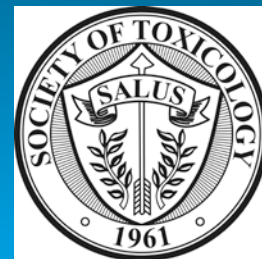


IMMUNOTOXICOLOGY

Specialty Section

Summer Edition



2018-2019 Executive Committee

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Emanuela Corsini

Vice President-Elect
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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.

Alesandro Venosa
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Alexa Murray
Alexa.Murray18@gmail.com

Jennifer Wheeler
Jennifer.Wheeler@bms.com

President's Message

When I first became involved in the ITSS, I was in the second year of my postdoc with Dr. Robert Luebke in what was known as the Immunotoxicology Branch of the Experimental Toxicology Division of the National Health and Environmental Effects Research Laboratory of the US Environmental Protection Agency (And to increase the complexity, I was a trainee through a cooperative training agreement with the Curriculum in Toxicology at the University of North Carolina at Chapel Hill; try putting all of that on your CV!). I had come to Dr. Luebke's lab after completing doctoral training and a brief postdoc in environmental toxicology with focuses in developmental neurotoxicology and cardiotoxicology in wildlife models at Indiana University in Bloomington, IN. I wanted to learn immunotoxicological techniques because I thought it was one of my weak areas as an environmental toxicologist. I learned many techniques through my postdoc, but then something strange happened. I fell in love with the field of immunotoxicology and felt that I had finally found my community of scientists in the ITSS.

The ITSS became my main professional network and the support that I have received from my ITSS mentors is priceless. Dr. Luebke was the most amazing mentor I've ever had, but I've also received mentorship and advocacy from Dr. MaryJane Selgrade who led the Immunotoxicology Branch, Dr. Dori Germolec who is the group leader for Systems Toxicology at the NTP, and Dr. Rod Dietert at Cornell University. I could easily grow this list into the double digits, not to name drop the famous immunotoxicologists who have supported me in my career, but to demonstrate that immunotoxicologists are vitally connected to one another much like the interconnectedness of the immune system we study.

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President's Message, continued

This brings me to the core of this message: What can the ITSS do for you? I'm asking all members, from senior members through



student members. What can we do more of? What can we do less of? What can we do differently? What can we do that's new and different? If you have ideas, please share them with us by emailing me at dewittj@ecu.edu and put "ITSS suggestions" in the subject line of your email. We will use your suggestions to shape and reshape the ITSS to better suit your needs if we need to do so. So please do reach out to us; promotion and progression require an initiating event!

Please also welcome the newest members of the 2018-2019 ITSS Executive Committee who started their terms on May 1, 2018: Dr. Mark Collinge, Vice President-Elect (Pfizer); Dr. Jennifer Wheeler, Junior Councilor (Bristol-Myers Squibb Company); Dr. Alessandro Venosa, Postdoctoral Representative (University of Pennsylvania); and Alexa Murray, Graduate Student Representative (Rutgers, The State University of New Jersey). For those of you who feel the need to step up your volunteerism, keep in mind



that we will need to elect a new Vice President-Elect (four-year term, beginning as Vice President-Elect, then to Vice President, President, and Past President), Secretary/Treasurer (two-year term), and Junior Councilor (two-year term, with ascension to Senior Councilor in second year). We also have openings on our committees (see page 14 of the newsletter). If you get bitten by the volunteer bug, please nominate yourself for one of these positions by dropping me or the respective committee chair an email.

As the 2018-2019 ITSS Executive Committee moves into its third month of existence, one question that you may be asking is "what are they doing?" Here's a quick overview:

- Monthly teleconferences to make sure that we are informed, engaged, and on track not only with ITSS goals and priorities, but with SOT goals and priorities for specialty sections.
- Growing the ITSS Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award endowment fund. This was created through a generous donation by Dr. Mitzi Nagarkatti and Dr. Prakash Nagarkatti. The ITSS awarded Juyoung Shim in honor of Drs. Prakesh and Mitzi Nagarkatti. To donate to this fund, log into SOT through this [portal](#) and select the Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award for your donation. Our Past President, Dr. Vic Johnson, has agreed to continue to work with SOT to grow this fund.
- Actively supporting our International Scientific Exchange and Collaboration program. This has largely been used to support our partnership with the Japanese Society of Immunotoxicology (JSIT) through the exchange of speakers/meeting attendees at JSIT and SOT. We are hoping to grow this program to multiple partners across multiple countries.

President's Message, continued

- Updating our “best practices” documents for each committee to ensure that we are current, consistent, and reproducible in our practices.
- Strategizing new pathways to proposal development and submission from ITSS members for SOT Annual Meeting presentations. The establishment of the Science Advisory Subcommittee comprised of ITSS past presidents was designed, in part, to come up with basic ideas for program proposals that other ITSS members could develop for submission.
- Responding to needs of SOT and from you.

