julia E. Rager, Elizabeth Sebastian, Andrew Olshan, Lisa Smeester, Zuzana Drobná, Miroslav St??blo, Marisela Rubio-Andrade, Gonzalo Garc??a-Vargas, and Rebecca C. Fry. The Editor's Highlight by Editor-in-Chief Gary W. Miller and Associate Editor Ronald N. Hines states that " Babies, infants and young children are not just small adults; their physiology and biochemistry differs in countless ways creating a need for research on this vulnerable population. But such research poses numerous ethical and moral challenges. The acquisition of umbilical cord blood provides an opportunity to assess the newborn's environment without risk to the child. In this issue of the Journal, Bailey and coworkers used antibody arrays to examine protein profiles in umbilical cord blood and compared it to levels of arsenic in the mothers' urine and drinking water. The study population was based in G'omez Palacio, Mexico, where arsenic levels are well above regulatory guidelines. Protein network analysis revealed several proteins involved in tumor necrosis factor signaling were elevated in the offspring of highly exposed mothers, suggesting that elevated arsenic induces widespread inflammatory signaling. Such markers could ultimately be used to assess the impact of arsenic exposure in this and other vulnerable populations and may lead to mechanisms whereby arsenic exposure *in utero* contributes to adverse outcomes later in life."

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

Diverse UK Organizations Support "Concordat on Openness on Animal Research in the UK"

In the United Kingdom (UK), more than 70 organizations have agreed to increase public understanding about the importance of animal research by becoming signatories on the "Concordat on Openness on Animal Research in the

UK." Those groups supporting this "Concordat" include universities, pharmaceutical and biotech companies, health charities, scientific societies, and associations. Four commitments are presented in this document as follows:

1. We will be clear about when, how and why we use animals in research;
2. We will enhance our communications with the media and the public about our research using animals;
3. We will be proactive in providing opportunities for the public to find out about research using animals;
4. We will report on progress annually and share our experiences.

The full text of the "[Concordat on Openness on Animal Research in the UK](#)" is available online.

Geoff Watts, chair of the group that steered the development of the statement, said "I am convinced that it will result in there being much more opportunity for the public to find out about the reality of animal research in this country."

More on Big Data Training for the Scientific Workforce

In the most recent release of the Rock Talks blog, Sally Rockey, NIH's Deputy Director for Extramural Research, posted an article on Big Data Training for the Scientific Workforce. The opening paragraph and a link to the full blog posting is provided below. Dr. Rocky also serves as the principle scientific leader and advisor to the NIH Director on the NIH extramural research program.

More on Big Data Training for the Scientific Workforce

Biomedical science and healthcare research are generating increasingly large and complex sets of data, from many different subfields. New strategies are needed to manage, integrate, analyze, visualize, and draw conclusions from this "big data," and our [Big Data to Knowledge \(BD2K\) Initiative](#), which originated from an [Advisory Committee to the Director \(ACD\) working group](#), is NIH's way of addressing these needs. For additional information, please visit [Rock Talk blog website](#).

Centers for Excellence in Genomic Sciences (CEGS) (RM1)

The Centers of Excellence in Genomic Sciences (CEGS) program establishes academic Centers for advanced genome research. Each CEGS grant supports a multi-investigator, interdisciplinary team to develop innovative genomic approaches to address a particular biomedical problem. A CEGS project will address a critical issue in genomic science or genomic medicine, proposing a solution that would be a very substantial advance. Thus, the research conducted at these Centers will entail substantial risk, balanced by outstanding scientific and management plans and very high potential payoff.

A CEGS will focus on the development of novel technological or computational methods for the production or analysis of comprehensive data sets, or on a particular genome-scale biomedical problem, or on other ways to develop and use genomic approaches for understanding biological systems and/or significantly furthering the application of genomic knowledge, data, and methods towards clinical applications. Exploiting its outstanding scientific plan and team, each CEGS will nurture genomic science at its institution by facilitating the interaction of investigators from different disciplines, and, by providing training to new and experienced investigators, it will expand the pool of highly-qualified professional genomics scientists and engineers. For additional information, please visit the [NIH website](#).

Application Receipt/Submission Date(s): July 2, 2014; May 20, 2015; May 20, 2016.

