

IMMUNOTOXICOLOGY Specialty Section

Pre-SOT Edition



2017-2018
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The Immunotoxicology Specialty Section (ITSS) Newsletter is published three times a year (Summer, Fall, and Winter). If you would like to share an item of interest with members of the ITSS, please send it to the Communications Committee Chair. All comments and suggestions are welcome.

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President's Message

Greeting ITSS Members! I trust by now that everyone has solidified plans for attending the 57th Annual Meeting of the Society of Toxicology in San Antonio. The meeting is right around the corner and will be upon us before we know it. There are a number of great Immunotoxicology session to be presented at this year's SOT meeting including a CE course, symposium, and poster sessions.

An update on the program will be provided later in this newsletter by Dr. Jamie DeWitt, Program Chair for the 2018 SOT meeting. On behalf of ITSS, big thanks go out to Jamie and the Program Committee for their efforts to build a great program. I also send thanks to the members who devoted time and effort to submit program proposals. Please take this as a reminder to get your best science together and submit a program proposal for the 2019 meeting. Send proposals to Dr. Emanuela Corsini (emanuela.corsiini@unimi.it). See the think tank update from the ITSS Scientific Advisory Board later in the newsletter.

I encourage everyone to attend the ITSS Business Meeting and mixer that will be held on Tuesday, 13 Mar 18, from 6-7:30pm in the Grand Hyatt Texas F room. This meeting provides an opportunity for networking and discussions with friends and colleagues. You will also be able to meet the new incoming ITSS Executive Committee members (VP Elect and Junior Councilor) following the recent elections in January. Join me in welcoming Mark Collinge (Pfizer) as incoming VP Elect and Jennifer Wheeler (Bristol-Myers Squibb) as incoming Junior Councilor; congratulations and welcome aboard. I would like to share a tip for everyone regarding elections. If you have not completed your membership renewal prior to release of the ballot, you will not receive the notification from SOT. Please remember to renew your membership in December so that we have accurate representation of the membership for voting.

The ITSS Business meeting is also a time to celebrate successes of colleagues and present awards to our members.

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President's Message

Thanks to all of the nominators and applicants, the awards committees were busy this year with all of the stellar candidates. The results of ITSS awards will be revealed at the Business meeting. SOT National awards have been announced so please join in congratulating fellow immunotoxicologists Dr. Judy Zelikoff (SOT Education Awardee) and Dr. Linda Birnbaum (Arnold J. Lehman Awardee), great work!

Speaking of awards, I would like to make a very special announcement, the Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund was established in 2017 and has been growing. We are proud to inform the Nagarkatti's and ITSS membership that this fund was able to provide a travel award to a very talented graduate student and budding young immunotoxicologist. Each year, SOT will match all endowment fund contributions dollar-for-dollar, up to the first \$60,000 (July to July is the cycle, information available at <https://www.toxicology.org/endowment/>). As of Feb 19th, \$52,257 of this pot has been committed. That means there is still an opportunity to get your contribution to the ITSS endowment funds matched, let's make them grow!

I won't take any more of your time as this newsletter is packed with great reading for you to enjoy! I look forward to seeing everyone at the SOT meeting in San Antonio.

Best regards,
Vic Johnson, PhD
Burleson Research Technologies



Science Corner

In our first edition of Science Corner, we are pleased to highlight an exciting symposium sponsored by the Immunotoxicology Specialty Section at the upcoming SOT meeting: “Novel Insights on Chemical-Induced Immunotoxicity: Microvesicles and microRNA Dysregulation”, chaired by Emanuela Corsini and co-chaired by Stacey Anderson. This session will provide insight into the world of microvesicles and microRNAs (miRNAs), believed to play a central role in multiple physiological and pathological processes, including inflammation, autoimmunity, atherosclerosis, and cancer. The miRNA-mediated coordinated control of gene expression has been shown to be crucial in immunity, promoting and fine-regulating appropriate immune responses. In addition, both microRNA and microvesicles are very promising tools in identifying early alterations induced by chemical exposure, which can revolutionize both monitoring and toxicological assessment. The aim of this symposium is to provide novel insights on the mechanisms of action of immunotoxic compounds focusing on microRNA and microvesicles.

