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Editors:
Vijay P. Kale
Pankajini Mallick
Vijay More
Smita Salian-Mehta
Saurabh G. Vispute
Greetings,

Hope everyone is gearing up in full swing for the upcoming Society of Toxicology (SOT) meeting! At ASIO, we are excited and looking forward to seeing our colleagues and friends in Baltimore!

This year, our very proactive team has introduced some new and evolving events. In lieu of Lunch n Learn, we are introducing “Career Talk with Toxperts” to be held on **Monday, March 13 at 4:45 pm** in **Peale, Hilton Baltimore**, prior to the ASIO Annual reception. The time has been changed based on popular demand and will be a great opportunity for trainees and young scientists to ask the experts about careers in academia, industry/CROs and government. Sincere thanks to our panel members for dedicating time to impart their knowledge to our budding toxicologists. Keeping up with the recent tradition, ASIO is also hosting Coffee Hour, a one-on-one mentoring opportunity with experts in your field. If you are interested in mentoring, or being a mentee, please reach out to us. Please mark your calendars! For further details about these events, please see pages 4 and 5 of the NL.

I have been very fortunate to work with exemplary committee members and volunteers this past year. Special thanks to Dr. Mayur Mitra for being a wonderful Vice President and teammate, and Dr. Sudheer Beedanagari for his continued involvement especially with leading the Past President’s committee. I’d also like to thank Drs. Udayan Apte, Sainath Babu, Vijay Kale, Pooja Naik, and Pankajini Mallick for their enthusiastic and tireless efforts to improve ASIO. We have an exceptional set of creative and diligent volunteers. A special shout out to our newsletter Chair Saurabh Vispute and his team Vijay Kale, Pankajini Mallick, Vijay More, and Smita Salian-Mehta that has worked year round to bring entertaining and informative newsletter issues to our readers. Thanks to our webinar team - Sainath Babu and Kshama Doshi for organizing a fantastic webinar this year, coffee hour team –Pooja, Pankajini and Sainath, and our volunteers, Subramanya (Subbu) Karanth and Sindhura Ramsahayam.

I’d also like to extend a heartfelt thank you to ASIO endowment donors Dr. Laxman Desai (Toxikon), Dr. Harihara Mehendale, and Dr. Dharm Singh for their generous contributions over the years. Our sincere thanks to ASIO corporate sponsor Advinus for their continued support.

Last but not the least, thanks to all our readers and well-wishers that help ASIO to continually grow as an organization. Please continue to actively participate, send in your suggestions and encourage fellow colleagues to join the organization.

We look forward to seeing you all at the Annual Reception in Baltimore!

Warm Regards
Mamta Behl
President-ASIO 2016-17
ASIO cordially invites you to our annual SOT meeting reception. An evening to network and bond with fellow toxicologists/students/postdocs and friends. Please join us to congratulate the award winners, to acknowledge support of our donors and sponsors, meet the ASIO committee members and volunteers and enjoy delicious food.

**WHEN: MONDAY, 13TH MARCH**  
7:00 to 9:00 PM  
**WHERE: HILTON BALTIMORE ROOM - PEALE**
"Let your curiosity override your anxiety" is the motto of our Student/Postdoc Mentoring Programs. ASIO’s mentoring initiatives are designed to provide an informal platform for students and postdocs to have a chat with experts in toxicology from diverse fields on multiple career paths.

**“CAREER TALK WITH TOXPERTS”**

This year ASIO is re-organizing “Lunch & Learn” as “Career talk with Toxpert” to provide a relaxed evening hour to chat with experts in toxicology.

**When:** Monday 13\(^{th}\) March, 4:45 to 5:45 PM  
**Where:** Hilton Baltimore, Room - Peale

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**Expert panel**  
**Academics:**  
Dr. Partha Kasturi, PhD  
Associate Professor,  
Dept of Pharmacology, Toxicology and Therapeutics  
University of Kansas Medical Center

**Government:**  
Sree Rayavarapu, DVM, PhD  
Pharmacology/Toxicology Reviewer,  
CDER, OGD, OB, DCR  
US Food and Drug Administration

**Industry:**  
Satheesh Anand, PhD  
Manager, Safety Assessment  
Battelle

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To take advantage of this opportunity, mentees please contact Pankajini Mallick at pankajini.mallick@gmail.com.

Seating is limited to 30 seats only. Only students/postdocs who are committed and interested are encouraged to RSVP for this event by Feb 25\(^{th}\) 2017.

Also, send us two questions along with the RSVP for this event. This would help us better cover topics of interest, and engage in a discussion that would be of common relevance.
ASIO also offers “Coffee Hour” to students, a less formal and more convenient way to network with experts in their fields. Interested students please fill out “Mentee Information Sheet (click on the icon below)” and send it to Pankajini Mallick (pankajini.mallick@gmail.com) by February 25th, 2017. As much as possible, mentors and mentees will be matched according to similarities in research interests and career aspirations.