Environmental Contributors to Autism Spectrum Disorders: R21 Grant

R21 Grant

The National Institute of Environmental Health Sciences, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institute of Mental Health has released a new Funding Opportunity Announcement (FOA) for an R21 grant ([PAR-14-202](#)). The purpose of this FOA is to stimulate and foster research to (1) identify environmental contributors to risk and expression of autism spectrum disorders (ASD) and (2) understand how environmental factors impact the underlying biologic processes implicated in ASD.

The R21 grant mechanism is intended to encourage exploratory and developmental research projects by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on biomedical, behavioral, or clinical research. A range of approaches is being encouraged by this FOA, from basic mechanistic studies using *in vitro* and *in vivo* model systems to studies that add new data collection activities and/or make use of extant data or biospecimens in existing human studies. Studies that address hypotheses related to the joint contribution of genes and environment are of particular interest. It is anticipated that knowledge gained from the research supported by this FOA will be used to inform public health prevention and intervention strategies.

Application Receipt/Submission Date(s): August 26, 2014; August 26, 2015; August 26, 2016

Environmental Contributors to Autism Spectrum Disorders: R01 Grant

The National Institute of Environmental Health Sciences, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institute of Mental Health released a new Funding Opportunity Announcement (FOA) for an R01 grant ([PAR-14-203](#)) regarding the Environmental Contributors to Autism Spectrum Disorders.

The purpose of this FOA is to stimulate and foster research to (1) identify environmental contributors to risk and expression of autism spectrum disorders (ASD) and (2) understand how environmental factors impact the underlying biologic processes implicated in ASD. The R21 grant mechanism is intended to encourage exploratory and developmental research projects by providing support for the early and conceptual stages of these projects. These studies may involve considerable risk but may lead to a breakthrough in a particular area, or to the development of novel techniques, agents, methodologies, models, or applications that could have a major impact on biomedical, behavioral, or clinical research. A range of approaches is being encouraged by this FOA, from basic mechanistic studies using *in vitro* and *in vivo* model systems to studies that add new data collection activities and/or make use of extant data or biospecimens in existing human studies. Studies that address hypotheses related to the joint contribution of genes and environment are of particular interest. It is anticipated that knowledge gained from the research supported by this FOA will be used to inform public health prevention and intervention strategies.

Application Receipt/Submission Date(s): August 26, 2014; August 26, 2015; August 26, 2016

Unconventional Roles of Ethanol Metabolizing Enzymes, Metabolites, and Health and Disease Cofactors

The purpose of this [Funding Opportunity Announcement \(FOA\)](#) is to provide support for integrated, innovative research on the novel and unconventional contributions of ethanol metabolizing pathways, their metabolites, cofactors, and interactions with synergizing biological pathways in the development of alcohol-induced diseases and end organ injuries. It is anticipated that this FOA will generate data that may lead to breakthroughs in our understanding of identifying key cellular and molecular components in the initiation, progression, and maintenance of the diverse medical disorders caused by excessive, long-term alcohol consumption. In the future, this knowledge may be critical in the diagnosis, treatment, and management of vulnerable patient population debilitated by the vast array of alcohol-induced

pathologies and enable clinicians to improve disease outcomes and, consequently, public health.

Notice of Expiration of PAR-12-205 IDeA Networks of Biomedical Research Excellence (INBRE)

Issued by the [National Institute of General Medical Sciences \(NIGMS\)](#) on May 1, 2014, this Notice is to inform the scientific community that NIGMS is terminating immediately PAR-12-205 “IDeA Networks of Biomedical Research Excellence (INBRE) [P20]” because the National Institutes of Health no longer supports paper submissions for this funding mechanism (P20).

Applications will not be accepted in response to [PAR-12-205](#). However, NIGMS intends to issue an updated Funding Opportunity Announcement (FOA) that will utilize electronic submission.

Notice of NCI Interest in Supporting Cancer Nanotechnology Research Training Programs

The National Cancer Institute (NCI) supports the development of translational nanotechnologies with applications in the diagnosis and therapy of cancer through its [Alliance for Nanotechnology in Cancer](#) program. Cancer nanotechnology is widely viewed as a promising and highly innovative field, with the potential for transformative scientific advancements and practical applications relevant to cancer.

