IMMUNOTOXICOLOGY Specialty Section

Pre-SOT Edition

2018-2019 Executive Committee

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The Immunotoxicology Specialty Section (ITSS) Newsletter is published twice a year (Summer 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

Are you all ready to be "charmed" by another SOT Annual Meeting in Baltimore, MD (the "Charm City")? The 58th Annual Meeting and ToxExpo will be held at the Baltimore Convention Center, which is downtown and next to the Inner Harbor and Little Italy districts. If you haven't yet registered, you may still do so, although the reduced registration fee deadlines have passed. This link will take you to the SOT registration page. If you plan to attend and haven't yet registered, please remember to do so!

Immunotoxicology is featured in two of the Continuing Education programs on Sunday, 3/10/19. An AM session focuses on Mechanistic Understanding and Quantitative Risk Assessment in Immunotoxicology and a PM session on the Microbiome and Environmental Toxicants has a session on the current state-of-the-science of the microbiome in immunotoxicology. Other sessions sponsored by the ITSS are highlighted later in the newsletter. These sessions would not be possible without the hard work of our Program Committee, which is chaired by Emanuela Corsini, and those of you from the ITSS membership and beyond who submitted session proposals for endorsement by the ITSS and consideration by the Scientific Program Committee (SPC). If you have an idea that's been simmering or want to highlight an area that you think has been underrepresented at Annual Meetings in past years, consider submitting a session proposal. A range of sessions are available, including the more traditional Continuing Education, Roundtable, Symposia, and Workshop formats as well as Education-Career Development, Historical Highlights, and Regional Interest sessions. Please feel free to contact any one of the current Executive Committee members to get the ball rolling or reach out to Mark Collinge, who will chair the Program Committee in 2019-2020. But, most importantly, tag those Immunotoxicology sessions in your meeting agenda and attend to show support for your Immunotoxicology colleagues!

President's Message (Continued)

Students, postdocs, and other trainees, don't forget to add the ITSS Networking and Mentoring Event to your meeting agenda for the Annual Meeting. This year it will be held on Wednesday, March 13 from 4:15-5:45pm in the Hilton Baltimore, room Key 9.

The ITSS Meeting and Reception also will take place on Wednesday, March 13 from 6-7:30pm and will also be held in the Hilton Baltimore, room Key 9. Please attend to catch up with your colleagues, meet new colleagues, hear about ITSS business, congratulate our 2019 award winners, and meet the 2019-2020 ITSS Executive Committee!

Speaking of awards and elections, even though the deadlines for both have passed, thank you to those of you who took time to nominate trainees and colleagues for the various awards and Executive Committee positions and to vote in the ITSS Executive Committee elections. We all appreciate the time and effort that it takes to nominate someone for an award or a position. We also understand that there are still a few issues with some ITSS members not receiving ballots and are working with SOT to try to resolve these issues.

I would also like to introduce you all to Mina Klier, the new SOT Liaison to the Specialty Sections & Awards Committee. She has stepped up to fill the shoes of Raul Suarez, who shifted his career to another organization earlier this year. We are saddened to lose the wisdom and experience that Raul brought to this position, but are excited to be working with Mina. Welcome Mina!

We look forward to seeing you in March and as usual, if you have any questions, concerns, or suggestions, please feel free to reach out to any member of the ITSS Executive Committee.

Best regards,
Jamie DeWitt, PhD
East Carolina University
President ITSS

ITSS Programs at SOT 2019

Please contribute a program proposal for the SOT 2020 Annual Meeting!

Dear members of the ITSS,

For the 2019 Annual Meeting, the ITSS endorsed two continuing education courses on "**Mechanistic Understanding and Quantitative Risk Assessment in Immunotoxicology**" and "**Microbiome and Environmental Toxicants: From Study Design and Analysis to Regulatory Guidance**." We look forward to seeing you at these events!!

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 2020 Annual Meeting (it's never too early to start planning!) and lead the team of presenters for that topic! Send your proposals to the ITSS Program Committee Chair, Emanuela Corsini (emanuela.corsini@unimi.it) by April 15th, 2019, so that we may help you to submit the most competitive proposal possible.