These bullets are a small sample of what we do as a committee. We are all part of the ITSS Executive Committee because you, the ITSS membership, voted for us. We like to think that you did so because you have faith in us to effectively lead the Specialty Section. Let us know how we're doing. If you have ideas, please share them with us by emailing me at dewittj@ecu.edu and put “ITSS suggestions” in the subject line of your email. Thank you!



Dr. Jamie DeWitt
President, ITSS
2018 - 2019

Outgoing President's Message

As outgoing President of the Immunotoxicology Specialty Section, I am very proud of the success and progress that ITSS experienced during the 2017-2018 year. Success of the Specialty Section relies on many factors starting with the ITSS membership. The 2017-2018 Executive Committee was blessed to have good members who were willing and excited to participate in the many important committees that the ITSS relies on for operations. I would like to personally thank the 2017-2018 Executive Committee and subcommittees for all their hard work and dedication to ITSS and for making my term as President so enjoyable.

Outgoing President's Message, continued

I will touch on a few highlights from the past year consistent with the goals that we set. The first goal was to promote educational opportunities and communications for immunotoxicologists and scientists interested in the field. Emanuela Corsini provided excellent leadership for the education committee and their hard work resulted in a successful mentoring event at the SOT meeting focusing on our young scientists and career development. The committee also provided valuable support for a second T-cell biology course (*T-cell Biology and Application to Immunopharmacology and Immunotoxicology Course*) sponsored by ILSI/HESI that was held in Munich, Germany on April 4-5, 2018. Another Gold Star for immunotoxicology education was the 2018 SOT CE Course *An Introduction to the Basics of Immunotoxicity Testing* chaired by Jamie DeWitt and Sarah Blossom that attracted over 150 participants, a shining testament to the interest in immunotoxicology. As you can tell from recent communications, the current Education Committee is striving to continue this success and is actively alerting membership to educational opportunities (i.e., webinars and courses) as they arise. Great work! The hard work of our Communications Committee, led by Jessica Lynch, was essential to this success. I must mention another endeavor that they took on, the ITSS website. If you have not been to the website in a while, you need to go there now as it has change dramatically – for the better! Thanks for all the hard work and efforts from the Education Committee and Executive Committee for getting this to go live. Brian (graduate student representative) designed some of the artwork and Angie (postdoc representative) worked with Raul at SOT to get everything in shape for publication of the new website. We are very proud of the outcome, please check it out (<https://www.toxicology.org/groups/ss/imtox/index.asp>).

Our second goal was to foster and expand ITSS's international relationships and collaborations. The ITSS-JSIT partnership was strong this past year. Danuta Herzyk was the ITSS delegate selected to present the Special Lecture (Immunotoxicity Assessment of Biopharmaceuticals) at the 2017 JSIT

meeting in Towanda, Japan. This was a special meeting for the international exchange program as I worked diligently with Dr. Kazu Nakamura, 2017 JSIT President to provide some special touches for their meeting. Dr. Jack Dean was honored as the 2017 Eminent Scholar for SOT's Eminent Toxicology Lecture Series (I encourage you the check out the series -<http://www.toxicology.org/education/edu/eminent.asp>). Kazu and I thought it would be a great educational opportunity for the Japanese immunotoxicologists to learn the history of field through Jack's lecture, *Immunotoxicology: A Historical Perspective* and his lecture became the opening talk at the 2017 JSIT meeting. Kazu was also keen on informing JSIT of the ongoings of ITSS and asked if I was willing to make a movie. Absolutely, I made a video highlighting the current and future activities of ITSS and our fantastic graduate student and postdoctoral representatives provided perspectives from the young ITSS scientists, special thanks to Brian and Angie! We continued to foster international exchange by working with JSIT to submit a program proposal for the 2019 SOT meeting. We also initiated a similar collaboration with our European immunotoxicology colleagues that led to a program proposal for the 2019 SOT meeting, thanks to Emanuela Corsini and Marc Pallardy for working with me on that effort. Very successful year for international exchange.

Outgoing President's Message, continued



Goal three was to build our endowments. Endowment funds are vital to ITSS and provide much needed funding for young immunotoxicologists to travel to SOT meeting and present their exciting and novel research. In this way, endowment funds support the growth and vigor of ITSS. The permanent ITSS HESI Endowment continues to grow with a balance of \$61,935. I would like to represent ITSS in thanking Drs. Mitzi and Prakash Nagarkatti for establishing the *"Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology*

Award Fund" with their generous seed funding. ITSS membership did their part also as contributions over the past year have grown the fund to \$43,162. Let's make a push for \$50K this year and make the fund permanent (see information below in this newsletter on how to contribute and maximize your contributions).