Coffee Hour Mentee Sign-up

We also are seeking mentors with professional experience, willingness to share their knowledge, and availability to meet a mentee for 30-45 minutes at the Annual Meeting. If you are interested in mentoring, please email Pooja Naik (naik.pooja12@gmail.com) by February 25th, 2017. For continued successful outcome of this interactive, learning, and engaging session we seek mentor offering wisdom and sharing their experience.

Introducing Our New Volunteer

We are very excited to have new volunteer to help us taking the ASIO newsletter to a new level! Please join us in welcoming Guncha Taneja on our team!
The ASIO is proud to recognize its members who have contributed significantly to the field of toxicology. We appreciate your efforts and hope this will encourage other graduate students and postdocs in the future. The recipients of this year’s SOT awards were:

<table>
<thead>
<tr>
<th>Award Winner</th>
<th>Affiliation</th>
<th>Award Description</th>
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<tbody>
<tr>
<td>Jayanta K. Das</td>
<td>Florida International University</td>
<td>Translational/ Bridging Travel Award</td>
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<tr>
<td>Shweta Bhardwaj</td>
<td>Rayat Bahara University</td>
<td>SOT/SOT Endowment Fund/IUTOX Travel Awards</td>
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<tr>
<td>Nitin Verma</td>
<td>Baddi University of Emerging Sciences and Technology</td>
<td>SOT/SOT Endowment Fund/IUTOX Travel Awards</td>
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| Kshitij Verma    | Texas Tech University-Health Sciences Center     | Dharm V. Singh Carcinogenesis Graduate Student Endowment Award  
|                  |                                                  | Graduate Student Travel Award                    |
| Nehal Gupta      | Texas Tech University Health Sciences Center     | Dharm V. Singh Carcinogenesis Graduate Student Award  
|                  |                                                  | Sheldon D. Murphy Student Travel Award           
<p>|                  |                                                  | Graduate Student Travel Award                    |</p>
<table>
<thead>
<tr>
<th>Speaker/Chair</th>
<th>Affiliation</th>
<th>CE course/Symposium</th>
<th>Day, Date, and Time</th>
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</thead>
<tbody>
<tr>
<td>Madhuri Singal</td>
<td>Reckitt Benkinser, Montvale, NJ</td>
<td>Extrapolation in the Airways: Strategies to Incorporate <em>In Vivo</em> and <em>In Vitro</em> Data to Better Protect Human Health</td>
<td>Sunday, March 12, 1:15 PM to 5:00 PM</td>
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<tr>
<td>Samir Kelada</td>
<td>University of North Carolina-Chapel Hill</td>
<td>Priming of Allergic Sensitization and Inflammation in Mice Due to Ozone Exposure</td>
<td>Monday, March 13, 9:30 AM to 12:15 PM</td>
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<tr>
<td>Urmila Kodavanti</td>
<td>US EPA</td>
<td>The Influence of Maternal High Fat Diet on Ozone Induced Lung Injury and Inflammation in Long Evans Male and Female Rat Offspring</td>
<td>Monday, March 13, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Irfan Rahman</td>
<td>University of Rochester Medical Center</td>
<td>Microparticles and Exosomes in Cardiopulmonary System- Stem Cell and Microenvironment Regulation by Toxicants Circadian Rhythms in Air Pollution-Induced Pulmonary and Cardiovascular Disorders: A Race against the Clocks</td>
<td>Monday, March 13, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Manish Arora</td>
<td>Icahn School of Medicine, New York,</td>
<td>Uncovering Prenatal and Early Childhood Windows of Susceptibility to Environmental Chemicals Using Teeth</td>
<td>Monday, March 13, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Krishna Maremanda</td>
<td>NIPER</td>
<td>Elucidating the Role of Zinc in Anti-cancer Drug Induced Testicular and Epididymal Pathophysiology: Involvement of SOD1, ARE/MRE Pathways</td>
<td>Monday, March 13, 2:00 PM to 4:45 PM</td>
</tr>
<tr>
<td>Sreenivasa Ramaiahgari</td>
<td>NIEHS</td>
<td>High-dimensional Toxicological Assessment of Chemical Exposure in Physiologically Relevant 3D <em>In Vitro</em> Models</td>
<td>Monday, March 13, 2:00 PM to 4:45 PM</td>
</tr>
<tr>
<td>Manushree Bharadwaj</td>
<td>NIEHS</td>
<td>Blinded Evaluation of Potential Obesogens in Murine 3T3-L1 Pre-adipocytes Following Selection from Database Results</td>
<td>Tuesday March 14, 9:30AM to 12:15PM</td>