SOT is already gearing up for the 2020 Annual Meeting. In addition to the canonical 165-minute sessions, the upcoming meeting will host 90-minute sessions followed by 30-minute breaks to allow for individuals to follow up with speakers or networking with session attendees. 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 2019 Annual Meeting. In order for your proposal to be reviewed for endorsement by ITSS, please submit your title and abstract to Mark Collinge (Mark.Collinge@pfizer.com), 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 May 15.

ADVICE: please consider the following steps as you prepare your proposals:
- The session presentations should be designed to provide a cohesive thread throughout the session.
- 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.

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!

Program Committee

Outgoing Chair: Emanuela Corsini
Incoming Chair: Mark Collinge
Cheryl Rockwell
Sarah Blossom
Ashwini Phadnis-Moghe
Weimin Chen
Peer Karmaus
Tracey Papenfuss
Nada Alakhras

ITSS Programs at SOT 2019 (Continued)

Continuing Education

Mechanistic Understanding and Quantitative Risk Assessment in Immunotoxicology

Sunday, March 10, 8:15 AM to 12:00 Noon AM08 | MORNING COURSE
Chairperson(s): ***Emanuela Corsini and Jamie DeWitt***

- Introduction to the Course. ***Jamie DeWitt***
- Integrated Strategies in Immunotoxicity Risk Assessment. ***Dori Germolec***
- Quantitative Risk Assessment in Chemical-Induced Skin Sensitization. ***Frank Gerberick***
- Drug-Induced Systemic Hypersensitivity: Mechanistic Understanding and Early Detection. ***Jack Uetrecht***
- Cytokine Production from Mechanistic Understanding to Use in Safety Assessment. ***Wimolnut Manheng***

Microbiome and Environmental Toxicants: From Study Design and Analysis to Regulatory Guidance

Sunday, March 10, 1:15 PM to 5:00 PM PM13 | AFTERNOON COURSE
Chairperson(s): ***Sarah Blossom and Sangeeta Khare***

- The Microbiome in Immunotoxicology: Current State-of-the-Science. ***Sarah Blossom***
- Non-animal and Animal Models to Test the Effect of Xenobiotics on the Intestinal Microbiome and Gut Associated Immune Responses during Developmental Stages. ***Sangeeta Khare***
- Microbiome Experimental Design for More Effective Planning and Execution of Multigenerational Toxicology Studies. ***Kenneth Drake***
- An Overview of Current Microbiome Analysis Tools. ***Folker Meyer***
- The Emerging Issue of Microbiome Therapeutics: Regulatory Aspects of Microbiome Perturbation. ***Paul Carlson***

ITSS Programs at SOT 2019 (Continued)

Symposia

Immune-Epithelial Cell Crosstalk in Lung Toxicology and Disease

Monday, March 11, 1:45 PM to 4:30 PM

Chairperson(s): **Alessandro Venosa and Andrew Gow.**

- Introduction. **Andrew Gow.**
- Alveolar Type II Cells Initiate and Modulate Inflammation in Lung Surfactant. **Alessandro Venosa.**
- Extracellular Vesicle: An Emerging Mediator of Intracellular Crosstalk in Lung Inflammation and Injury. **Jin Yang.**
- To Each Their Own: Molecular Mechanisms of Inter-Individual Variability in the Effects of Inhaled Toxicant Exposures. **Shaun D. McCullough**
- Mechanisms of Exposure-Based Injury in the Resident Tissues of the Lung. **Laura Van Winkle.**
- Inflammatory Responses of Resident and Recruited Immune Cells to Inhaled Toxicants. **Kymberly Gowdy.**

The Current Application, Limitations, and Recent Advances in Humanized Mouse Models for Evaluations of Immune Function and Preclinical Immunotoxicology Studies

Tuesday, March 12, 3:00 PM to 4:30 PM

Chairperson(s): **Mark Collinge and Michael Brehm.**

- NSG Mice Deficient in Murine MHC Class I and Class II Expression Support Engraftment of Functional Human T Cells in the Absence of Acute Xenogeneic GVHD following Injection of PBMC. **Michael Brehm.**
- Characterization of the Immune System in Humanized Immune System Mice for Use as Preclinical Models of Drug Safety and Efficacy. **Michael Oropallo.**
- Recent Advances in the Utilization of Humanized Mouse Models for Toxicology Assessment of Novel Therapeutics. **James Keck.**