George Calin, the first speaker, will provide an introduction to the world of microRNAs, including their discovery, roles in physiological and pathological conditions, and use as biomarkers. Andrea Baccarelli, the second speaker, will present data showing influences of environmental exposures on EV-encapsulated RNAs and potential links with several adverse health outcomes, including immunotoxicity. Kelan Tantisira and Stacey Anderson, the last two speakers, will focus on the role of microRNAs in allergic phenomena both in humans and in experimental models. Challenges, limitations, and opportunities in this emerging field in environmental health sciences will be discussed.

We would like to invite and encourage the ITSS membership to attend this wonderfully informational and remarkably relevant session!

If you are interested in learning more about this topic, the following articles are recommended for supplemental reading:

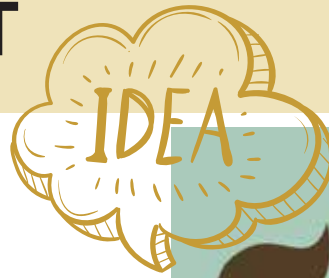
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Stefanie Burleson, Ph.D.

Burleson Research Technologies

SCIENCE

ITSS Programs at SOT



Please contribute a program proposal for the SOT 2019 Annual Meeting!

Dear members of the ITSS,

For the 2018 Annual Meeting, the ITSS endorsed a continuing education course on “The Basics of Immunotoxicity Testing.” Over 160 Annual Meeting attendees have registered to attend this course, which highlights that SOT members want programs focused on issues in immunotoxicology!



We need your contributions and new ideas for attractive and winning roundtables, workshops, symposia, and continuing education programs (the competition is very robust)! Your active participation in the Specialty Section is vital for the section itself. Please start thinking about what topics you would like to see at the 2019 Annual Meeting and lead the team of presenters for that topic! Send your proposals to the Chair of 2019 ITSS Program Committee, Emanuela Corsini (emanuela.corsini@unimi.it) by April 15th, 2018, so that we may help you to submit the most competitive proposal possible.

SOT is already gearing up for the 2019 Annual Meeting. They rolled out an alternative session format <http://toxchange.toxicology.org/p/bl/et/blogid=9&blogaid=2542> and hosted a Webinar on how to develop competitive scientific session proposals on 2/15/18. Detailed directions for developing and submitting proposals will be available in the near future, so look for an email from us via SOT shortly after the 2018 Annual Meeting.

In addition, we would like to encourage your proposals for immunotoxicology sessions at the 2019 SOT Annual Meeting. Session/symposium proposals need to be in the SOT system by April 30. In order for your proposal to be reviewed for endorsement by ITSS, please submit your title and abstract to Emanuela Corsini (emanuela.corsini@unimi.it), by the ITSS internal deadline of April 15th. This will allow ITSS Program Review Committee time to provide feedback and get ITSS endorsement prior to the SOT deadline of April 30.

Don't miss the opportunity to contribute to a program by submitting your scientific proposal! Thank you in advance for your continuous support and contribution. We look forward to receiving your proposal!

In addition to the scientific strength of the session, please consider the following as you prepare your proposals:

- The session presentations should be designed to provide a cohesive thread throughout the session. The design of the session should create a narrative around a theme, rather than a seemingly random collection of presentations.
- The session should address a topical issue of broad general relevance, rather than a narrow topic of high interest to fewer scientists.
- The session presenters should reflect a diversity of opinions/backgrounds to reflect perspectives from industry/regulators/academics.
- CE courses have a better chance of acceptance, as do roundtables – think about these formats as a possibility.

Emanuela Corsini

ITSS Vice President-Elect
Chair of 2019 ITSS Program Committee



Jamie DeWitt

ITSS Vice President



Student & Postdoctoral Report

The 57th annual Society of Toxicology (SOT) meeting is approaching and we hope that you are excited to attend present your research at the meeting. We would like to kindly point out some of the many exciting and amazing activities and networking events offered by SOT and ITSS for students and postdocs, so that you can take full advantage of them!