</tr>
<tr>
<td>Swojani Shrestha</td>
<td>University of North Dakota</td>
<td>Effect of Cadmium-on-Stem Cell Population in Human Renal Proximal Tubular Cells</td>
<td>Tuesday March 14, 9:30AM to 12:15PM</td>
</tr>
<tr>
<td>Neera Tewari-Singh</td>
<td>University of Colorado Denver</td>
<td>Metabolomics for Identifying Pathways Involved in Vesicating Agent Lewisite-induced Corneal Injury</td>
<td>Tuesday March 14, 9:30AM to 12:15PM</td>
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<tr>
<td>Satya Achanta</td>
<td>Duke University</td>
<td>TRPV4 Inhibitor Improves Pulmonary Function and Oxygen Saturation in a Pig Translational Model of Chemically- induced Acute Lung Injury</td>
<td>Tuesday, March 14, 9:30 AM to 12:45 PM</td>
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<tr>
<td>Kshitij Verma</td>
<td>Texas Tech University-Health Sciences Center</td>
<td>Pharmaceutical Safety: Drug Discovery</td>
<td>Tuesday, March 14, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Udayan Apte</td>
<td>University of Kansas Medical Center, Kansas City, KS</td>
<td>Big Data, Meet Chemical Carcinogenesis! Are There New Solutions for an Old Problem? NGS Reveals Novel Targets and MOA in Chemical Carcinogenesis.</td>
<td>Tuesday, March 14, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Speaker/Chair</td>
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<tr>
<td>Vijayapal Reddy</td>
<td>Eli Lilly and Company, Indianapolis, IN</td>
<td>Emerging Concepts in Nonclinical Development of Immuno-Oncology Agents: Enabling Translation of Nonclinical Pharmacology and Safety Information to First-in-Human Clinical Trials</td>
<td>Tuesday, March 14, 2:00 PM to 4:45 PM</td>
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<tr>
<td>Rakesh Dixit</td>
<td>Medimmune, Gaithersburg, MD.</td>
<td>Critical Endpoints in Safety Studies Supporting Immuno-Oncology Agents</td>
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<tr>
<td>Sunish Mohanan</td>
<td>Eli Lilly and Company, Indianapolis, IN</td>
<td>Looking Beyond Cytokines: A Pathology Perspective on Humanized Immune System Models</td>
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<tr>
<td>Rounak Nassirpour</td>
<td>Momenta Pharmaceuticals Inc., Cambridge, MA.</td>
<td>Urinary miRNAs as Biomarkers of Glomerular Injury in Rats and Nonhuman Primates</td>
<td>Tuesday, March 14, 2:00 PM to 4:45 PM</td>
</tr>
<tr>
<td>Vishal Vaidya</td>
<td>Harvard Medical School, Boston, MA.</td>
<td>MiRNAs As Translational Biomarkers of Kidney Injury Urinary miRNA Biomarkers for Kidney Diseases in Humans</td>
<td></td>
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<tr>
<td>Madhusudan Soni</td>
<td>Soni &amp; Associates Inc, Vero Beach, FL.</td>
<td>Herbo-Metallic Mixtures in Traditional Medicines Clinical and Toxicological Aspects of Ayurvedic Medicinal Remedies with High Levels of Heavy Metals</td>
<td>Wednesday, March 15, 12:30 PM to 1:50 PM</td>
</tr>
<tr>
<td>Sidhartha Ray</td>
<td>Manchester University College of Pharmacy, Fort Wayne, IN.</td>
<td>Communicating Toxicology to the Public</td>
<td>Wednesday, March 15, 12:30 PM to 1:50 PM</td>
</tr>
<tr>
<td>Ravi Iyengar</td>
<td>Icahn School of Medicine at Mount Sinai, New York, NY.</td>
<td>Data Science to Generate Toxicity Signatures</td>
<td>Wednesday, March 15, 12:30 PM to 1:50 PM</td>
</tr>
<tr>
<td>Shankar Subramaniam</td>
<td>University of California at San Diego, San Diego, CA.</td>
<td>Exploiting Cellular Data to Infer Toxicity Mechanisms</td>
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<tr>
<td>Mamta Behl</td>
<td>NTP, NIH, Research Triangle Park, NC</td>
<td>Putting It into Perspective: Relating Experimental Data to Human Exposure—Is Neurotoxicity Really a Concern?</td>
<td>Wednesday, March 15, 2:00 PM to 4:45 PM</td>
</tr>
<tr>
<td>Gautham Rao</td>
<td>Genentech, South San Francisco, CA.</td>
<td>The Utility and Limitations of Conventional Animal Models in CIT Safety Assessment</td>
<td>Thursday, March 16, 8:30 AM to 11:15 AM</td>
</tr>
<tr>
<td>Raghu Kalluri</td>
<td>University of Texas MD Anderson Cancer Center</td>
<td>Microparticles and Exosomes in Cardiopulmonary System-Stem Cell and Microenvironment Regulation by Toxicants The Biology and Function of Exosomes in Microenvironment</td>
<td>Thursday, March 16, 8:30 AM to 11:15 AM</td>
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</tbody>
</table>
The key to any problem solving is to ask oneself the three principle questions: **What, Why, and How**. The same also underlines the contemporary scientific process.

