



59th Annual Meeting & ToxExpo
Anaheim, California • March 15–19



SOT Undergraduate Educator e-Newsletter

Volume 10, September 2019

SOT's FUTURE is US!

Dear Colleagues:

What a whirlwind the past six months have been! Just before the SOT Annual Meeting, Council revealed an important update related to the Society's Strategic Plan. The Education Committee was reorganized to better serve the needs of faculty, students, and trainees.

The former Undergraduate Education Subcommittee watched the sun set and the sun rise on SOT's FUTURE (Faculty United for Toxicology Undergraduate Recruitment and Education) Committee. As I told the subcommittee members during the transition, "We got an upgrade!" [FUTURE](#) has full committee status and an impressive budget to match.

Of course, transitions come with new opportunities as well as new challenges and a bit of confusion. So, with the honor of serving as the first FUTURE Chair, I also have the obligation to help inform SOT members about the changes and what they mean for undergraduate faculty and their students. In this newsletter, you will learn about many of the programs originated by either the Education Committee or the Undergraduate Education Subcommittee.

FUTURE members are working diligently to promote these programs to faculty, students, Special Interest Groups, Regional Chapters, and the membership in general. We all have a role in recruiting and developing the next generation of toxicologists. We appreciate your help in spreading the word about these great opportunities.

We have grant opportunities for faculty to support [professional development](#) and undergraduate [research projects](#). We support both the Domestic and International [ToxScholar](#) programs. We offer [grants](#) to Regional Chapters to expand involvement of undergraduates. We provide fantastic programming for faculty and undergraduates at the Annual Meeting, including symposia and a special poster session. And of course, we have the Big Two: The [Pfizer SOT Undergraduate Student Travel Awards](#) and the SOT [internship matching funding](#) for summer undergraduate research.

The deadline for many of these programs and the Annual Meeting abstract submission is coming up October 18. Don't hesitate to contact me if you need more information or help taking advantage of what FUTURE has to offer you and your students.

[Chris Curran](#), Chair, FUTURE Committee

Northern Kentucky University Department of Biological Sciences, 859-572-6914

SOT Annual Meeting Information

Upcoming Deadlines

October 9: SOT [Education](#) and [Undergraduate Educator](#) Award Nominations

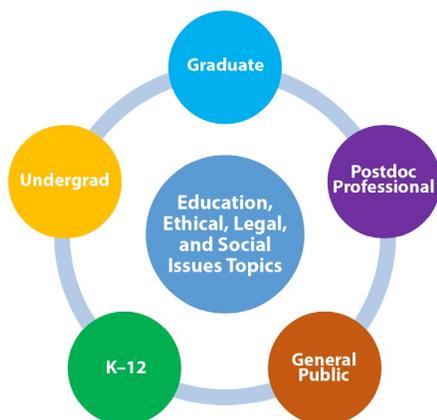
October 18: [Abstract Submission](#)

[Undergraduate Award](#) Applications

To print and post: [SOT Undergraduate Programs flyer](#)

Are You Inspiring and Educating Future Toxicologists or the Public?

If so, please [submit](#) an education, ethical, legal, and social issues (EELSI) poster for the 2020 SOT Annual Meeting by **October 18, 2019**.



Toxicology education occurs at all levels, from science outreach to undergraduate, graduate, and professional training. We want to learn what you are doing and how successful your ideas have been. The EELSI poster session is an excellent opportunity to network with other toxicology educators.

Past Topic Examples

- Toxicology learning objectives for undergraduate courses
- Science outreach, school partnerships, and risk communication
- Low-cost toxicology lab activities
- Summer research experiences for high school and undergraduates
- Innovative toxicology pedagogy
- Graduate mentoring
- Active learning and problem-based learning in toxicology
- Career development training programs
- Post-grad and professional training programs
- Translating toxicology to the public
- Regional Chapter activities

From [SOT Abstract Directions](#)

In the case of studies that do not describe laboratory or field experiments, such as reports on educational, ethics, legal, or social initiatives, authors should:

- Describe the research or assessment approach instead of experimental procedures.
- Summarize the study's results or findings explicitly.
- Clearly articulate the implications for stakeholders.

