Dear BTSS Members,

Thank you for the opportunity to serve as BTSS President this year. I am excited about the coming year, and as usual, we have an excellent group of loyal section members on the Executive Committee this year.

To our outgoing Executive Committee members, you will certainly be missed! I give special thanks to Tom Gelzleichter, our Past President, for doing a phenomenal job leading the Council up to the Annual Reception in Baltimore. I also want to thank our outgoing Executive Committee members: Joe Francisco (Second-Year Councilor), Adhithiya Charli (Graduate Student Representative), and Prathap Kumar S. Mahalingaiah (Postdoc Representative). Finally, a big thank you to all of our newsletter editors: Vijay Kale, Deepkamal Karelia, Kshama Doshi, and Nicola Stagg.

Please help me welcome our newly elected 2017–2018 Executive Committee members: Vice President-Elect, Kelly Flagella; First-year Councilor, Robert Li; and Student Representative, Joe Jilek. Finally, I am pleased to welcome back our Vice President, Jorg Blumel; Secretary/Treasurer, Amy Sharma; and Second-year Councilor, Jacintha Shenton.

The new Executive Committee started meeting monthly in May and is hard at work planning activities for the coming year, to ensure that BTSS continues our desired role as an open forum for toxicologists interested in biotechnology.

Please stay tuned for two webinars that we are sponsoring this year. The first will take place on October 6 and will focus on helping scientists early in their careers find a job in industry. The second webinar is titled, "Predictivity/Translatability of Toxicities Observed in Nonclinical Toxicology Studies to Clinical Safety Outcomes," and will include both FDA and industry speakers. Details to follow...

We offer multiple opportunities for folks who are interested in getting involved in the BTSS Executive Committee, and we’re in need of volunteers to contribute to our fall and spring newsletters! We also have an opening on the Executive Committee for a postdoc representative and will be holding an election soon.

We sincerely welcome your ideas, so please reach out to any Executive Committee member to share your thoughts.

Thanks again—I look forward to seeing folks at the next SOT Annual Meeting in San Antonio in 2018!
BTSS Executive Committee 2017-18

President
Janice Lansita, PhD, DABT
ToxStrategies

Vice President
Jorg Blumel PhD, ERT
Genentech

Vice President-Elect
Kelly Flagella, PhD, DABT
Ultragenyx

Past President
Thomas Gelzeichter, PhD, DABT
Genentech

Secretary/Treasurer
Amy Sharma, PhD
Amgen

Senior Councilor
Jacintha Shenton, PhD
Janssen

Newsletter Photo Credits
Adhithiya Charli, BSc
Iowa State University

Junior Councilor
Robert Li, PhD, DABT
Genentech

Postdoc Rep
Position Open!

Student Rep
Newsletter Editor
Joseph Jilek, MS
UC Davis

Follow BTSS on Facebook!
https://www.facebook.com/btssssot2016/
The success of all BTSS-sponsored events at the 56th Society of Toxicology Annual Meeting held in Baltimore, MD is owed to the diligent work of the outgoing BTSS executive team. Please join us in thanking this fantastic team for organizing all seminars, mentoring activities, and events, including the annual BTSS reception. Cheers!

**Executive Team members:**

- **President:** Tom Gelzeichter (Genentech)
- **Vice President:** Janice Lansita (ToxStrategies, Inc.)
- **Vice President-Elect:** Jorg Blumel (Genentech)
- **Secretary/Treasurer:** Amy Sharma (Amgen)
- **Past President:** Mary Jane Masson Hinrichs (MedImmune)
- **Councilors:** Jacintha Shenton (Jassen) and Joseph Francisco (Charles River)
- **Postdoctoral Representative:** Prathap Kumar Mahalingaiah (AbbVie)
- **Student Representative:** Adhithiya Charli (Iowa State University)

**BTSS FINANCIALS**

Net Assets at the end of May 2017: $8,044

**SAVE THE DATE**

**Junior Scientist Webinar**

Attention students and postdocs! BTSS is hosting a webinar titled “Navigating from Job Search through On-Site Interview: a Perspective from Hiring Managers and Recruiters.” All SOT members are welcome to register!

**Topics:**

- Tailoring your CV/resume and cover letter to industrial jobs
- Resources for a job search in industry
- Preparation for telephone and on-site interviews

**Date**

October 6, 2017

12:00-1:00 pm EDT

(9:00 am PDT)

[Register Here](#)
This year the BTSS was proud to organize their annual reception at the 56th Annual Society of Toxicology meeting held in Baltimore, MD. This event highlighted the summary of the events and sessions mediated and conducted by our speciality section. Also, it was a great evening of time well spent with the fellow BTSS members and supporters. The reception was held on March 14, 2017 at the Hilton Baltimore.

The reception was MC’d by Joe Francisco and Tom Gelzeichter, and was highlighted by a number of fantastic talks. Hailing from the nearby NASA headquarters, Deputy Division Director Dr. Benjamin Reed delivered a fascinating lecture about satellite service (or lack thereof). Additionally, fellow BTSS member Dr. Ann Pilaro gave an inspiring lecture as part of her recognition as the 2017 Career Achievement Awardee.