I always wanted a career where I can contribute to science, but I am not necessarily limited by what I can/cannot practice. A career where everything that is known and established forms only basis of all that, which remains to be discovered. Naturally, this translated to me becoming a scientist, but it was a lengthy process.

**Junior/ senior years of high school**

**What:** As a recent immigrant to the US, it was really important for me to find my niche in the US education system. I had a very short time (two years) before I would be taking the SAT exam and applying to colleges.

**Why:** In line with my eventual career goal, I wanted to pursue my undergraduate studies in an applied sciences and research oriented field.

**How:** Taking the courses to meet basic pre-requisites of the undergraduate degree.

Researching potential degree programs, curriculum, and universities to find a good fit.

Writing a very strong letter of intent/ personal statement. Be sure to identify your strengths and weakness to cover any weak spots in your application packet.

**Undergraduate studies**

**What:** The next step in my career plan was to pursue PhD in Pharmaceutical Sciences as this is one of the most inter-disciplinary and applied research fields.

**Why:** Graduate studies is a “must-have training” for becoming a research scientist.

**How:** Identifying strong elective courses and relevant minors that compliment: I took elective courses in statistics and pursued minors in mathematics and chemistry

[Tips – (1) Don’t settle for the “easy A” courses for electives, (2) pick at least one minor that compliments your major, and (3) study from books; not just the lecture notes]

Pursuing undergraduate research during junior and senior years including the summer vacation

[Tip – *learn basic lab skills and at least two-three analytical methods*]

Maintaining good academic standing and strive to obtain scholarships
Graduate studies

What: I wanted to prepare myself to pursue a postdoc fellowship either in an academic or an industry setting after PhD.

Why: A post-doc fellowship with defined deliverables give you a very good sense of some of the future career responsibilities. It also gives an opportunity to expand and/or strengthen your skill-set and makes you more competitive. As graduate student, networking and visibility in professional organizations are equally important as the quality of thesis research and publications.

How: Developing and working on at least 1-2 research proposals and projects: This helps one become an independent scientist [Tips – (1) Try to write research proposals and grants, and (2) take a course in scientific writing (e.g. offered by NIH, etc)]

Submitting abstracts, attending conferences, and publishing research articles [Tips – (1) Always write-up the methods, results, and make publication quality figures as your project moves forward, and plan to get 75% of your thesis published before defense, (2) Meet regularly with your advisor and committee to discuss progress and get feedback, (3) try to publish at least one review article, (4) sign up as a scientific reviewer, and (5) attend at least 2 national level and 1-2 local scientific conferences]

Career development, visibility, and networking [Tips – (1) Find the pros and cons of each potential career options, (2) try to make connections with professionals and maintain your connections, (3) keep your CV and business cards up-to-date, and (4) get involved in student chapters, focus groups, and organizations of your interest]

Post-doctorate career

What and why: I wanted to pursue my career as a pre-clinical and transitional PK scientist in the pharmaceutical/biotech industry. This job profile gives an opportunity to contribute and influence early state research and drug development.

How: Obtaining clarity on the projects, timelines, and expectations;
Planning research for at least one original research publication;
Presenting your most important research work at the scientific conferences;
Getting remaining of your thesis work published;
Cultivating more efficient time management and leadership skills;
Actively networking; Searching for job posting on LinkedIn and contacting alumni

In the end, the best suggestion that I can give you is this: (1) find your core interest, (2) outline a career map and prepare yourself for the next step, and (3) follow it through. My very best wishes to you all.
Would you like to share your unique experiences with budding and aspiring trainees? Would you like to hear more about some new topics of interest? Please contact Saurabh Vispute at sgvispute@gmail.com

ASIO Membership

Dear fellow member,

ASIO constantly strives to remain active through the year. All these have been possible only with the help of members like you.

For ASIO to continue growing and to focus on promoting the growth of our members and society, we need your continuous support. Please join or renew your ASIO membership and keep supporting our activities. We look forward to seeing you at the ASIO-SOT reception 2017.

Call for Sponsors

ASIO would like to urge our members to consider making a one-time donation towards the ASIO general funds. The ASIO general funds are used to cover expenses for our year-round activities and the annual reception. Your contributions to SOT are tax deferred. Please contact Mayur Mitra at mayur.mitra@bms.com if you would like to donate or have questions.
Thank you so much for your generous contribution!

ENDOWMENT SPONSORS

Dr. Dharm Singh
Dr. Harihara Mehendale
Dr. Laxman Desai