On **Sunday March 11th**, refresh your immunology knowledge by attending the **Continuing Education Courses**, chaired by Dr. Jamie DeWitt. The course title is “An introduction to basics of immunotoxicity testing”. In addition, from 7:30 - 9:00 p.m. on Sunday at the convention center, you can learn more about specialty sections/regional chapters and catchup with fellow students and postdocs at the **Student/Postdoctoral Scholar Mixer**. This is an amazing opportunity to get more information about a number of networking and educational events chaired by the Graduate Student Leadership Committee (GSLC) and Postdoctoral Assembly, including: **Chat with an Expert, Mentoring Breakfast, Trainee Discussions with Plenary Session Presenters, and Poster Tours**. If you are a postdoc, don't miss the **Postdoctoral Assembly Luncheon** on Tuesday, March 13th, 12:20 - 1:20 p.m.

Looking to learn more about career options in the field of toxicology? Attend the Career Exploration through Speed Informational Interviews on Tuesday, March 13th, 1:25 - 2:45 p.m. Also, be sure not to miss out on the always entertaining quiz show “**Tox Showdown**” on Tuesday, March 13th, 7:30 - 9:00 p.m.

Finally, please mark your calendars for the 4th annual **ITSS Networking/mentoring Event** on Tuesday, March 13th, 4:00 – 5:00 p.m. at the Texas Ballroom F of the Grand Hyatt. At the event, you will be able to sit down with experts from a variety of work sectors who will discuss their careers and answer any questions related to career development. Please stop by our poster at the Student/Postdoc mixer for more information.

If you would like to get involved in any of the ITSS committees, please contact Angela Groves (Angela_Groves@URMC.Rochester.edu) or Jiajun (Brian) Zhou (zhoujiaj@msu.edu).

We look forward to seeing you in San Antonio!

Angela Groves, Ph.D.
Jiajun (Brian) Zhou



Member Spotlight

When did you begin your career in immunotoxicology and what do you currently do?

I began my career in Immunotoxicology during my Ph.D research when I joined a lab studying the mechanism by which dioxins affect human B cell function. I am currently working as an Immunotoxicologist and a Study Director at Covance Laboratories.

How did you make the transition from Graduate Student/Post-doc to your current job?

Towards the end of my Ph.D, I was inclined towards working in the industry as the dynamism of the work that a toxicologist conducts appealed to me. I pursued a short postdoc and worked on a collaborative project with Dow Chemical Company for two years. The project gave me a taste of toxicology studies conducted in the industry. I conducted 28 day and 90 day in-life toxicology studies through which I received training in protocol development and execution of these large rodent studies and increased my understanding of the different aspects of toxicological assessments including immunotoxicology, histopathology, clinical chemistry etc. I think this project was instrumental in introducing me to the industry culture and provided an understanding of different study designs, timelines and deliverables in the industry. This bridge project involving collaboration between an academic lab and an industry sponsor helped me make the industry transition.

How has having mentors and participating in mentoring events impacted your career growth

A lot of what I have learnt and the decisions that I have taken thus far, have been shaped by my interactions with mentors. SOT has numerous mentoring initiatives and I took advantage of those to get introduced to scientists across different sectors of the industry. For example: in contract research, pharmaceutical industry, chemical and petrochemical industries. Each mentoring event has something new to offer and each mentor has a different perspective. So getting introduced to these perspectives early on helped steer decision making.

Why did you decide to pursue a career in industry?

Toxicology as a scientific discipline has an impact on day-to-day lives and this has always inspired me to pursue a career in the industry which has direct widespread impact. I work in preclinical drug safety and development and I deal with studies on new therapeutics that must undergo safety testing before reaching the clinic. The contribution of my work towards the larger goal of bringing safer drugs to the clinic was a significant push towards my career choice.

When did you start participating in the ITSS?

I started participating in ITSS in 2010, approximately, during the second year of graduate school as a volunteer for the communications committee.

What has been the largest benefit, for you, of being an active participant in an SOT SS like the ITSS or ITCASS?

Volunteer activities in scientific societies such as SOT not only satisfy your passion for service but offer an equally enriching experience to know about the field in aspects that you cannot learn about by being a graduate student in the laboratory. Therefore, it is difficult to pinpoint the largest benefit, however, the network built through these volunteer activities in ITSS has helped identify mentors and given me an opportunity to meet several peers in immunotoxicology and know more about their careers and their contributions.