In addition, abstracts describing new initiatives or science policy in the regulatory community must clearly describe the impact on the practice of toxicology and/or risk assessment. Care should be taken to clearly distinguish between statements based on documented facts versus opinions. Literature surveys or reviews and background materials are insufficient in and of themselves.

Content Guidelines for Writing an Effective Education Abstract

- What is the activity and its connection to toxicology?
- How does the activity inform, or how is the activity informed by, literature or national calls to action (e.g., PCAST reports, NRC, AAAS, HHMI, NSF, SO, Next Generation Science Standards, etc.)?
- Who is in the population being served?
- What are the learning outcomes/objectives for the activity?
- What are the details of the activity that can inform other practitioners?
- How has the effectiveness of the activity been evaluated?

Help with Your Submission

The SOT Faculty United for Toxicology Undergraduate Recruitment and Education (FUTURE) Committee and the Education and Career Development Committee (ECDC) encourage your participation in the education, ethical, legal, and social issues poster session. If you are already the presenting author on a research poster, consider including a graduate student or colleague in the development and presentation of the EELSI poster.

EELSI Abstract Consultation

FUTURE—[Jamie DeWitt](#)

ECDC—[Pamela Lein](#)

Visit the [Annual Meeting page](#) for more information or to submit your abstract.

Don't forget to attend the following education sessions at the 2020 meeting:

- A CURE for the Common Classroom: Engaging Students and Faculty in Course-Based Undergraduate Research Experiences to Maximize Academic Success and Productivity
 - Next-Generation Toxicologist Training through Innovative Summer Internships
-

Undergraduate Awards

SOT has a variety of awards to support undergraduate student attending the Annual Meeting and other activities. The deadline is **October 18** for many. See the [Awards for Undergraduate Students](#) page on the SOT website for a complete listing including component group awards.

1. SOT funding provides support for travel, lodging, and access to special undergraduate activities at the SOT Annual Meeting.

Undergraduate Diversity Student Award Undergraduate Diversity Advisor Award

Students are selected to attend the 3-day Undergraduate Diversity Program and receive travel funding and lodging. Students must be US citizens or permanent residents and meet at least one of these criteria among others: from a racial/ethnic group that is under-represented in the sciences (e.g., African American, Hispanic, Native American, Pacific Islander), first generation college, from an institution that does not have biomedical graduate degrees, or a member of an underserved population.

Faculty advisors who are not SOT members and mentor students who are eligible can also apply.

- [Student Information and Application Materials](#)
- [Advisor Information and Application Materials](#)

2. Other Funding

Diversity Initiatives Endowment Career Development Award

Undergraduate Student Affiliates and Graduate Student members from groups under-represented in the sciences can apply for up to \$1000 funding to support personal and professional development experiences.

- [Information and Application Materials](#)

Pfizer SOT Undergraduate Student Travel Award

Undergraduate students who [submit abstracts](#) for posters can apply for this award. Abstracts are due October 18. Awardees receive travel support, registration for the meeting, and special recognition from Pfizer.

- [Information and Application Materials](#)

Perry J. Gehring Diversity Student Travel Award

Students who 1) received the Undergraduate Diversity Award within the last three years, 2) [submit an abstract](#) for the meeting, and 3) are from racial/ethnic groups under-represented in the sciences can apply for this travel award.

- [Information and Application Materials](#)

RC4 Undergraduate Travel Award

The Regional Chapter Communication and Collaboration Group (RC4) is pleased to announce its 2019 Undergraduate Travel Award. The award was created last year with the purpose of providing an undergraduate student with a needs-based travel grant that enables them to attend the SOT Annual Meeting and present a poster of a toxicology-related project. The deadline for submission of the application is **Friday, October 18, 2019**. A single electronic PDF file with a completed application should be emailed to the appropriate Regional Chapter. More information, including the guidelines for the award, can be found on the [RC4 Award](#) description.