Workshop

Understanding the Impact on the Immune System of Occupationally Relevant Exposures to Multiwalled Carbon Nanotubes

Wednesday, March 13, 8:00 AM to 10:45 AM

Chairperson(s): **Nigel Walker and Victor Johnson.**

- Introduction. **Nigel Walker.**
- Perspectives from the Field: Occupational Exposures to Carbon Nanotubes in the US. **Matthew Dahm.**
- Pulmonary and Systemic Immunotoxicity following Inhalation of Multiwalled Carbon Nanotubes. **Victor Johnson.**
- Consequences of Inhalation Pre-exposure to Multiwalled Carbon Nanotubes on Airway Inflammation and Fibrosis Induced by House Dust Mite Allergen. **James Bonner.**
- Characterization of Inflammatory Responses and Redistribution of MWCNT following Aerosol Exposure in B6C3F1/N Mice. **Andrij Holian.**
- Moderated Panel Discussion. **Victor Johnson.**

Student & Postdoctoral Report

Dear graduate students and postdocs,

By the time this newsletter pops-up on your email you may have already made up your mind of your feelings towards 2019. Do not despair, we are just a month away from SOT and your year is going to change for the better!

As for the previous years, ITSS offered several awards for **Graduate Students:**

- **Best Presentation by a Student Award**
- **Best Paper of the Year Award**
- **Prakash Nagarkatti Research Excellence in Immunology Award**

and **Postdocs:**

- **Best Presentation by a Postdoctoral Trainee Award**
- **Best Paper of the Year Award**
- **HESI Immunotoxicology Young Investigator Travel Award**
- **Prakash Nagarkatti Research Excellence in Immunology Award**.

We are happy to report that graduate students and postdocs have submitted high quality research for the ITSS awards!

As the 58th Annual Meeting in Baltimore is right around the corner, we would like to encourage trainees to attend the Graduate Student and Postdoc Mixer and the 5th Annual ITSS Networking/Mentoring Event at the Annual Meeting (Hilton Baltimore Key 9, 4:15pm to 5:45pm). This event gives participants the opportunity to interact with diverse panelists from academia, industry and government. The participants are able to connect with these experts to learn about what it is like to hold their positions and ask advice on career planning. Our tremendous group of mentors made last year's event a success, and we are excited to be able to provide another great line up this year.

We also encourage the ITSS trainee members to participate in the ITSS committees. This is a great way to get involved in leadership activities with other ITSS members and to enhance your professional network. There are 4 different committees within ITSS: Awards, Program, Education and Communication/Membership, each chaired by friendly and motivated members of the ITSS executive committee. Participating in these activities can be rewarding and it is also great opportunity to get to know the immunotox community.

If you would like to get more involved please contact us avenosa@pennmedicine.upenn.edu or alexa.murray18@gmail.com.

We look forward to seeing you in Baltimore!

Alessandro Venosa, Pharm.D., Ph.D. and Alexa Murray

Member Spotlight

Angela Groves, Ph.D.
University of Rochester Medical Center

When did you begin your career in immunotoxicology?

I participated in a work study program as an undergraduate at the University of Montana in the lab of Dr. Elizabeth Putnam and was fortunate to be able to contribute to some very interesting studies on asbestosis. I have a memory of learning that when lung macrophages have trouble phagocytosing asbestos fibers this process is called “frustrated phagocytosis” and the mental picture of this piqued my curiosity in immune cells. Later upon starting my graduate program in toxicology at Rutgers University I was excited to join the lab of Dr. Debra Laskin, who is an expert in macrophage biology. My work at the University of Rochester continues to focus on immunological mechanisms and I think that the immune system will always continue to captivate my interest.

When did you start participating in the ITSS?

I first started attending the ITSS SS receptions at the annual meeting as a graduate student and later became involved as a postdoc, serving as the postdoc representative for 2 years.