Do you have any advice for someone who is considering becoming more involved in an SS?

I would encourage students and postdocs to consider being involved, not just for the sake of being involved, but actually contribute to the Specialty section with the goal of making a difference. In the end, it is all about balancing your time and work- graduate school or postdoctoral project responsibilities and your larger career goal.

Member Spotlight

What do you like the most about working in industry?

I like the dynamic and challenging work environment along with the work-life flexibility. The breadth of exposure in working on different projects and the cross-functional teams fits my personality and satisfies my career interests.

Do you have any suggestions for students/postdocs that are interested in working in industry?

Seek mentors, keep a broad mind, network and be proactive.

What is one fun fact about yourself that you would like to share with others?

Most of my non-work time is spent playing with my daughter. Otherwise, I like to travel, hike, explore the outdoors and practice my culinary skills in the kitchen.

Ashwini Phadnis-Moghe, Ph.D.

Covance



Member Spotlight

When did you begin your career in immunotoxicology and what do you currently do?

I began my career in Biologics around 2 years ago as a study monitor. Given the nature of biologics and targeted therapy, this also began my career in immunotoxicology.

How did you make the transition from Graduate Student/Post-doc to your current job?

The transition from graduate school to my current job took a lot of patience and research. I learned in my research that there are certain skills the industry looks for in an ideal candidate. The challenge is, many of those skills aren't always a priority during your graduate training. I focused on speaking in public and presenting science as much as I could, as well as working in groups and committees on campus so I could get really good at working in teams. I made good use of LinkedIn and tried to learn from people who were doing what I wanted to do. Most importantly, I maintained good relationships with my network within the industry.

How has having mentors impacted your career growth?

Having mentors and career champions are critical especially because I'm early in my career. Immunotoxicology and biotechnology is constantly evolving and we can learn so much from others who have been in the business. I rely on my mentors to give honest advice and feedback so I can learn to be an impactful and effective scientist in this business.

Why did you decide to pursue a career in industry?

I knew early I wanted to pursue a career in industry. I interned in the industry during my bachelor's degree training and almost immediately fell in love with the blend of science, business and helping others. It was the first time I saw three things I was passionate about, work so well together and I knew this was a good fit for me.

When did you start participating in the ITSS?

2018

What do you hope to gain by participating in the ITSS?

Connect and learn from other immunotoxicologists.

What do you like the most about working in industry?

The collaborative nature of research and development and the impact we have on changing people's lives.

Do you have any suggestions for students/postdocs that are interested in working in industry?

Do your homework. Learn the industry, the culture of the company you're interested in and make meaningful connections with people. Not so they can get you a job but so you can understand the field and how their role plays a key part in the business. The more you understand the industry and the specific area you're interested in, the easier it is to prepare yourself and acquire or learn the appropriate skills to succeed.

What is one fun fact about yourself that you would like to share with others?

I'm a tap dancer. I trained in tap dancing for 12 years and took sporadic classes during graduate school. I love to dance in general but I absolutely love tap dancing and making music with my feet. It's also a great workout which is a bonus!

Tjynisha Glover Ph.D.
Janssen BioTherapeutics



Immunotoxicology @ SOT 2018:

Sunday March 11th

CE Course

8:15 AM to 12:00 NOON

An Introduction to the Basics of Immunotoxicity Testing

Chairperson(s): Jamie DeWitt, East Carolina University, Greenville, NC; and Sarah Blossom, University of Arkansas for Medical Sciences, Little Rock, AR.

Monday March 12th

Opening Plenary Session

8:00 AM to 9:00 AM

Developing Genome-Edited Stem Cells for Therapy of Patients: Assessing Efficacy and Toxicology.

Lecturer: Matthew H. Porteus, Stanford University, Stanford, CA

Symposium

9:15 AM to 12:00 NOON

Novel Insights on Chemical-Induced Immunotoxicity: Microvesicles and microRNA Dysregulation.

Primary Endorser: Immunotoxicology Specialty Section.