Our final goal was to formulate the ITSS Scientific Advisory Committee and defined its charge. Under the leadership of Peyton Myers, the first SAC was successfully formed from the current presidency as well as a number of past presidents (Dori Germolec, Gary Burleson, Rodney Dietert, and Jean Regal). Thanks to everyone who participated in the discussions and generated topics for potential program proposals. We will continue to build the SAC starting with the roster for this year, ITSS Past Presidents, I will be knocking, ha, ha, ha.

ITSS was blessed with great membership and a fantastic hard-working Executive Committee and it shows. Jamie DeWitt has taken the reigns as current President of ITSS and is already hitting home runs. I am confident in the current Executive Committee to foster another fruitful year for ITSS. It was a great honor and pleasure serving as ITSS President and I sincerely thank everyone for their guidance, support, and hard work.

**With great regards,
Dr. Vic Johnson
Past President, ITSS 2017-2018**



Student & Postdoctoral Report

Dear trainees,

As the summer is in full swing, we would like to take this opportunity to thank everyone for participating at the Graduate Student/Postdoc Mixer as well as the other events hosted at the 57th Annual SOT Meeting in San Antonio, Texas.



We had great attendance at the CE course and symposium session organized by ITSS. We also had about 25 people participate in the Networking Event. At the Networking Event the participants had the opportunity to interact with diverse panelists from academia, industry, and government. The participants were able to connect with experts in these fields to learn about their positions and seek advice on career planning. Based on the positive feedback received, we are working on organizing more scientific and career development events within SOT for next year. We welcome all feedback so that we can continue to improve trainee experience and involvement at the meeting. One way to make your ideas and suggestions heard is to participate in the ITSS committees. This is a great way to connect with other ITSS members and enhance your professional network. There are 4 different committees within ITSS: Awards, Program, Education, and Communication/Membership. We encourage students and postdocs to engage in a committee as this can be a wonderful opportunity for establishing connections within the ITSS community. If you would like to get more involved, please contact us at avenosa@penmedicine.upenn.edu or alexa.murray18@gmail.com.

We look forward to working with you!

Dr. Alessandro Venosa and Alexa Murray



2018 ITSS Award Recipients

Vos Award for Lifetime Career Achievement in Immunotoxicology

The *Vos Award for Lifetime Career Achievement in Immunotoxicology* is presented to an individual in recognition of career achievements in advancing the field of immunotoxicology through service, leadership, and scientific contributions.



Dr. Jack Paul Uetrecht

Professor, Leslie Dan Faculty of Pharmacy,
University of Toronto

Outstanding Senior Immunotoxicologist Award

The *Outstanding Senior Immunotoxicologist Award* is presented to an individual whose work has made significant contributions to the field of Immunotoxicology. This award is for scientists in academia, industry, or those who have had an impact on regulatory issues, and has distinguished themselves as leaders in their chosen area of immunotoxicology.

Dr. M. Firoze Khan

Professor, Department of Pathology,
University of Texas Medical Branch



2018 ITSS Award Recipients, continued

Outstanding Young Investigator Award

The *Outstanding Young Investigator Award* is presented to an individual whose work has made significant contributions to the field of Immunotoxicology. This award is for scientists in academia, industry, or those who have had an impact on regulatory issues, having 10 years or less of experience since obtaining their highest degree.



Dr. Marie-Soleil Christin-Piché

Scientific Director of Immunology, Charles River Laboratories

Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Travel Award

Dr. Juyoung Shim

Molecular and Biomedical Sciences, University of Maine

Triclosan Effects on Protein Kinase C and Phospholipase D in Mast Cells

Authors: J.K. Shim, L.M. Weatherly, M.A. Caron, L.B. Gerchman, T.J. Briana, S. Hattab, J.A. Goose



Health and Environmental Sciences Institute (HESI) Immunotoxicology Young Investigator Travel Award

Dr. Alessandro Venosa

Pulmonary, Allergy and Critical Care, Perelman School of Medicine, University of Pennsylvania

Alveolar Epithelial Cells Drive Recruitment and Phenotypic Activation of Immune Effector Cells in Lung Surfactant Protein-C Dysfunction

Authors: A. Venosa, Y. Tomer, S. Jamil, M.F. Beers



2018 ITSS Award Recipients, continued

Best Paper of the Year 2017

Brandon Lewis

Comparative Biomedical Sciences, School of Veterinary Medicine, Louisiana State University

Early Postnatal Secondhand Smoke Exposure Disrupts Bacterial Clearance and Abolishes Immune Responses in Muco-Obstructive Lung Disease

Authors: B. W. Lewis, R. Sultana, R. Sharma, A. Noël, Langohr, S. Patial, A.L. Penn and Y. Saini