SOT 2019 Meeting Activities Support Faculty and Students

The Undergraduate Education Subcommittee must be congratulated on developing an excellent series of activities and programming for the 2019 Annual Meeting in Baltimore.

In addition to supporting the CDI Sunday Undergraduate Education Program, SOT undergraduate faculty served as mentors for the *In Vitro* Toxicology Lecture, exchanged ideas on teaching and professional development at the Undergraduate Educator Network meeting, and enjoyed a poster session dedicated to education, outreach, and ethical, legal and social issues in toxicology.

To help celebrate the 30th anniversary of the Undergraduate Diversity Program, the Committee on Diversity Initiatives and Education Committee organized a stimulating symposium on “Models and



Strategies for Building Diversity and Inclusion in Toxicology” chaired by José Manautou and Chris Curran. Featured speakers included Dr. Hannah Valentine, NIH Chief Officer for Scientific Workforce Diversity, Dr. Michael Summers from the University of Maryland-Baltimore County’s Meyerhoff Scholars Program, and SOT member Dr. Elise Lewis from Charles Rivers Laboratories. We encourage you to review the [recording](#) to learn about

ways you might foster inclusivity.

Subcommittee members were extremely grateful for help from many of our graduate students who served as near-peer mentors for our undergraduate student lunch event. After enjoying pizza and career advice from SOT Past President Dr. William Slikker, the undergraduates participated in “speed mentoring” by the enthusiastic grad students.



The meeting ended with transition planning as the Undergraduate Education Subcommittee members worked with incoming members of the new FUTURE Committee to prioritize programming and activities for the next fiscal year.

Help Yourself and/or Your Students with an SOT Undergraduate Faculty Grant

Michael G. Borland, Bloomsburg University of Pennsylvania

We have all struggled as undergraduate educators to find funding to support a student's research project and/or our own professional development opportunities. SOT recognizes the instrumental role that we undergraduate educators play in the recruitment of future toxicologists and has developed support programs named the [SOT Undergraduate Faculty Research Grant](#) and the [SOT Undergraduate Faculty Development Grant](#). Now in the third year and an activity of the SOT FUTURE Committee, these grants provide up to \$1,500 in support for an undergraduate research project research or a faculty professional development endeavor. You can find more information about these awards on the [SOT website](#). Applications are due in March 2020 for projects in summer 2020 or in the 2020-2021 academic year.

As an inaugural Research Grant awardee, my grant supported a student's project in my lab for the 2018-2019 academic year. That student conducted tremendous work on a now blossoming project, which I featured in an [SOT blog](#). I'm proud to say that we are working on an abstract submission for SOT 2020! It is these types of impactful experiences that help enhance our own professional development, as well as spark interest in the field of toxicology for undergraduates.

Please consider applying for an SOT Undergraduate Faculty Research or Development Grant for summer 2020 or 2020-2021 academic year. Help yourself, help your students, and help recruit for the future of toxicology!

Funds Available to Promote Toxicology in Developing Countries

Blase Billack, St. John's University



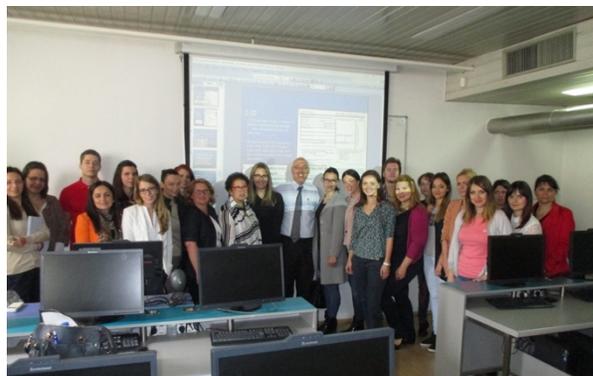
Are you a SOT member? Have you ever considered visiting a developing country for the purpose of spreading joy and enthusiasm regarding toxicology?

If you answered yes to those questions, then the International Toxicology Scholar Award from the Society of Toxicology is the travel award for you!