- Introduction. George Calin, University of Texas, Houston, TX.
- Effects of Environmental Exposures on Microvesicles Release and Their Contents. Andrea Baccarelli, Columbia University, New York, NY.
- Circulating microRNAs and Prediction of Airway Hyperresponsiveness. Kelan Tantisira, Harvard Medical School, Boston, MA.
- microRNA in Experimental Models of Chemical Sensitization. Stacey Anderson, NIOSH, Morgantown, WV.

Symposium

9:15 AM to 12:00 NOON

Toxicological Implication of Copper in Neurodegenerative Diseases.

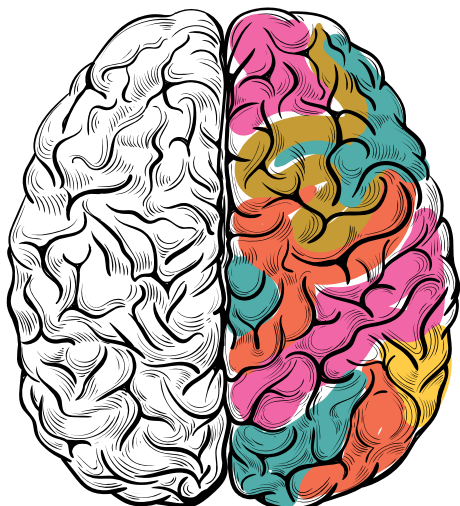
- Multifactorial Role of Copper Toxicity on Modulating Amyloid-Beta Clearance Via microRNA and Inflammation. Masashi Kitazawa, University of California Irvine, Irvine, CA

Symposium

9:15 AM TO 12:00 NOON

Understanding the Molecular Mechanisms of Zika Virus Reproductive and Developmental Toxicity.

- Introduction: A Brief Overview of Zika Virus Infection and Current Magnitude of Infection. Pedro Del Valle, US FDA, Silver Spring, MD.
- The Role of the Host Ubiquitin System in Zika Virus Replication and Tissue Tropism. Ricardo Rajsbaum, University of Texas Medical Branch, Galveston, TX.
- Zika Congenital Syndrome in Murine Experimental Model. Jean Pierre S. Peron, University of São Paulo, São Paulo, Brazil.
- Mouse Model of Zika Virus Infection in Testis and Its Potential Relevance to Mechanism of Infection in Human Testis and Male Infertility. Prabagran Esakky, Washington University School of Medicine in St. Louis, St. Louis, MO.
- Protective Efficacy of Multiple Vaccine Platforms against Zika Virus Challenge in Rhesus Monkeys. Rafael Larocca, Harvard Medical School, Boston, MA.
- Integrated Pest Management: A Multifaceted Approach to Vector Control. Elizabeth Mendez, US EPA, Washington, DC.



Immunotoxicology @ SOT 2018:

Monday March 12th

Symposium
1:45 PM to 4:30 PM

Decoding Oxidative Stress from Inflammation: Implications for Exposure, Toxicity, and Disease.

-**Biomarkers of Oxidative Stress.** Maria Kadiiska, NIEHS, Research Triangle Park, NC.

-**Role for NF- κ B p50 in the Regulation of Chronic Neuroinflammation by Free Radicals.** Michelle Block, Indiana University School of Medicine, Indianapolis, IN.

-**Overcoming Bias in F2-Isoprostane Oxidative Stress Measurement: Quantifying the Contribution of Inflammation.** Thomas van't Erve, NIEHS, Research Triangle Park, NC.

-**Inflammation Differentiated from Oxidative Stress in Reproductive Epidemiology: Understanding the Environmental Impact on Birth Outcomes.** Kelly Ferguson, NIEHS, Research Triangle Park, NC.

-**Emerging Indications of Biomarkers for Use in Humans within a Cluster of Redox-Related Diseases: Relevance of Biomarkers of Oxidative Stress, Inflammation, Antioxidants, and Redox Signaling.** Harald Schmidt, Maastricht University, Maastricht, Netherlands.

Symposium
1:45 PM to 4:30 PM

Revising Biology: Using Genomic and Epigenomic Editing to Gain Novel Insight into the Molecular Mechanisms of Toxic Exposure Effects and Susceptibility.