Best Presentation by a Postdoctoral Trainee Award



Dr. Alessandro Venosa

Pulmonary, Allergy and Critical Care, Perelman School of Medicine, University of Pennsylvania

Alveolar Epithelial Cells Drive Recruitment and Phenotypic Activation of Immune Effector Cells in Lung Surfactant Protein-C Dysfunction

Authors: A. Venosa, Y. Tomer, S. Jamil, M.F. Beers

2018 ITSS Award Recipients, continued

Best Presentation by a Student Award

First Place



Catherine G. Burke
University of Rochester

Developmental Activation of the Aryl Hydrocarbon Receptor (AHR) Durably Alters the Responsive Capacity of CD4+ T Cells

Second Place



Michael D. Rizzo
Michigan State University

HIV-Infected Cannabis Users Display Lower Levels of Circulating CD16+ Monocytes and Plasma IP-10 Compared to Non-Using HIV-Infected Individuals

Third Place



Souvarish Sarkar
Iowa State University

Voltage-Gated Potassium Channel KV1.3 Contributes to Sustained Microglial Activation and Neuroinflammation in Neurotoxicity Models of Parkinson's Disease



SOT 2019: Accepted ITSS Endorsed Proposals



One of the most important challenges of the ITSS program committee is to encourage our members to submit proposals for the next SOT Annual Meeting. This requires new and attractive ideas and a lot of work. One has to contact the possible speakers, who must not only accept to speak but must also write an abstract. This year

we really managed to stimulate our members with 11 proposals submitted! Of these, three proposals and two CE courses have been accepted!

- Mark Collinge and Michael Brehm: The Current Application, Limitations and Recent Advances in Humanized Mouse Models for Pre-Clinical Toxicology Studies (Symposium)
- Alessandro Venosa and Andrew Gow: Immune-Epithelial Cell Crosstalk in Lung Toxicology and Disease (Symposium)
- Nigel Walker and Vic Johnson: Understanding the Impact on the Immune System of Occupationally-Relevant Exposures to Multiwalled Carbon Nanotubes (Workshop)
- Emanuela Corsini and Jamie DeWitt: Mechanistic Understanding and Quantitative Risk Assessment in Immunotoxicology (CE course)
- Sarah J Blosson and Cheryl Rockwell: Microbiome and Developmental Immunotoxicity: From Study Design and Analysis to Regulatory Guidance (CE course)

I want to wholeheartedly thank all our members for sending in such high quality proposals. Although not all of the proposals were accepted, we must not let this knock us down, but rather serve as a stimulus to persevere! It is only with everyone's effort that we will be able to have more and more immunotoxicology at our congress. Thanks again to everyone!

Dr. Emanuela Corsini
Vice President, ITSS
Program Committee Chair

Save the Date!



Member Spotlight: Dr. Kym Gowdy

Dr. Kym Gowdy is an assistant professor in the department of Pharmacology and Toxicology at the Brody School of Medicine at East Carolina University.



When did you begin your career in immunotoxicology?

My career as an immunotoxicologist began when I started my PhD in 2004. My PhD was in Dr. Ian Gilmour's lab where we focused on the pulmonary immune response to air pollutants, specifically the innate immune response.

What was your most rewarding experience involving ITSS?

There have been many. I always find the ITSS meetings at SOT very rewarding for networking. Each year this gathering allows me to interact with the leaders in the field of immunotoxicology.

What motivated you to be a part of ITSS?

Again, networking and career development. This SS allows people junior in their career multiple opportunities to get involved and interact with leaders in the field.

How did you make the transition from Postdoc to your current job?

The transition included me writing a K99 and having a direct conversation with my postdoc mentor about my desire to pursue a faculty position. My mentor was very supportive and allowed me to carve out a scientific avenue in his laboratory that I could take with me when I started my own lab. I was very fortunate to have such a supportive postdoctoral mentor.

What experiences best prepared you for your job?

In 2013, I had two experiences that helped me. 1) I co-chaired the NIEHS Biomedical Career symposia. This taught me to manage a team of approximately 15 people, balance a budget, manage my time accordingly, and use my network to recruit in speakers. The second experience was Dr. Jamie DeWitt gave me the opportunity to travel to ECU to give a guest lecture in her Toxicology course (I gave the Immunotoxicology lecture). I had never taught before and this gave me the opportunity to build a lecture, effectively communicate the material, and interact with graduate students as a "teacher" rather than peer.

Member Spotlight, continued

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

My peers nominated me for the Outstanding ITSS Young Investigator Award. I was beyond flattered to be recognized by my colleagues in ITSS. That award is hanging on my office wall and makes me smile every time I see it.

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

Choose one position and complete the tasks assigned to you to the best of your ability.

How has mentoring students impacted your personal and scientific growth?

Students keep me on my toes and ground me. The next generation of toxicologists are beyond bright and motivated.

