The NCAC-SOT Dr. Bern Schwetz Travel Award – Honouring a Pioneering Toxicologist

June 2020 NCAC-SOT Virtual Symposium

Past President, NCAC-SOT
Named in Honor of a Great Toxicologist

Who is Dr. Bernard Schwetz?

Acknowledging Tomorrow’s Leading Toxicologists!

What is the Bern Schwetz Travel Award?
Dr. Bernard Schwetz: An Overview of His Contributions to Toxicology

- Dr. Schwetz was an expert reproductive and developmental toxicologist
  - D.V.M. from Univ. of Minnesota in 1967
  - Ph.D. in Pharmacology and Toxicology from the University of Iowa in 1970
- Dr. Schwetz served key roles in industry, the U.S. government, and the field of toxicology
  - Joined NTP in 1982
    - Acting Director of the Environmental Toxicology Program at NIEHS, Associate Director of NTP
  - Director of FDA’s National Center for Toxicological Research (1993 to 1999)
  - Acting Deputy Commissioner of FDA (2001-2002)
  - Retired from HHS in 2007
- Diplomate of the American Board of Toxicology, elected member of the NAS Institute of Medicine, SOT member, and NCAC-SOT officer
  - NCAC-SOT President, 2001-2002

Awarded SOT’s Arnold J. Lehman Award in 1991


The Arnold J. Lehman Award is presented by the Society of Toxicology to an individual who has made major contributions to the control of chemical agents, including pharmaceuticals. This year’s recipient is Dr. Bernard A. Schwetz.
Dr. Bernard Schwetz: An Overview of His Contributions to Toxicology

- Dr. Schwetz recognized that toxicology would need to change well before the term “21st Century Toxicology” was coined!
- His January, 2001 International Journal of Toxicology review article identifies these challenges...
  - “…the field of toxicology will require new types of expertise to handle the questions that will be raised by new technology derived from new scientific findings.”

**TABLE 1**
Expertise needed in the field of toxicology in the future

<table>
<thead>
<tr>
<th>Molecular genetics</th>
<th>Proteomics</th>
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<tr>
<td>Cell-signaling</td>
<td>Informatics</td>
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<tr>
<td>Nutrition</td>
<td>Bioengineers</td>
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<tr>
<td>Computational sciences</td>
<td>Immunology</td>
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<td>Microbiology</td>
<td>Virology</td>
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**WHY WILL THE FUTURE BE DIFFERENT?**
How will new technology in future decades be different from what we have seen in the recent past? Although large-molecular-

**TRAINING TOXICOLOGISTS OF THE FUTURE**
With the anticipated change in toxicological issues, driven by new science and new technology, there are important questions about the future of toxicology. Will we as a field be prepared to handle these issues? Are we training scientists in areas to be responsive to these issues? How do we avoid ending up with

- His article concludes that it is not too late for the field of toxicology to change and create future toxicology experts...

https://journals.sagepub.com/doi/pdf/10.1080/109158101750103297

Dr. Schwetz in retirement, with his pet alpacas

Dr. Bern Schwetz Travel Award

- The Bern Schwetz Travel Award was established by the NCAC-SOT to support students presenting at the annual SOT meeting
  - Susan Makris shared that the award was presented to Dr. Schwetz at fall 2002 NCAC-SOT meeting, and he was truly surprised and pleased with the honor
  - It is a cash award for local students and post-doc toxicologists
  - The NCAC-SOT provides from 1-5 awards annually
- The Bern Schwetz Travel Award has been awarded to 50 outstanding student/post-doc toxicologists since 2003

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<tr>
<th>Example Titles of Past Bern Schwetz Award Winners</th>
<th>Date</th>
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<tr>
<td>Peter Petrochenko, CDRH, UNC-Chapel Hill: Laser 3D printing with nanoscale resolution: improving biocompatibility and mitigating toxicity from photoinitiators</td>
<td>2014</td>
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<tr>
<td>Sarah Attreed, Johns Hopkins: Chronic Arsenic Exposure Reduces Influenza Vaccine Immunogenicity in Adult Female C57BL/6 Mice</td>
<td>2018 (shout out to a former NCAC-SOT Grad Student Rep!)</td>
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Future Bern Schwetz Travel Award Applicants

Eligible students must be:
1) Enrolled full-time in a graduate or post-graduate program within NCAC-SOT region (MD, VA, DC)
2) Presenting research at upcoming SOT Annual Meeting
3) A student member of NCAC-SOT with a mentor who is a member of SOT and/or NCAC-SOT; and
4) Not receiving a concurrent travel award from National SOT or Specialty Sections.

Upcoming Application Deadline is December 31, 2020

Submit applications to Dr. Rosie Sneed, NCAC SOT-Student Liaison: rsneed@udc.edu

Please see details at: https://www.toxicology.org/groups/rc/ncac/awards.asp
2020 Winner

Dana Freeman, Ph.D.: Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Title of Abstract:
Human Allele-Specific Methylated Regions Have Increased Resilience to Rotenone Exposure in α-Synuclein Knockdown Neurons
Special Thanks!

Special thanks to former NCAC-SOT officers for providing background to this presentation:
• Peter Goering
• Pedro Del Valle
• Susan Makris