-**Use of CRISPR/Cas9 to Elucidate the Role of Nrf2 in the Response of T Cells to Electrophilic and Oxidative Stress.** Cheryl Rockwell, Michigan State University, East Lansing, MI.

Poster
3:00 PM to 4:30 PM

**Immunotoxicology
Inflammation**



Immunotoxicology @ SOT 2018:

Tuesday, March 13th

Platform
8:00 AM to 10:45 AM

Immunotoxicity

Symposium
1:30 PM to 4:15 PM

Stressors from Within: Neuroendocrine Regulation of Air Pollution-Induced Pulmonary and Systemic Health Effects.
-Neuroendocrine-Immune Effects of Stress in Health and Disease. Firdaus Dhabhar, University of Miami Miller School of Medicine, Miami, FL.

Poster
1:30 PM to 3:00 PM

Autoimmunity/Hypersensitivity
Oxidative Injury and Redox Biology

Wednesday, March 14th

Platform
8:00 AM to 10:45 AM

Autoimmunity/Hypersensitivity/Inflammation

Symposium
1:30 PM to 4:15 PM

Atherosclerosis as a Model to Understand the Combined Effects of Environmental Chemical and Non-Chemical Stressors.
-Diet and Physical Activity as Modifiers of Pollutant-Induced Inflammatory Diseases: Implications in Atherosclerosis. Bernhard Hennig, University of Kentucky, Lexington, KY

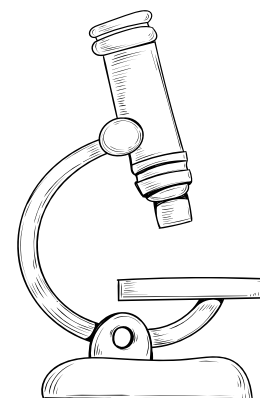
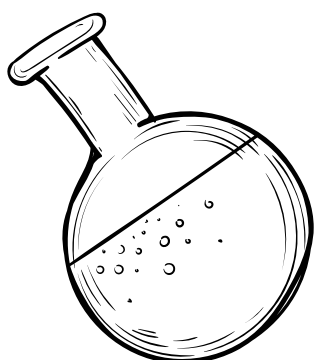
Poster
1:30 PM to 3:00 PM

Nanotoxicity: Immunology

Thursday, March 15th

Informational
8:30 AM to 11:15 AM

The NIEHS Nanotechnology Health Implications Research (NHIR) Consortium.
-Toxicological Profiling of Engineered Nanomaterials in the Mononuclear Phagocyte System in the Liver and the Immune System. Tian Xia, University of California Los Angeles, Los Angeles, CA



Report from JSIT

Report from the 24th Annual Meeting of the Japanese Society of Immunotoxicology

September 4th -5th, 2017 at School of Veterinary Medicine, Kitasato University
35-1 Higashi-23-bancho, Towada, Aomori 034-8628, Japan

Main theme of the meeting

New perspective of “immunoenhancement” and “immunosuppression”

Aim of the meeting

Autoimmunity or allergy is not necessarily initiated by immunoenhancement, but can be caused by even immunosuppression or normal immunity recognizing altered-self antigen or MHC. Physiological immunosuppression during pregnancy may be impaired by xenobiotics. Immunoenhancement and immunosuppression as the phenotype of immunotoxicity need to be redefined. In this meeting, immunotoxicity will be discussed from new perspectives.

Program

Lecture open to local citizens

Fujio Kayama (Jichi Medical University) - Safety of rice as a staple food: Findings derived from nationwide epidemiological study in cadmium intake

Special lectures

1. Danuta Herzyk (Merck Research Laboratories) - Immunotoxicity assessment of biopharmaceuticals – Past President of the SOT Immunotoxicology Specialty Section (ITSS) and selected delegate of ITSS, sponsored by the International Exchange Committee program between ITSS and JSIT

2. Tsuyoshi Yokoi (Nagoya University Graduate School of Medicine) - Involvement of immune-related factors on idiosyncratic drug-induced liver injury

Educational lecture

Takeharu Minamitani (National Institutes of Biomedical Innovation, Health and Nutrition) - Autoimmune diseases induced by virus infection