The NCI participates in the National Institutes of Health (NIH) Parent Program Announcement [PA-14-015](#) “Ruth L. Kirschstein National Research Service Award (NRSA) Institutional Research Training Grant (Parent T32).”

Through this [Notice](#), the NCI announces that eligible applicant institutions and applicants are welcome to submit T32 applications to PA-14-015 that request support for the development and operation of cancer nanotechnology research training programs. Such programs would be expected to educate graduate students and postdoctoral fellows in the multi-disciplinary field of cancer nanotechnology research. The targeted graduate student and postdoctoral researchers should have broad academic and research backgrounds, including, but not limited to, the disciplines of medicine, biology, and/or other health sciences as well as in the physical sciences, chemistry, and engineering. All requirements of PA-14-015 would need to be followed in any application (and award) that proposes to develop and conduct a cancer nanotechnology research training program.

The NCI plans to designate up to \$2 million per year over five years in total to fund T32 applications which are submitted to PA-14-015 and are focused on training in the area of cancer nanotechnology research.

Please direct all inquiries to:

Ming Lei, PhD
Center for Cancer Training
National Cancer Institute (NCI)
Telephone: 240-276-5630
Email: leim@mail.nih.gov

Piotr Grodzinski, PhD
Office of Cancer Nanotechnology Research
National Cancer Institute (NCI)
Telephone: 301-451-8983
Email: grodzinp@mail.nih.gov

US FDA Intent to Publish FOA: Pharmacometric Modeling and Simulation for Generic Drugs Evaluation

The US Food and Drug Administration (FDA) has announced a [Notice of Intent to Publish a Funding Opportunity Announcement \(FOA\) for Pharmacometric Modeling and Simulation for Generic Drugs Evaluation \(U01\)](#).

Purpose

This Notice is to inform potential applicants of the US FDA intent to publish a FOA to solicit applications for pharmacometric modeling and simulation for generic drugs evaluation, and allow sufficient time to develop meaningful collaborations and responsive projects. The FOA is expected to be published in March 2014 with an expected application due date in May/June 2014. Applications for this FOA will be electronic and be submitted through the [Grants.gov website](#). Applications are not being solicited at this time.

Research Initiative Details:

The purposes of this project are to develop quantitative models for generic drugs evaluation in the following areas (1) narrow therapeutic index (NTI) drugs, (2) generic drug substitutability and post marketing risk assessment, and (3) partial AUCs (area under the concentration vs. time curve) as bioequivalence criteria. Each area is a subtopic of the grant.

This Notice encourages teams with complementary expertise in quantitative pharmacometric modeling and simulation experience to consider applying for the new FOA when published.

Notice of Intent to Publish FOA: Modeling and Simulation for Non-Gastrointestinally Absorbed Drugs

The US Food and Drug Administration (FDA) has announced a Notice of Intent to Publish a Funding Opportunity Announcement (FOA) for [Physiologically Based Absorption and Pharmacokinetic Modeling and Simulation for Non-Gastrointestinally Absorbed Drug Products in Humans \(U01\)](#).

Purpose

This Notice is to inform potential applicants of the US FDA intent to publish a FOA for physiologically based absorption and pharmacokinetic modeling and simulation for non-gastrointestinally absorbed drug products in humans, allow potential applicants sufficient time to develop meaningful collaborations and responsive projects, and encourages teams with complementary expertise in the physiologically based modeling and simulation experience to apply for this new FOA. Proposed applications will develop physiologically based absorption and pharmacokinetic models to facilitate generic drug product guidance preparation, development of generic formulations by industry, and generic drug product evaluation in the subtopics listed in this FOA.

NIAAA Alcohol-Induced Effects on Tissue Injury and Repair FOA-R01

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has released a Funding Opportunity Announcement (FOA) regarding [Alcohol-Induced Effects on Tissue Injury and Repair \(PA-14-123\)](#). This FOA encourages Research Project Grant (R01) applications to study molecular and cellular mechanisms of tissue injury and repair associated with alcohol use in humans. Excessive alcohol consumption has the potential to adversely affect multiple organ systems including the liver, brain, heart, pancreas, lung, kidney, endocrine, and immune systems, as well as bone and skeletal muscle.