How does the future look in the immunotoxicology field?

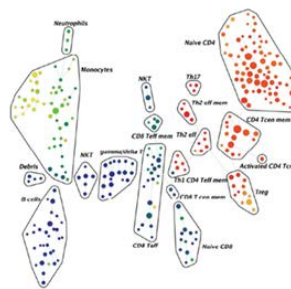
Amazing! The amount of cutting edge tools and research available will definitely move the field forward. I specifically excited to see how more sensitive flow cytometry tools like the CyTOF improve our understanding of how toxicants alter the phenotype and function of immune cells.

What do you like the most about working in academia?

Each day is different with its own challenges and successes.

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

I am a huge animal lover. Dogs and cats especially.



SPADE diagram of PBMCs analyzed by CyTOF® mass cytometry. Node size represents the number of cells and the color indicates the expression of CD4.



CytoF 2: Time-of-Flight mass spectrometer for high-speed acquisition of highly multi-parametric single cell data.

Taken from <https://www.chromocytometry.com>

2018-2019 ITSS Committee List

Program Committee Chair: Emanuela Corsini

*Nada Alakhras
Sarah Blossom
Weimin Chen
Peer Karmaus
Tracey Papenfuss
Ashwini Phadnis-Moghe
Cheryl Rockwell*

Education Committee Chair: Mark Collinge

*Stefanie Burleson
Amy Sharma
Muthanna Sultan
Alessandro Venosa*



Scientific Advisory Committee Chair: Vic Johnson

*Mark Collinge
Emanuela Corsini
Jamie DeWitt*

Volunteers Needed for Limited Number of Seats:

Awards Committee
Chair: Jessica Lynch
jlynch18@ITS.JNJ.com

Jeanine Bussiere

**Communications and
Membership Committee**
Chair: Jennifer Wheeler
Jennifer.Wheeler@bms.com

*Alexa Murray
Alessandro Venosa*

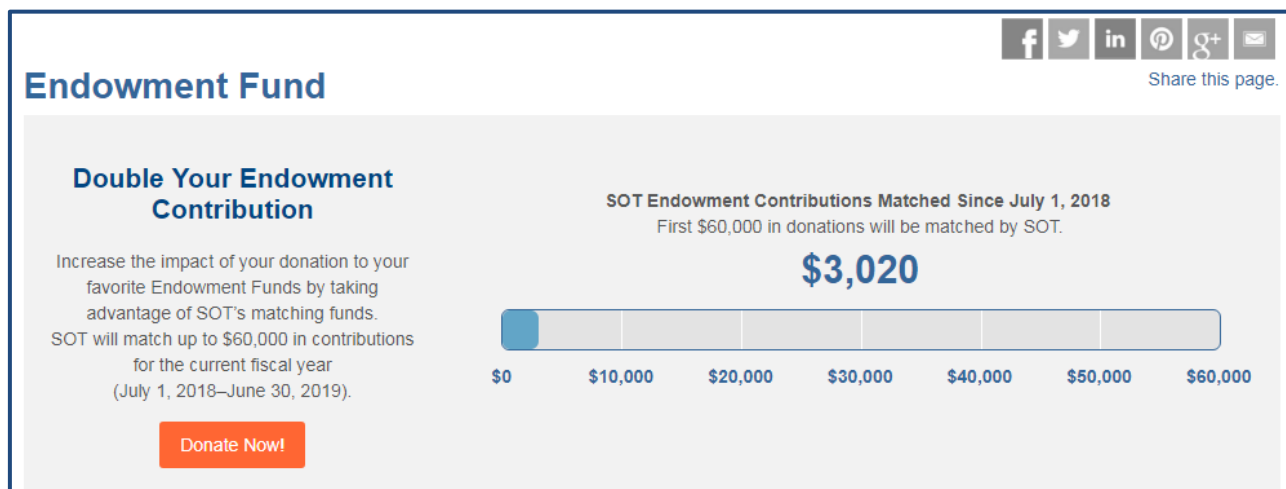
SOT membership is required. Must be willing to become a member of the ITSS and to commit to service. Please see the [Committees page](#) of the ITSS website for details.

Endowment Funds: Lets keep them strong and healthy!

I will speak for the entire ITSS membership in thanking Drs. Prakesh and Mitzi Nagarkatti for their gracious donation that established a new ITSS Endowment Fund, now known as the *“Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund”*. This fund is designed to encourage and recognize graduate students and postdoctoral scholars for their excellence in research involving mechanisms of immunomodulation in health and disease. The fund will provide travel awards for graduate students and postdoctoral scholars to attend the SOT meeting providing them the opportunity to present their research, gain valuable feedback from peers, learn cutting-edge science, and build a network. In order to make this endowment fund permanent, ITSS has to bring the fund to a balance of \$50K. Let’s work together to make this happen in the 2018-2019 term.