Up to \$1,250 funding is available for each award. Applicants are encouraged to seek matching funds from partners, whether an SOT Special Interest Group, employer, or host institution. A letter from the contact at the institution to be visited is required and letters from sponsoring partner(s) would be included as part of the application.

Examples of previously funded trips are provided in these [International ToxScholar blogs](#)

The deadline is October 9. For more information, please go to our [International ToxScholar website](#) and/or contact [Blase Billack](#).



Matching Funding for Undergraduate Internships

Undergraduate students are future graduate students and toxicologists. SOT has a goal of enhancing recruitment of students into toxicology. To help facilitate this, the Faculty United for Toxicology Undergraduate Recruitment and Education (FUTURE) Committee will fund undergraduate intern hosts to enable additional undergraduate summer internships in toxicology (assuming at least a 50% matching from the host institution or other funding sources). The intent of this program is to increase opportunities for summer research in toxicology by capitalizing on existing programs. Preference will be given to institutions demonstrating success in current summer internship programs and those recruiting from student groups typically under-represented in the sciences.



Host applications will be due in **early January**. For more information see [Internship Program Support](#).



Resources for Your Next Course!

Toxicology Learning Framework

Designing a new undergraduate toxicology course? Resources are available from SOT to help with this.

As introduced in [Society of Toxicology Develops Learning Framework for Undergraduate Toxicology Courses Following the Vision and Change Core Concepts Model](#), Toxicological Sciences, Volume 170, Issue 1, July 2019, Pages 20–24, there are learning objectives to help you start planning your course, or modifying an existing one with some of the associated activities.

The [toxicology learning objectives](#) echo the NSF AAAS core Vision and Change concepts, which are evolution; pathways and transformations of energy and matter; information flow, exchange, and storage; structure and function; and systems. Toxicology learning objectives will provide guidance for faculty teaching toxicology in a basic undergraduate toxicology course as well as in other courses and exclude examples and case study references.

More information can be found [here](#).

iBiology Resources

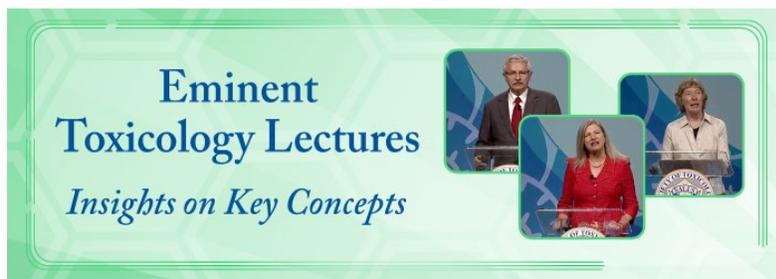
Another great set of resources for your fall or spring courses, [iBiology](#) has a wealth of videos that might fit your needs for a current or upcoming course.

Most recently iBiology released nearly 50 [Famous Discoveries Talks](#), short videos exploring how major discoveries in science happened. Each video includes the research story as told by the perspective of the scientists who made the discovery, which highlight the approaches and struggles of the scientific process.

Undergraduate Educator Network Webinars

UEN Webinars support dissemination of teaching strategies for undergraduate toxicology. The recording and slides are available for the previous webinars on the [UEN Webinar webpage](#). The 2020 webinars are currently in development and will be announced shortly. Please stay tuned!

Eminent Toxicologist Lectures and Curriculum Resources



The Eminent Toxicologist Lectures are historically relevant, high-quality presentations appropriate for senior undergraduate students, graduate students, or the scientifically oriented public. This series of lectures is produced by the SOT Undergraduate Subcommittee of the Education Committee in conjunction with the Eminent Toxicologist Working Group. All fifteen lectures can be found on the [Eminent Toxicology Lecture site](#) for free—no SOT membership needed.

What curriculum materials are available? Lecture notes and learning objectives are available for these lectures. These are correlated to the NSF AAAS [Vision and Change](#) Core Concepts and Competencies in Undergraduate Biology.



Ideas for the SOT Undergraduate e-Newsletter? Contact

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