What was your most rewarding experience involving ITSS?

I very much enjoyed working on the newsletter. I thought that compiling all the recent member accomplishments, committee updates and latest publications was a great way to get an overview on the current climate of immunotoxicology. That said, my favorite aspect of serving as the postdoc representative was getting to know and work with the other executive members who were so warm, enthusiastic and dedicated.

What motivated you to be an active participant in the ITSS and what has been the largest benefit for you?

I was interested in serving as the postdoc representative because I was seeking out more experiences that would help with career development. Having the opportunity to work closely with other experts in a professional setting and to successfully carry out a project that promotes the continued development of the field is something that I was very proud to be able to do as an ITSS member. Acquiring this know-how was invaluable to me. This experience was also beneficial in helping me to establish a network of associates that I can utilize for their professional and scientific expertise as I progress through each stage of my career.

Member Spotlight (Continued)

What experiences best prepared you for your position now?

So much of being a scientist is about convincing people to get behind your ideas, which in my academic position, is accomplished through applying for grants, getting papers published, etc., as we all know. I was very fortunate as a postdoc that my mentor, Dr. Jacob Finkelstein, allowed me to be very involved in not only the data generating, but also the writing aspects of his grant application processes, and also encouraged me to submit my own grant applications. I feel that this was very good preparation for all the writing that is needed as an academic researcher.

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

I would encourage them to sign up! I found the experience to be very worthwhile. The services these groups provide are further strengthened through member participation, so your involvement will not only benefit the SS/SIG, but the opportunities and advice you will get when you connect with others in your field will be even more rewarding.

What do you perceive to be the next big breakthrough in immunotox?

I think that a breakthrough at the intersection of immunotoxicology and personalized medicine would be transformative. To be able to identify and use patient-specific biomarkers for diagnostic purposes and for the targeting of therapeutics in order to prevent or correct immune dysfunction has the potential to result in more effective patient care.

What do you like the most about working in academia?

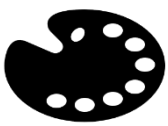
I like that academics often have the freedom to commit to an area and research and to be able to publish a body of work in that field. Additionally, the relatively long terms of some grants allow for us to work on projects that forgo more immediate returns so that outcomes that require longer commitments can be explored.

How do you maintain work/life balance during the transition to independency?

Although it is tricky, I have really tried to commit to some of my artistic passions outside of science because I also want to these to have importance in my life. I love making pottery and find it to be a great stress reliever. I have loved taking a weekly class at a nearby pottery studio, and I think that the fact that I have to commit to going to pottery after work once a week when I sign up for the class is a great way for me to not put this passion on the backburner.

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

I love anything artsy. I like to draw, paint, make jewelry, sew, knit, crochet and make pottery, among other artistic things.

Member Spotlight

Chidozie Amuzie, DVM, Ph.D., DACVP, DABT
Scientific Director at Janssen Pharmaceutical Companies

When did you begin your career in immunotoxicology?

I started in grad school around 2005, as a research assistant at the center for integrative toxicology at Michigan State University (MSU).

When did you start participating in the ITSS?

I started participating in 2005 essentially by attending the SOT annual meeting and Itox-focused meetings like one hosted by NIOSH-Morgantown in the same year.

What motivated you to be a part of ITSS?

My major advisor James Pestka was into ITSS. He did not hang plaques in his office as there were probably too many, but he had one ITSS best publication plaque from 2003 perhaps. I often stared at that plaque during our 1:1 meetings and felt that Jim thought a bit highly of ITSS.

What was your most rewarding experience involving ITSS?

Ten years ago, I received one of the trainee awards. I was only awarded third place, but the plaque, $500 (before tax) and some visibility at SOT and MSU felt really great as a young trainee.

How did you make the transition from Post-doc to industry?

My path was nontraditional, as I was lucky to get an industry-funded toxicologic pathology residency. At the time, my focus was on a scholarly career which was synonymous with universities for some reason. The residency took me to a CRO in Michigan (MPI Research), now Charles River in Mattawan for one year. I was amazed to find different kinds of scholars there. Dr. Paul Ross, the necropsy pathologist inspired me with his integrated knowledge of biomedical sciences across species. I experienced the depth and breadth of studies that supported drug, food and occasionally environmental safety. It was a good perspective on the immediate impact of applied safety science at a level that wasn't very apparent from my academic toxicology training/experience.