In addition, there is accumulating evidence that long-term alcohol consumption is associated with reduced host capacity for recovery and repair following trauma. The mechanisms for these alcohol-induced effects on tissue injury and repair are currently not fully understood. NIAAA is especially interested in integrative research that elucidates alcohol's effects on complex mechanisms of injury and repair that are either common or specific to each organ system. This FOA also encourages the study of alcohol's effect on stem cells, embryonic development, and regeneration as well as studies on molecular and cellular actions of moderate alcohol consumption. A better understanding of these underlying mechanisms may provide new avenues for developing more effective and novel approaches for prognosis, diagnosis, intervention, and treatment of alcohol-induced organ damage.

Alcohol-Induced Effects on Tissue Injury and Repair (R21)— Exploratory/Developmental Research Grant

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) released a Funding Opportunity Announcement (FOA) for [Alcohol-Induced Effects on Tissue Injury and Repair, R21 Exploratory/Developmental Research Grant](#). This FOA encourages applications to study molecular and cellular mechanisms of tissue injury and repair associated with alcohol use in humans. Excessive alcohol consumption has the potential to adversely affect multiple organ systems including the liver, brain, heart, pancreas, lung, kidney, endocrine, and immune systems, as well as bone and skeletal muscle. In addition, there is accumulating evidence that long-term alcohol consumption is associated with reduced host capacity for recovery and repair following trauma. The mechanisms for these alcohol-induced effects on tissue injury and repair are currently not fully understood.

The NIAAA is especially interested in integrative research that elucidates alcohol's effects on complex mechanisms of injury and repair that are either common or specific to each organ system. This FOA also encourages the study of alcohol's effect on stem cells, embryonic development, and regeneration. Also encouraged are studies on molecular and cellular actions of moderate alcohol consumption. A better understanding of these underlying mechanisms may provide new avenues for developing more effective and novel approaches for prognosis, diagnosis, intervention, and treatment of alcohol-induced organ damage.

Consortium for Food Allergy Research RFA: NIAID, Due Date June 19, 2014

This Funding Opportunity Announcement solicits [applications](#) from single institutions to administer a multi-project, multi-institution program, to conduct clinical research and assume the leadership and administrative responsibilities for the Consortium for Food Allergy Research (CoFAR). The selected applicant will continue the mission of the CoFAR, which focuses on immune and other intervention strategies for the prevention and treatment of food allergy, including food allergen-associated severe allergic reactions and anaphylaxis, and food allergen-associated eosinophilic esophagitis.

The Consortium will conduct interventional trials with associated mechanistic studies, and observational/natural history, and/or genetics studies with associated mechanistic studies, in order to understand better the immunopathogenesis of these conditions. The application due date is June 19, 2014, by 5:00 pm local time of applicant organization.

SOT Science News Alert April 2014

Dear SOT Members,

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

contact the organizers directly.

Drug Safety: Bridging the Divide Between Preclinical and Clinical Drug Safety—June 1–6, 2014

A Gordon Research Conference on Drug Safety: Bridging the Divide Between Preclinical and Clinical Drug Safety, will be held June 1–6 at Stonehill College, Easton, Massachusetts. The goals of this new conference are to stimulate discussion of contemporary approaches to assessing drug safety and to bridge the divide that exists between individuals working in pre-clinical and clinical drug safety research. An additional objective is to catalyze discussions among drug safety experts in academia and industry, so as to create opportunities for collaboration and to strengthen the valuable relationship between basic and applied research in the field of drug safety. The target audience is an equal mix of academic and industry scientists striving to improve drug safety. Funding is available for graduate students and postdoctoral fellows who are presenting outstanding posters. Full program details are available on the [conference website](#) as well as the [application](#) to attend this conference.