SOT has made it easy for members to contribute to the endowment. Please follow this [link](#) and scroll to find the *“Mitzi and Prakash Nagarkatti Research Excellence in Immunotoxicology Award Fund”*. There are links to the online contributions page and to download the contribution form within the text of the fund description. There is also a *Donate Now* button on the main [SOT Endowment page](#).

A couple of tips to maximize your contribution. Many companies support contributions made by employees to the endowment funds by matching your personal contribution. Please check with your management to determine if a matching contribution from your company is available. This doubles your contribution! Wait, it does not stop there. SOT has a matching fund program that everyone should take advantage of. SOT will match dollar for dollar the first \$60K in contributions to SOT endowment funds. If you do the math, together these matches could quadruple your contribution. Let’s capitalize on that math! Please remember, SOT funds come available on July 1 and get exhausted by December/January so don’t wait if you want to get the match. Here is the current picture (as of 19 Jul 18) of the SOT matching funds. As you can see, funds are already being matched.



Any and all contributions are welcome and greatly appreciated.

Best regards,

Dr. Vic Johnson

2018-2019 ITSS Endowment Fund Steward

Job Opportunities

Associate Scientific Director, Immunological Toxicology (Johnson & Johnson) *Spring House, Pennsylvania*

The Associate Scientific Director, Immunological Toxicology will evaluate potential immune system-related effects associated with large and small molecule therapeutics in our pipeline. The Associate Scientific Director will work with Project Toxicologists and nonclinical safety team to provide strategic and scientific input – to progress therapeutics from discovery to first-in-human and through development. As an Associate Scientific Director additional responsibility will include:

- Provides immunological expertise to nonclinical safety teams, designs strategies to evaluate potential immunotoxicology risks, and participates in assessments. Strategies will include literature evaluation, as well as, direct experimental approaches performed in-house and at Contract Research Organizations (CROs).
- Interacts with CROs at multiple levels, including: transferring methods developed at Janssen, monitoring CRO validations, and the monitoring of immune endpoints during both GLP and non-GLP studies.
- Independently designs, conducts and leads studies to evaluate the effects of immunomodulatory compounds using various in vivo and in vitro model systems including, but not limited to, cytokine assessment, immune response, flow cytometry and functional cell-based assays following Data Integrity standards, and writes reports for regulatory submission.
- Investigates and develops novel experimental methods/technologies, contributes to improvement of existing methods and develops new in vitro/in vivo models to enhance our understanding of potential immunotoxicology risk and translatability to humans in the clinic.
- Participates in communication of information and data presentation in oral and written format both in-house and at appropriate external forums.
- Maintains an industry leading expertise in Immunotoxicology.
- Represents the organization to senior management and peer groups within Janssen and Johnson & Johnson.
- Maintains strong scientific network in academia and the pharmaceutical/biotechnology industry to enable external interactions, consulting and recruiting.
- Be a mentor/coach to key scientific staff and guide/enable their career/professional development.
- Responsible for the development of all employees within the department by supporting the development of Human Resources Planning (HRP) programs including management development and training to meet current and future business needs.
- Provide an environment, which encourages the company's commitment to equal employment opportunity and the value of a diverse work force.



Job Opportunities, continued

Associate Scientific Director, Immunological Toxicology (Johnson & Johnson) *Spring House, Pennsylvania, USA*

Qualifications

- PhD in immunology, immunotoxicology, toxicology or related discipline with 3 years of relevant experience OR MS degree in immunology, immunotoxicology, toxicology or related discipline with 7 years of relevant experience OR a professional degree (DVM, VMD) with 3 years of relevant experience is required
- Established expertise in Immunotoxicology is required
- Expertise in immunological techniques (e.g. flow cytometry, immunoassays) is required
- Deep scientific expertise in immunology is preferred
- Experience in pharmaceutical/biotechnology research management or related experience in drug development is required
- Knowledge of GLPs is required
- Knowledge of Health Authority regulations and guidelines for drug development (e.g. ICH, FDA, EMEA, PMDA) is preferred
- Previous experience managing external partnerships (CRO's) is required
- Strong leadership skills with highly collaborative instincts
- This role requires excellent communication and interpersonal skills, a high level of organizational ability and attention to detail