Symposium

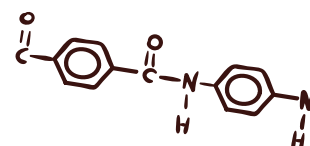
Reproductive immunotoxicology: Immunological mechanism of pregnancy and its breakdown

1. Yosuke Maeda (Kitasato University) - Immunological changes during pregnancy in cows

2. Yoshie Kametani (Tokai University School of Medicine) - Immune tolerance in placenta

3. Tomoko Shima, Akitoshi Nakashima, Shigeru Saito (University of Toyama) - Regulatory T cells are important for implantation and maintenance of pregnancy

4. Koumei Shirasuna¹, Nao Tanikawa¹, Ayae Ozeki¹, Akihide Ohkuchi², Masafumi Takahashi² (1Tokyo University of Agriculture, 2Jichi Medical University) - Mechanisms of pregnancy complications caused by nanoparticles: possible role of sterile inflammation (inflammasomes) during pregnancy



Report from JSIT

Workshop

The latest developments in the safety evaluation method of biopharmaceuticals (protein formulations)

1. Akiko Ishii-Watabe (National Institute of Health Sciences) - Outline and Points to Note on the Safety Evaluation Method of Biopharmaceuticals
2. Kazushige Maki (Pharmaceuticals and Medical Devices Agency) - Consideration for preclinical Safety Evaluation of Biotechnology-Derived Pharmaceuticals
3. Chiyomi Kubo (Chugai Pharmaceutical Co., Ltd.) - Characteristic test methods in biopharmaceutical nonclinical evaluation -Evaluation methods using human cells
4. Tetsuo Aida (Daiichi Sankyo Co., Ltd.) - Nonclinical safety assessment of antibody-drug conjugates

Luncheon seminar

Day 1: Vanessa Peachee (Charles River Laboratories Ashland) - Unraveling immunotoxicological assays for pharmaceutical and agrochemical industries

Day 2: Asako Uchiyama (Shin Nippon Biomedical Laboratories, Ltd.) - Evaluation methods for cell and gene therapy products in SNBL

Meeting Reception

Main highlights included two video presentations:

1. Dr. Jack Dean (Research Professor, University of Arizona, Department of Pharmacology and Toxicology) – 30-year History and Perspectives on Immunotoxicology Field
2. Dr. Victor Johnson (current President of ITSS) – Message from the ITSS Executive Committee, including Postdoctoral and Student representatives

JSIT interview about personal impressions from Dr. Danuta Herzyk

Q1. What was the most impressive event for you in your trip to Japan this time?

Response: The whole trip was very enjoyable and memorable. The most impressive was the weekend prior to the conference, when I (with my family members) had a chance to tour and stay around beautiful Lake Towada and Aomori region. I am truly grateful to Dr. Kazuichi Nakamura and Dr. Ryo Kamata for their efforts and time spent on arranging and accompanying us on trips to Oirase Mountain, Hakkoda Mountain, Samurai Castle, Sannai-Maruyama Historical Site, Nebuta Museum, and Asamushi Sakura Kano. In addition to the beauty of the region, the accommodations in traditional Japanese hotels allowed us to experience local culture and customs, including amazing dinners with delicious and beautifully prepared and served food (I only regret that I do not know Japanese language and cannot read menus and names of Japanese dishes).

The second most impressive event was the Conference Banquet. Apart from the beautiful setting at Sun Royal Towada and very tasty food, the wonderful jazz concert prepared and performed by the Student Band from Kitasato University was unforgettable. These supposedly amateur musicians were incredibly good! At the same time, I was pleasantly surprised by remarkably high energy, happy atmosphere and much laughter among the immunotoxicologists attending their annual conference. This was in contrast to my previous perception that Japanese people were quite serious-minded all the time. Sometime it feels good to be proven wrong (big smile here).

Report from JSIT

Q2. What is the most exciting thing in your career to date?

Response: My background is in immunology and I had to learn toxicology sciences “on the job” after I started working in the pharmaceutical industry, initially at SmithKline Beecham (currently GlaxoSmithKline) and then at Merck. Therefore, I am not a typical immunotoxicologist and have not been exposed to the environmental immunotoxicology field in contrast to my many esteemed colleagues in the US, Japan and other countries. The opportunity to work in the pharmaceutical industry in drug development has been the most exciting thing in my career. A broad spectrum of scientific challenges involving both immunopharmacology and immunotoxicology as two sides of the same coin is fascinating and most interesting to me.