Society of Toxicologic Pathology 33rd Annual Symposium—June 22–26, 2014

“Translational Pathology: Relevance of Toxicologic Pathology to Human Health” is the theme of the Society of Toxicologic Pathology (STP) 33rd Annual Symposium, which will be held June 22–26, 2014, at the Marriott Wardman Park Hotel in Washington, DC. Topics will include the predictive value of nonclinical models and how animal models and human endpoints inform each other, progress in the development of new nonclinical animal models and other types of models, emerging technologies that have the potential to improve translational capabilities, the role and utility of epigenetic endpoints in toxicologic pathology and their relevance to human health, how pathology outcomes inform human health assessments and regulatory decisions, and the challenges of developing translational models that provide useful information on human populations with comorbidities. By the end of this symposium, the audience will have a better understanding of current trends and data needs in translational pathology and how the field can leverage expertise and tools to meet these needs. An interactive pre-meeting National Toxicology Program (NTP) Satellite Symposium will be held on Saturday, June 21, and four Continuing Education (CE) Courses will be offered on Sunday, June 22. The scientific sessions on Tuesday, June 24, have been designed in response to requests from the Federal regulatory community. US Government employees may register by June 1 to attend Tuesday sessions at no charge. Visit the [2014 STP Annual Meeting website](#) to view the program and additional meeting details on exhibits, sessions, CE courses, and special events

Teratology Society 54th Annual Meeting—June 28–July 2, 2014

The theme of the 54th Annual Meeting of the Teratology Society is “Pushing the Boundaries of Birth Defects Research.” The meeting will highlight the latest scientific information and technology in birth defects and developmental disabilities research. Symposium topics include early prenatal diagnosis of birth defects, testicular dysgenesis syndrome, epigenetics, and thrombosis during pregnancy. The meeting also will feature special programs for the next generation of birth defects researchers including a workshop on building a career in developmental toxicology and a NEW Student Innovative Design Competition for improving prenatal development and child health. This competition asks students to imagine novel solutions to technical problems in the broad field of teratology—encompassing anything from a new measurement technique for exposure to environmental contaminants during pregnancy to a wireless method for assessing fetal health. The interdisciplinary nature of the Society provides unique opportunities to look broadly at complex issues. The Annual Meeting will be held June 28–July 2, 2014, in Bellevue, Washington, located on the eastside of Seattle. For more information, visit the [Teratology Society Annual Meeting website](#).

Environmental Mutagenesis and Genomics Society 45th Annual Meeting—September 13–17, 2014

The 45th Annual Meeting of the Environmental Mutagenesis and Genomics Society (EMGS) will be held September

13–17, 2014, at the Hilton Orlando Lake Buena Vista, in Orlando, Florida. This year’s theme is “Integrating Environmental, Genomic, and Health Research.” The meeting will provide a forum for the latest research on DNA damage and repair, mechanisms of mutagenesis, epigenetic regulation, and their contributions to environmentally-induced human disease. In addition, current regulatory issues and risk assessment strategies will be discussed. EMGS is unique in that it provides a platform for the cross-disciplinary integration of basic and applied sciences that provide an understanding of the impact of genetic toxicity on human populations. The goals of this meeting are to (1) build on our past contributions to the field of environmental and molecular mutagenesis and DNA repair and more fully understand the role of epigenetics in these basic mechanisms; (2) integrate applied genetic toxicology with basic research in DNA damage and repair, toxicogenomics, and epigenetics; (3) determine how emerging technologies can lead to a better understanding of environmentally-induced genetic disease; (4) have these data serve as a foundation for human risk assessment for disease and disease prevention; and (5) aid in the support of knowledge-based regulation to protect public health and the environment. This is a meeting not to be missed. For additional information, visit the [EMGS 2014 Annual Meeting website](#).

Safety Pharmacology Society 14th Annual Meeting, October 19–22, 2014, Washington, DC

The Safety Pharmacology Society (SPS) 14th Annual Meeting will be held October 19–22, 2014, in Washington, DC and will provide a dynamic forum for sharing the latest in safety pharmacology. The scientific program will offer in-depth discussions of relevant topics to keep you “in the know.” This meeting will feature a diverse range of scientific sessions organized into two tracks, covering issues such as, Cardiovascular, Central Nervous System, Non Cardiac Ion Channels, Respiratory, Regulatory, New Assays, Peripheral Neuropathy, and an all day Plenary on Wednesday covering the Updates and Perspectives on Comprehensive *In Vitro* Proarrhythmia Assay (CIPA). The meeting also will offer a full day of Continuing Education courses on October 19, both on an introductory level as well as advanced courses for the expert, and the Diplomate in Safety Pharmacology (DSP) Certification exam will be held the day before the meeting on October 18. For preliminary meeting information, please visit the [SPS Annual Meeting website](#).