Immunotoxicologist (US FDA) *Silver Spring, Maryland, USA*

This position is in the U.S. Food and Drug Administration/Center for Devices and Radiological Health/Office of Science and Engineering Laboratories/Division of Biology, Chemistry, and Materials Science (DBCMS), located at FDA's state-of-the-art, consolidated White Oak campus in Silver Spring, Maryland. Research in [DBCMS](#) focuses on toxicology, biocompatibility, and materials science aimed at understanding cellular and tissue responses to medical devices. Our immunotoxicology research program is the CDRH/FDA focal point for developing approaches and methodologies to understand and minimize risks associated with exposure to device-associated polymeric and metallic materials and chemicals. The person selected for this position is expected to develop a research program to study immunotoxicity, biomarkers, and mechanism(s) of device material/tissue interactions associated with adverse responses to extractables and leachables from polymers and metal alloys. This position will require knowledge of biological mechanisms underlying biological reactivity to implantable devices, detailed understanding of immunotoxicological aspects of hypersensitivity and sensitization (including but not limited to allergy-related mechanisms), and knowledge and skills on use of "Big Data" (bioinformatics) as related to the use of Next Gen Sequencing (NGS) and similar emerging technologies. The incumbent will prepare applications for internal grant submissions to fund research, prepare results for presentations at scientific meetings, and write manuscripts for submission to peer-reviewed journals. The duties also include conducting biocompatibility safety reviews of sponsor applications for medical devices (approximately 20-25% workload). The person selected shall have a PhD or equivalent. Excellent verbal and writing skills are necessary. Applicants must have resided in the U.S. for 3 of the last 5 years and should indicate this in the application package. Interested applicants should provide a CV, narrative of research experience that would be applicable to the duties and responsibilities below, bibliography, and contact information for at least three references.

Job Opportunities, continued

Immunotoxicologist (US FDA)

Silver Spring, Maryland, USA

Responsibilities

- Design and conduct regulatory science research aimed at predicting adverse health responses related to exposure to biomaterials, such as those resulting from leachables and extractables from medical devices and long-term exposures to metals/polymers used in medical devices, using immunotoxicology approaches and tools including *in vitro*, *in vivo*, and computational models.
- Serve as a consulting reviewer for sponsor product submissions of biocompatibility, sensitization, implantation, and immunotoxicity data for the assessment of potential adverse health responses related to medical devices.
- Assist in training other members of the division in new techniques and methodologies in immunotoxicology, biomarker discovery, and emerging technologies such as NextGen Sequencing, and molecular biology approaches;
- Prepare and present laboratory findings within the Center and at national/international conferences, and publish findings in peer-reviewed journals;
- Participate as a CDRH expert to national and international standards and guidance committees, and, as appropriate, serve in leadership roles on standards committees and expert advisory panels;
- Actively participate as needed in pre-/post-market CDRH working groups and teams on issues related to immunotoxicology.

Qualifications

- Degree: (PhD or equivalent) in **toxicology, immunology**, or an appropriate discipline in the biological, medical, or veterinary sciences that included at least 30 combined semester hours of courses in toxicology, immunology, chemistry, biochemistry, or physiology. Graduate coursework in toxicology considered a plus.
- Demonstrated mastery of principles, practices, and theories in field of toxicology, immunology, and immunotoxicology.
- A minimum of 3 to 5 years of post-PhD experience designing and conducting biomedical research aimed at predicting adverse health responses of chemicals and materials with a specific focus on immunotoxicity using *in vitro*, *in vivo*, and *in silico* models. Post-doctoral experience is a plus.

Principal Scientist (Bristol-Myers Squibb)

New Brunswick, New Jersey, USA

The qualified candidate is an independently thinking, highly motivated scientist with strong knowledge of the immune system and investigative experience in the assessment of alterations in immune status and function. This person will contribute to the advancement of drug candidates across the portfolio by providing immunotoxicology expertise to discovery and drug development teams to help address key scientific issues associated with potential safety liabilities related to alterations in immune function, understanding mechanism, and providing human risk assessment. The candidate will also serve as representative of DSE on drug development teams for immunomodulatory drug candidates evaluating and preparing regulatory submissions, providing a knowledgeable perspective to project teams and DSE management on scientific and regulatory toxicology issues likely to impact the drug development process, and serving as study monitor on toxicology studies.

Job Opportunities, continued

Principal Scientist (Bristol-Myers Squibb)

New Brunswick, New Jersey, USA

Responsibilities

- Serves as Toxicology Project Representative and CRO Study Monitor
- Support DSE Toxicology project representatives on development teams as Immunotoxicology subject matter expert
- Responsible for the scientific and toxicologic evaluation of selected drug candidates;
- Designs and coordinates mechanistic and toxicology studies to support project and discovery working groups
- Develops mechanistic approaches and utilizes molecular and emerging technology platforms to address toxicity issues that arise, particularly those associated with the immune system
- Integrates available mechanistic, biochemical, toxicological, immunological, clinical, statistical, toxicokinetic, and pathologic data into study reports for regulatory submissions
- Meets reporting metrics and provides summary updates to management
- Assures compliance with GLP and SOPs, safety and animal welfare guidelines

Qualifications

- PhD in a relevant discipline (e.g., immunology, toxicology) with a minimum of 10 years relevant experience.
- Comprehensive knowledge of animal and human biology and physiology, especially clinical and functional changes associated with toxicity and mechanism of action of disease or toxicity.
- Effective written and oral communication skills. Ability to manage multiple research activities.
- Provides and accepts inputs on study design and data interpretation and fosters a spirit of team work.
- Demonstrated ability to solve complex scientific problems.