How does the future look in the immunotoxicology field?

Future looks exciting, especially in drug safety where I follow closely. There are many examples across organ systems and disease states, where investigators are attempting to use knowledge of the immune system in different ways for drug delivery and disease alleviation. Some of these efforts have made significant impact already as exemplified by the Jim Allison's recent Nobel prize for checkpoint inhibitors. As we go deep into the era of personalized medicine, we will need to continually evolve from classic dose-response xenobiotic-driven immunotoxicology to immune safety assessment of personalized biotherapeutics like CAR-Ts. We will need to learn a lot from other disciplines and allow computer to help us in knowledge creation and decision making.

Member Spotlight (Continued)

What would you do to improve industry-academia interactions?

Increase the number of (unpaid) adjunct Professorships, and industry mentors for students as well as encourage internships. When I was at MSU some scientists came from Pfizer then in Ann Arbor, Dow in Midland, MI and occasionally from out of state. We also had opportunity to write papers with industry scientists and this is how I got acquainted with Glenn Cantor who has supported and mentored me in many ways since then.

What experiences best prepared you for your job?

I have been lucky to have very dedicated and diverse professors, mentors and supervisors across continents. They allowed me to experience the discipline of structured programs while giving me room to find things that interested me outside of the structured programs. One of my best elective classes was an environmental law class where we used the supreme court arguments on landmark toxicology-related cases (benzene, ozone, etc). It was an early reminder that the numbers we generate in toxicology experiments have impact on people and their pockets. So, we need to strive for precision and rigor in our service to communities as safety professionals. Overall, I owe a debt of gratitude to my PhD graduate committee of all SOT members (Patti Ganey, Bob Roth, Jack Harkema and Jim Pestka). They helped me understand that there will be no substitute for rigor in scientific inquiry and that understanding cytokines is the beginning of wisdom!

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

I participate in a few SS and am currently the president of the Toxicologic and Exploratory Pathology Specialty Section (TEPSS). SS activities have helped me build the right network to advance my scholarly interest in immunopathology/immunotoxicology and prepared me to use immune safety assessment as a platform for scholarly engagement.

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

Seek opportunities to volunteer and give it your best. It helps SOT and might help you too! I learned a lot about leadership while serving as student/postdoc rep and I acquired very good mentors too.

How has working in industry settings impacted your personal and scientific growth?

It has led to a greater appreciation for collaboration and team work. Every piece, from everyone is important. I have a better appreciation for disciplinary and demographic diversity in problem solving.

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

My 7-year old daughter was recently asking me practice questions for US citizenship interview. I failed a few of those but she felt that my foreign accent, especially improper pronunciation of “r”, should be disqualifying. Am glad the USCIS officer had lower standards than her.

Immunotoxicology Specialty Section

Networking/Mentoring Event

2019 information:

Date: Wednesday, March 13th

Location: Hilton - Baltimore Key 9

Time: 4:15-5:45pm

IMPORTANT INFORMATION

- **You do not have to be a ITSS member to participate!**
- **Look for an ITSS email with the list of mentors in the upcoming weeks!!**

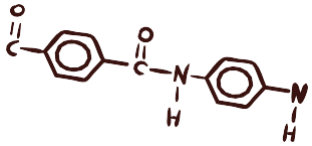
Report from JSIT

The 25th annual meeting of the Japanese Society of Immunotoxicology (JSIT) took place on September 18-19, 2018 at the Tsukuba International Congress Center, a modern conference center in the heart of Tsukaba, Japan. Tsukuba, in Ibaraki Prefecture, is about 40 miles (65 km) northeast of Tokyo.