Your BTSS executive committee is already preparing for next year’s reception (with a special surprise bonus thanks to Jorg Blummel—don’t miss it!)
2017 BTSS Award Winners

**Best Paper Award**


**Outstanding Young Investigator Award**

Yu Shrike Zhang (Harvard Medical School)

**Student Achievement Awards**

Adhithiya Charli (Iowa State University) and Logeswari Ponnusamy (Texas Tech University)

**Career Achievement Award**

Anne M. Pilaro, Ph.D (Division of Hematology, CBER, FDA)
On July 12th, the first gene therapy to approach marketing stage development in the US was presented at an Oncology Drug Advisory Committee meeting at the FDA. Tisagenlecleucel is a T-cell therapy engineered to target CD19 expressing leukemic B-cells, and has been in clinical trials for treatment of a variety of leukemias and lymphomas. This is classified as an autologous cell therapy product, where the patient’s own T-cells are collected then cultured ex vivo where a receptor targeting CD19 (a chimeric antigen receptor, or “CAR”) is introduced via a lentivirus, and then the cells are reintroduced to the patient. The most advanced data set which was the topic of discussion at the ODAC meeting was for pediatric acute lymphoblastic leukemia, where the efficacy has been impressive, some trials showing more than 80% overall response rates. Safety issues were the main topic of discussion however at the ODAC meeting, with cytokine release and insertional mutagenesis being the main concerns. When these CAR-T cells recognize antigen, their primary response is to activate and expand, which will involve release of cytokines, thus this is part of the expected pharmacology of the therapy. In some patients though, this reaction approaches levels that affect neurological and other organ system function. To date in the tisagenlecleucel program, these reactions have not led to fatalities and have been managed by anti-IL6 therapies. As for the other concern of insertional mutagenesis, it is known that the lentivirus introducing the CAR gene to the T-cells will facilitate integration into the host genome. Historically, there have been oncogenic events secondary to integrating near oncogenes with the use of retroviruses in gene therapy, however the current generation of lentiviruses have largely circumvented this issue. Patients will be monitored over many years to make sure that no cancers arise as a result of the genomic integration. At the conclusion of the meeting, the advisory committee voted unanimously for approval of tisagenlecleucel, and it is expected that the FDA will provide their decision in the coming months. If approved, tisagenlecleucel would be the first gene therapy approved in the US, and the first T-cell-based cancer therapy in the world. It is hoped that this milestone will facilitate and provide guidance to other gene therapies coming to the market.
TREMFYA™ (Guselkumab) First-in-Class Anti-IL-23 Therapy for Psoriasis

TREMFYA™ (Guselkumab), developed by Janssen Biotech, Inc., was approved by the US FDA on July 13, 2017. TREMFYA™ is a first-in-class biologic therapy for the treatment of psoriasis that blocks Interleukin 23, or IL-23, a cytokine that plays a key role in plaque psoriasis. Notably, the approval came following an expedited regulatory review following application of an FDA Priority Review Voucher. TREMFYA™ for psoriasis is administered subcutaneously as a 100 mg injection once every eight weeks, following two starter doses at weeks 0 and 4. Significant improvement in skin clearance and greater symptom improvement (pain, itch, stinging, burning and tightness of skin) was observed in clinical trial patients than at week 16. TREMFYA™ demonstrated superior results in skin clearance (PASI 90) compared with Humira® (adalimumab) at weeks 16, 24 and 48.

Similar to other biotherapeutic success stories, the path-to-approval took over 10 years of research and development, starting approximately in the mid-2000’s. Preclinically, cynomolgus monkeys, one of two cross-reactive species, were used in the nonclinical toxicology program that included a short-term first-in-human enabling toxicology study followed by a chronic half-year study. Thereafter, a combined embryofetal and pre- and post-natal developmental toxicity study (ePPND) was conducted in cynomolgus monkeys. Guinea pigs were also determined to be cross-reactive in early preclinical testing, and were used for the fertility assessment of TREMFYA™. A precedent for the use of guinea pigs in reproductive toxicology assessment was set by the developers of TYSABRI® (natalizumab; Birth Defects Research Part B, 2009). Notwithstanding, given the unusual nature of the preclinical use of guinea pigs for nonclinical reproductive toxicity assessment, a significant amount of preparatory (non-GLP) work was conducted prior to the GLP studies in male and female Dunkin Hartley guinea pigs. A thorough literature-based weight-of-evidence carcinogenicity assessment was also performed as indicated in ICH S6(R1).

TREMFYA™ received FDA approval based on results from a clinical development program that was conducted in more than 2000 patients worldwide in the Voyage 1, Voyage 2, and Navigate studies, which were published in peer-reviewed journals, and presented at the 25th European Academy of Dermatology and Venerology Congress and the 2017 American Academy of Dermatology Annual Meeting. Additionally, a Phase 3 trial is ongoing to assess TREMFYA™ for the treatment of psoriatic arthritis.