Q3. What are the things you are doing energetically, right now?

Response: I have had the privilege of working in the immuno-oncology area, including the development of the cancer drug, KEYTRUDA®. This is a breakthrough therapy, using anti-PD-1 monoclonal antibody, and is the most important and energizing work I have done in my career. Research related to immune therapies in cancer is growing and evolving, and we are discovering and learning a lot about tumor biology and regulation of immune responses to tumors. At the same time, we face new challenges in the evaluation of safety of these novel anti-cancer therapies that present very different profiles than traditional chemotherapy drugs used to treat cancer diseases for decades. The need to better understand this new therapeutic class and work on new approaches to their safety evaluation stimulates my creative thinking and takes the highest priority in my current work.

Q4. What is required for breakthrough in immunotoxicology research in the future, do you think?

Response: From my perspective, immunotoxicology research in the future will focus on characterizing relationships between autoimmunity and immune responses to tumors at different stages of the cancer-immunity cycle. In this new era of immune therapies in cancer treatment, the idea of an association between autoimmune toxicity and therapeutic anti-cancer response has become a topic of debate and we need to address this idea as we move forward. With the availability of novel technologies, models and approaches, including humanized immune system mice and genomic and cellular biomarkers of immune interactions, we have new opportunities to move immunotoxicology research to a different level of scientific thinking.

Danuta Herzky Ph.D.

Merck Research Laboratories

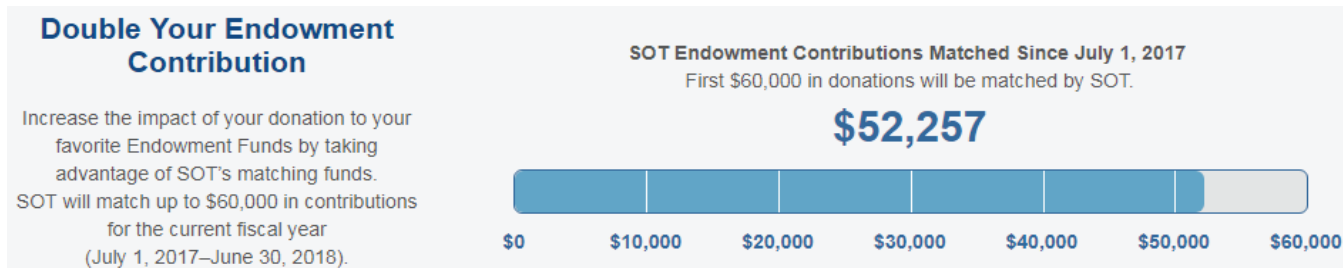


Endowment Fund Established

Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund

Established in January 2017, the goal of Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund is to encourage and recognize graduate students and postdoctoral scholars for their excellence in research involving mechanisms of immunomodulation in health and disease. The proceeds of the fund will be used to provide travel awards to graduate students and postdoctoral scholars to attend the SOT Annual Meetings based on best research conducted. The Fund is aligned with the Immunotoxicology Specialty Section. Use the online giving system or download the Donation form to make a gift to the Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund.

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Thermo Fisher Scientific



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Assistant/Associate Professor-Tenure System

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Recent Immunology Publications

Compiled by Angela Groves and Jiajun (Brian) Zhou. Anytime you have a new fully-published or electronically available article to report, please send the citation to Angela at angela_groves@urmc.rochester.edu.

Asthma, Allergy, Autoimmunity & Hypersensitivity

Jensen-Jarolim, E.R.I.K.A., Bax, H.J., Bianchini, R., Crescioli, S., Daniels-Wells, T.R., Dombrowicz, D., Fiebiger, E., Gould, H.J., Irshad, S., Janda, J. and Josephs, D.H., 2018. AllergoOncology: Opposite outcomes of immune tolerance in allergy and cancer. *Allergy*, 73(2), pp.328-340.

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Recent Immunology Publications

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Recent Immunology Publications

General Immunotoxicology

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