The central theme for the JSIT annual meeting was '*Deepening insight into interactions between the immune system and environment*.' In attendance were over 130 scientists in academia, government and private sector from Japan, as well as from other countries in Asia. The ITSS and JSIT have undertaken an international collaborative venture to foster the exchange of scientists and scientific ideas. Each year, the SOT Global Initiatives Fund and the ITSS support a scientist from Japan to participate in the SOT meeting, and also supports a scientist from outside of Japan to participate in the JSIT meeting. I had the very distinct honor of being invited to attend the JSIT, and gave a special lecture during the conference.

This was a special meeting for the JSIT as it marked their first quarter century. As part of their 25th year celebration, there was a special banquet and award ceremony at the Hotel Grand Shinonome. In addition to praising the numerous achievements of JSIT members and welcoming new members, several young investigators received awards. During the reception, there was lively and warm conversation, and a visit from ***Fukkun Sencho***, a robot owl who is the mascot of Tsukuba. Throughout the evening, several members of the JSIT displayed remarkable talents that included dancing, theatrical readings, and musical performances. These were among the highlights of the reception, not only because art transcends language, but because the level of encouragement, sharing, and fun that these performances added to the evening was entirely special. The overall atmosphere at the reception radiated happiness and camaraderie. It was a fantastic reminder that, no matter how stressful we find our jobs, there is much joy in our careers and our lives, and it is important to take the time to share, to celebrate, and to laugh together.

Keiko Nohara, JSIT President, and Paige Lawrence with a special guest: Fukkun Sencho



Report from JSIT

There was a lot of very interesting research conveyed through the compelling data in posters and oral presentations. Session topics included "*Immune modulation by epigenetic modification of regulatory Tregs*," "*Gut microbiota and immune diseases: A new perspective on immunotoxicology*," as well as a workshop entitled "*Development of cancer immunotherapy and safety assessment of immune checkpoint inhibitors*." Other excellent scientific work that was shared included novel ways to integrate data on serum levels of acute phase response markers to better distinguish liver cancer and liver injury, and research to better define how exposure to arsenic contributes to allergic disease.

En route to the conference, I had the opportunity to see a little bit of Tokyo, including the Asakusa Kannon (Sensoji) Temple. This is the oldest Buddhist temple in Tokyo, and dates back to about 645 BCE. Despite many tourists, the courtyard in front of the Temple and a nearby shrine radiate harmony and tranquility. The busy Nakamise that spans between the impressive Kaminarimon Gate and Hozomon Gate is less tranquil because it is filled with many interesting little shops. But, it conveys a positive energy that is difficult to describe, but the overall feeling of harmony strangely percolates from the temple into this busy street.

I am very grateful to Dr. Keiko Nohara for the tremendous efforts she put into organizing the conference, and for the time she spent helping to coordinate and arrange my itinerary in Japan. Also, before I departed for the airport, Dr. Tomoki Fukuyama took me to an ancient Shinto shrine on Mount Tsukuba. This was a relaxing and very special way to end my trip to Japan, and I am grateful for this little excursion.

Being able to exchange knowledge and ideas with our colleagues in other parts of the world is one of the most enriching and rewarding experience.

B Paige Lawrence, PhD
Professor and Chair,
Department of Environmental Medicine
Professor,
Department of Microbiology and Immunology
University of Rochester School of Medicine and Dentistry

Endowment Fund Update

We wanted to take this opportunity to thank everyone who has contributed to the **Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund.** This fund was established to encourage graduate students and postdoctoral scholars to pursue cutting-edge mechanistic research on immunomodulation seen in health and disease and share that widely with the research community.

The current amount of the endowment is $47,850 and we need to raise $2,150 before January 2020 to make it permanent. Please consider this important fund for your summer or end of the year donations. **Keep in mind that SOT donation matching will not occur again until July 2019**.

We thank you in advance for your generosity and look forward to making the Nagarkatti Endowment a permanent part of the Immunotoxicology Specialty Section!

Stacey Anderson, PhD
Secretary/Treasurer

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

Recent Publications

Compiled by Alessandro Venosa and Alexa Murray. Anytime you have a new fully-published or electronically available article to report, please send the citation to Alessandro at avenosa@pennmedicine.upenn.edu.