American College of Toxicology’s 35th Annual Meeting, November 9–12, 2014, Orlando, Florida

The American College of Toxicology (ACT) Annual Meeting provides an ideal venue for keeping abreast of emerging trends in the discipline of toxicology, for staying connected with friends and colleagues, and for making new connections. This year’s annual meeting will include a world-class scientific program, a unique welcoming reception venue, our popular traditional poster/reception session, more social/functional events in the exhibit hall to enhance broad interactions among attendees, students, and exhibitors, and much more. The ACT Annual Meeting is the perfect blend of educational resource and interpersonal engagement for toxicologists working to stay at the top of their game. Please join us at a beautiful Orlando resort for what is sure to be another memorable ACT Annual Meeting. For more information, visit the [ACT Annual Meeting website](#).

Legislative and Regulatory Update

NIH Announces New Policies to Address Gender Differences in Biomedical Research

In a May 14, 2014, posting on the Director’s Page on the National Institutes of Health (NIH) website, Janine Austin Clayton describes new policies to address gender differences in research. In “Filling the Gaps: NIH Enacts New Policies to Address Sex Differences,” Dr. Clayton described next steps on implementing these policies, which she and NIH Director Francis Collins announced in the May 14, 2014 issue of *Nature*. Dr. Clayton is the Director, Office of Research on Women’s Health and Associate Director for Research on Women’s Health, NIH.

Dr. Clayton stated that “NIH is now requiring applicants to report their cell and animal inclusion plans as part of

preclinical experimental design. By implementing this policy, we are promoting a balanced approach to address male and female differences in cells and animals—just as we did years ago with women and men in NIH-funded clinical trials.

To read all of Dr. Clayton's blog, please visit the [NIH website](#).

NTP: Nomination Requested of Reference Chemicals for *In Vitro* Metabolism Assays—Due June 2

The National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM) requests the nomination of reference chemicals, with supporting data, to be used to validate *in vitro* metabolizing systems with the potential to interact with estrogen receptors (ERs) or androgen receptors (ARs). Specifically, reference chemicals are needed to characterize the usefulness and limitations of *in vitro* metabolizing systems for use in conjunction with ER and AR transactivation tests.

Details of the request were published in the Federal Register that is available on the [NTP website](#). Additional information and an Excel template for data submission are available at the [NTP website](#). Please submit nominations to [NICEATM](#) by June 2.

NTP Announces Board of Scientific Counselors Meeting: June 17–18

The National Toxicology Program (NTP) announces the June 17–18, 2014 meeting of the Board of Scientific Counselors (BSC) and requests comments. The meeting begins at 8:30 am Eastern Daylight Time each day and continues until adjournment. The written public comment submissions deadline is June 3, 2014. The preregistration for the meeting and/or oral comments deadline is June 10, 2014. Registration to view the meeting via the webcast is required. The Federal Register notice, agenda, registration, and other meeting information are available at the [NTP website](#).

NTP Update: ICCVAM To Hold Public Forum on June 25

The Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) invites you to participate in a public forum. The purpose of the forum is give stakeholders and members of the public an opportunity to provide ideas and suggestions to representatives of the federal agencies that comprise ICCVAM. Interested persons will be able to attend in person or via teleconference and have the opportunity to make short public statements and ask questions regarding the topics discussed.

The forum is on Wednesday, June 25, 2014, from 1:00 pm to approximately 4:00 pm at the William H. Natcher Conference Center at the National Institutes of Health in Bethesda, Maryland. Please register to attend by Friday, June 11. You may attend the forum in person or via teleconference. Information about the forum and links to registration forms are available at the [National Toxicology Program website](#).

SOT Principles for Sound Chemical Regulation under the Toxic Substances Control Act

As the 113th Congress continues efforts to revise the 38-year-old chemical regulation statute, the Toxic Substances Control Act of 1976 (TSCA), the Society of Toxicology (SOT) TSCA Subcommittee is working with members of

Congress and their staff to offer assistance on key scientific provisions of draft legislation. In late February, subcommittee members Ron Filler and George Gray visited Capitol Hill to meet with multiple offices to discuss TSCA.

