



AIT Free of Charge Webinar Sessions 2022

The Association of Inhalation Toxicologists (AIT) committee is pleased to confirm that we will be running free of charge virtual webinar sessions again this year during October/November 2022 (1 hour WebEx session per talk, details are below).

Please register your interest in attending each session by emailing the webinar organiser Kay Rush at aitoxicology@gmail.com. Links to join each session will be sent to people that are registered.

Sponsorship:

The AIT thanks our sponsors for assisting us in hosting these free of charge webinar sessions:

The British Toxicology Society (BTS) has sponsored all the webinar sessions.



<https://www.thebts.org/>

Cerulean has sponsored webinar session 6. <https://www.cerulean.com/en>



In-Tox Products has sponsored webinar session 1. <https://intoxproducts.com/>



VJO Canada Inc. has sponsored webinar session 6. <https://www.vjocanada.com>



Other sponsors are very welcome. Please contact the AIT at aitoxicology@gmail.com for details.

Please see the following webinar session details.

WEBINAR SESSIONS 2022

1. Alice McNamara (LabCorp) – **Monday 10th October 2022 at 15:00 to 16:00 GMT (10:00 to 11:00 EST). Sponsored by the British Toxicology Society (BTS) and In-Tox Products.**

Refinements in Minipig Inhalation Toxicology – WEBEX COMPLETED.

2. Jessica R Murray (U.S. Environmental Protection Agency) – **Tuesday 29th November 2022 at 15:00 to 16:00 GMT (10:00 to 11:00 EST). Sponsored by the British Toxicology Society (BTS).**

Development of an aerosol-compatible cell culture exposure system and its application to quantify cellular uptake of particles at the air-liquid interface.

Inhalation is the one of the three primary modes of chemical exposure; however, significant challenges in developing dosimetry methods, reproducible exposure systems, and appropriate *in vitro* models have led to its vast underrepresentation in EPA's Tox21 initiatives. To meet screening demands for a diverse range of inhaled toxicants, we utilized fluorescent tracers and Computational Fluid Dynamics (CFD) modeling to develop an Aerosol-compatible Cell Culture Exposure System (ACCES) which achieves serial dilution of aerosols and volatile compounds at ALI. CFD modeling was a valuable tool to optimize operational parameters, while aerosolized fluorescein and rhodamine allowed us to quantify deposition throughout the ACCES. Both fluorescent tracers revealed that cell-free matrices may not accurately predict cell deposition and should be used with caution. Furthermore, we compared cellular uptake of fluorescent tracers delivered at ALI or by direct-dosing in human bronchial epithelial cells (pHBEC, 16HBEs) given that re-submersion of ALI cultures is often proposed as a time- and cost-effective alternative to ALI exposures. We found that the delivery method affects cellular uptake, basolateral transport, and mucus retention of fluorescein and rhodamine. Together, these data highlight the need for improved analytical assays to support *in vitro* inhalation assays and suggest that direct-dosing studies may not be equivalent to ALI exposures. [Abstract does not reflect views or policies of the U.S. EPA.]

3. Andreas Stucki (PETA Science Consortium International e.V.) – **Thursday 10th November 2022 at 15:00 to 16:00 GMT (10:00 to 11:00 EST). Sponsored by the British Toxicology Society (BTS).**

In vitro systems to predict respiratory toxicity (INSPIRE Initiative) – a proof of concept study to test silanes using human cell-based systems – WEBEX COMPLETED.

4. Chang Guo (UKHSA) – **Monday 14th November 2022 at 15:00 to 16:00 GMT (10:00 to 11:00 EST). Sponsored by the British Toxicology Society (BTS).**

The validation of the AE-ALI system for nano aerosol exposure in human relevant culture models – WEBEX COMPLETED.

5. Shannon Krieger (Dow Chemical Company) – **Due to sickness this Webex has been rescheduled to Friday 2nd December 2022 at 15:00 to 16:00 GMT (10:00 to 11:00 EST). Sponsored by the British Toxicology Society (BTS).**

New computational profiling approaches to identify inhaled sensory irritants

Sensory irritation, defined as perceived irritation in the nose, throat, and eyes, serves as a protective function following inhalation exposure to irritating substances and is frequently used as a critical effect in setting occupational exposure limits. Transient receptor potential (TRP) channels are important biological targets for sensory irritation, with TRPV1 and TRPA1 being two of the most predominant TRP channels in the respiratory tract. We have developed a machine learning model for TRPV1 and a computational profiler for TRPA1 to predict compounds that may interact with these two important targets. Our goal is to predict the sensory irritation potential of unknown compounds to address potential human exposure using NAMs and to minimize the need for in vivo testing.

6. Stephen Goldman (Kaycha Labs, USA) – **Monday 21st November 2022 at 16:00 to 17:00 GMT (11:00 to 12:00 EST). Sponsored by the British Toxicology Society (BTS), Cerulean and VJO Canada Inc.**

Cannabinoids: What are they, how are they made, used, and tested.

Cannabinoids are a diverse set of biomolecules with a colorful regulatory history. Currently in the USA, states have the right to legalize adult use (recreational) and/or medicinal use markets. Cultivation and manufacturing licenses are granted to grow and produce a very wide variety of products for sale in each state. There are as many different manufacturing options as there are different strains of cannabis sativa, each with its own set of risks and rewards. This talk will cover a brief introduction of cannabinoids, manufacturing, product use, and how Kaycha Labs tests these products.

7. Diane Stannard (LabCorp):) – **Due to unforeseen circumstances this webinar has been rescheduled to Wednesday 22nd February 2023 at 14:00 to 15:00 GMT (09:00 to 10:00 EST). Sponsored by the British Toxicology Society (BTS).**

Juvenile toxicology talk.

Details to follow.