Alastair Mak, Ryuji Kato, Kyle Weston, Anthony Hayes, and Jack Uetrecht. An Impaired Immune Tolerance Animal Model Distinguishes the Potential of Troglitazone/Pioglitazone and Tolcapone/Entacapone to Cause IDILI. Toxicological Sciences 161, no. 2 (2018): 412–20. **Tox Sci Paper of the Year Award**

Azoury ME, Filì L, Bechara R, Scornet N, de Chaisemartin L, Weaver RJ, Claude N, Maillere B, Parronchi P, Joseph D, Pallardy M. Identification of T-cell epitopes from benzylpenicillin conjugated to human serum albumin and implication in penicillin allergy. Allergy. 2018 Aug;73(8):1662-1672. doi: 10.1111/all.13418.

Barnett, J.B. 2018 Consequences of Blocking the Choreography of Double Negative Thymocyte Maturation. In Signaling Mechanisms RegulatingT cell Diversity and Function, in CRC Methods in Signal Transduction Series, Editors, Jonathan Soboloff and Dietmar J. Kappes. CRC Press, Taylor and Francis

Beamer CA, Kreitinger JM, Cole SL, Shepherd DM. Targeted deletion of the aryl hydrocarbon receptor in dendritic cells prevents thymic atrophy in response to dioxin. Arch Toxicol. [Epub ahead of print]

Bechara R, Maillere B, Joseph D, Weaver RJ, Pallardy M. Identification and characterization of a naïve CD8+ T-cell repertoire for benzylpenicillin. Clin Exp Allergy. 2019 Jan 18. doi: 10.1111/cea.13338. [Epub ahead of print]

Bechara R, Nabhan M, Antonios D, Azouri H, Pallardy M. IL-27 Production and Regulation in Human Dendritic Cells Treated with the Chemical Sensitizer NiSO4. Chem Res Toxicol. 2018 Nov 27. doi: 10.1021/acs.chemrestox.8b00203. [Epub ahead of print]

Burleson SCM, Freeburn WJ, Burleson FG, Burleson GR, Johnson VJ, and Luebke RW (2018) Host Resistance Assays. Methods Mol. Biol. 1803: 117-145.

Burleson SCM, Freebern WJ, Burleson FG, Burleson GR, Johnson VJ, and Luebke RW (2018). Host Resistance Assays. In DeWitt JC et al. (eds.), Immunotoxicity Testing: Methods and Protocols, Methods in Molecular Biology, vol. 1803, Chapter 9, Pp:117-145.

Burleson, SCM. and Johnson, VJ. (2018) Hypersensitivity Reactions in the Respiratory Tract. In: McQueen, C. A., Comprehensive Toxicology, 3rd Edition. Elsevier Ltd., Kidlington, United Kingdom. Chapter 11.27, Pp. 599-622

Castañeda AR, Pinkerton KE, Bein KJ, Magaña-Méndez A, Yang HT, Ashwood P, Vogel CFA. Ambient particulate matter activates the aryl hydrocarbon receptor in dendritic cells and enhances Th17 polarization. Toxicol Lett. 2018 Apr 22;292:85-96.

Castañeda AR, Vogel CFA, Bein KJ, Hughes HK, Smiley-Jewell S, Pinkerton KE. Ambient particulate matter enhances the pulmonary allergic immune response to house dust mite in a BALB/c mouse model by augmenting Th2- and Th17-immune responses. Physiol Rep. 2018 Sep;6(18):e13827.

Recent Publications (Continued)

Franko, Jennifer, McCall, Jamie L. and Barnett, John B. 2018 Evaluating Macrophages in Immunotoxicity Testing. In Immunotoxicity Testing: Methods and Protocols, Eds. Jamie C. DeWitt, Cheryl E. Rockwell, and Christal C. Bowman, Springer Nature

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Achievements and Awards

Cheryl Rockwell, PhD
Associate Professor
Department of Pharmacology & Toxicology
Michigan State University

2019 Early Career Award ASPET Toxicology Division

Chris Vogel, PhD
Research Professor
Department of Environmental Toxicology
University of California Davis

2018 Muir Institute Fellow

Alessandro Venosa, PharmD, PhD
Postdoctoral Researcher
University of Pennsylvania School of Medicine

2019 Usha Awards APS, Respiratory Section