For complete application details, please refer to the [SOT Job Bank](#)



**job
bank**

Recent Member Honors and Publications

Anytime you have a new fully-published or electronically available article to report, or an achievement you would like to share with ITSS, please send to Alexa Murray at alexa.murray18@gmail.com

Honors and Achievements

Dr. Kym Gowdy (Assistant Professor, East Carolina University) was awarded a grant from the NIH to study health effects of ozone on immune system function

Dr. Robert Tighe (Duke University) was awarded an NIH ONES award for his work on CXCL10/CXCR3 regulation of ozone-induced epithelial permeability

Darcey Clark (principal scientist, La Jolla Pharmaceutical Company) presented 'Case study: Concurrent Mast Cell and Complement Activation in the Cynomolgus Monkey' at the Applied Pharmaceutical Toxicology Meeting as part of a session on Acute Anaphylactoid Reactions in Nonclinical Species

Juyoung Shim (PhD candidate, University of Maine) was awarded the Edith M. Patch Outstanding PhD student award and Undergraduate Mentoring Award both from the University of Maine

Helen Haggerty (Distinguished Research Fellow, Bristol-Myers Squibb) received the Lifetime Achievement Award from the Biotechnology Specialty Section of SOT

Publications

Germundson DL, Smith NA, Vendsel LP, Kelsch AV, Combs CK, Nagamoto-Combs K. Oral sensitization to whey proteins induces age- and sex-dependent behavioral abnormality and neuroinflammatory responses in a mouse model of food allergy: a potential role of mast cells. *J Neuroinflammation*. 2018 Apr 23;15(1):120. doi: 10.1186/s12974-018-1146-0. PMID: 29685134

Berntsen HF, Bølling AK, Bjørklund CG, Zimmer K, Ropstad E, Zienolddiny S, Becher R, Holme JA, Dirven H, Nygaard UC, Bodin J. Decreased macrophage phagocytic function due to xenobiotic exposures in vitro, difference in sensitivity between various macrophage models. *Food Chem Toxicol*. 2018 Feb;112:86-96. doi: 10.1016/j.fct.2017.12.024. Epub 2017 Dec 16.

Recent Member Honors and Publications

Publications

Impinen A, Nygaard UC, Lødrup Carlsen KC, Mowinckel P, Carlsen KH, Haug LS, Granum B. Prenatal exposure to perfluoralkyl substances (PFASs) associated with respiratory tract infections but not allergy- and asthma-related health outcomes in childhood. *Environ Res.* 2018 Jan;160:518-523. doi: 10.1016/j.envres.2017.10.012. Epub 2017 Nov 6.

Lødrup Carlsen KC, Reh binder EM, Skjerven HO, Carlsen MH, Fatnes TA, Fugelli P, Granum B, Haugen G, Hedlin G, Jonassen CM, Landrø L, Lunde J, Marsland BJ, Nordlund B, Professor KR, Sjøborg K, Söderhäll C, Cathrine Staff A, Vettukattil R, Carlsen KH; study group. Preventing atopic dermatitis and ALLergies in Children-the PreventADALL study. *Allergy.* 2018 Apr 30. doi: 10.1111/all.13468. [Epub ahead of print] No abstract available.

Herzyk DJ, Haggerty HG. Cancer Immunotherapy: Factors important for the evaluation of safety in nonclinical studies. *The AAPS Journal* (2018) 20: 28. DOI: 10.1208/s12248-017-0184-3.

Weatherly, L. M., Nelson, A., J. Shim, J., Riitano, A. M., Gerson, E. D., Hart, A. J., de Juan-Sanz, J., Ryan, T., A. Sher, R., Hess, S. T., Gosse, J. A. Antimicrobial agent triclosan disrupts mitochondrial structure, revealed by super-resolution microscopy, and inhibits mast cell signaling via calcium modulation. *Toxicol Appl Pharmacol.* 2018. Vol 348. pp 39-54. DOI: 10.1016/j.taap.2018.04.005

Johnson VJ, Germolec DR, Luebke RW, and Luster MI. (2018). Immunotoxicity Studies. In: McQueen C (Ed.) *Comprehensive Toxicology*, 3rd Edition. Elsevier Ltd., Kidlington, United Kingdom. Chapter 9.17, Pp. 255-270.

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.

Immunotoxicity Testing, Edited by Jamie DeWitt, Cheryl Rockwell, and Christal Bowman and filled with chapters authored or co-authored by many members of the ITSS