During their visits, Drs. Filler and Gray stressed the importance of ensuring that the scientific sections of the legislation are consistent with the best possible science and flexible enough to accommodate future scientific advances in toxicology. They also presented the following three principles that SOT has endorsed to help guide legislators in the reform of the 38-year-old statute:

- Avoid prescription of specific methods or techniques for generating information used in the safety and risk assessment process.
- Protect the authority of the US Environmental Protection Agency to judge when, and how, to apply new techniques and methods for generating information for safety and risk assessment within TSCA.
- Apply concepts used in the safety and risk assessment process consistently throughout the proposed legislation.

While speaking with representatives on Capitol Hill, Drs. Gray and Filler expanded upon the first principle, noting that “there may be techniques that have great promise for public safety, but are not yet developed enough to be reliable, or there may be other techniques that are well established, but have become obsolete by newer, more predictive methods.”

SOT plans more meetings on Capitol Hill and has pledged to work with staff and Members of Congress as the House and Senate continue their work to modernize this major environmental statute.

SOT and CDC NIOSH Memorandum of Understanding Extended

The Society of Toxicology (SOT) and Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health (NIOSH), signed a Memorandum of Understanding (MOU) in 2011 based on the areas of mutual interest of these organizations. The 2011 MOU was signed by SOT 2010–2011 President Michael P. Holsapple and NIOSH Director John Howard. At the request of NIOSH, an extension of the Memorandum was signed by SOT 2013–2014 President Lois D. Lehman-McKeeman and Dr. Howard.

The MOU stated recognition of “the benefits of a collaborative partnership to improve occupational safety and health, as well as prevention and control of disease.” Moreover, “NIOSH and SOT agreed to work collaboratively through partnership now and in the future to promote best practices associated with exposure science and control.” View the full [MOU](#) and the [extension](#) online.

Position Advertisement(s)

Employment Position: The University of Toledo College of Pharmacy and Pharmaceutical Sciences

The University of Toledo College of Pharmacy and Pharmaceutical Sciences

Job title: Tenure-Track Assistant Professor of Pharmacology

Job location: Toledo, OH 43614 United States

Requisition code: 20239

Date posted: 04/21/14

Job type: Full-Time

Compensation: Commensurate with experience

Job Classification

Job Category: Academic—All

Academic-Professor-Assistant/Associate/Full

The Department of Pharmacology at The University of Toledo College of Pharmacy and Pharmaceutical Sciences is seeking applicants for a tenure-track assistant professor position. The duties of the successful candidate will include teaching, research, and service. The candidate will be expected to teach in the four main programs taught by faculty in the Department of Pharmacology in the College of Pharmacy and Pharmaceutical Sciences: Doctor of Pharmacy program, the BS in Pharmaceutical Sciences program, the MS in Pharmaceutical Sciences program and the PhD in Experimental Therapeutics program. The candidate is expected to develop and establish an independent, externally funded research program and to mentor graduate student theses and dissertation research in the master's and PhD programs. The candidate will have opportunities to collaborate on ongoing research projects with department faculty including, but not limited to, cardiovascular and renal pharmacology, drug metabolism, neuropharmacology/toxicology, zebrafish research, and environmental toxicology. The College of Pharmacy and Pharmaceutical Sciences is located on the Health Science Campus of The University of Toledo; the candidate will have the opportunity to collaborate with nursing and medical school faculties, and through the Center for Hypertension and Personalized Medicine and the Center for Biomarker Research and Individualized Medicine.

The candidate is also expected to serve on departmental, college, and university committees, as assigned by the department chair and/or the dean of the College of Pharmacy and Pharmaceutical Sciences.

Addendum

Eligible applicants should have a PhD degree in Pharmacology or Toxicology, with post-doctorate research experience. A PhD degree in related fields will be also considered if the applicant has a degree in Pharmacy or Pharmaceutical Sciences or if the applicant has a minimum of two years' experience teaching courses in pharmacy, pharmacology, or pharmaceutical sciences.

Job Requirements

Education, Training, Experience:

Eligible applicants should have a PhD degree in Pharmacology or Toxicology, with post-doctorate research experience. A PhD degree in related fields will be also considered if the applicant has a degree in Pharmacy or Pharmaceutical Sciences. Interested applicants must Submit an application, cover letter, CV, copies of diplomas/transcripts, and a list of references, with reference to Job #20239, to the [University of Toledo website](#).

The University of Toledo is an Equal Access, Equal Opportunity, Affirmative Action Employer and Educator.