

23 May 2018

To: SOT Program Committee

From: Ruth Roberts and Jennifer Pierson

Subject: Request for an Innovations in Applied Toxicology (IAT) designation for the workshop proposal ID30 '**Can We Panelize Seizure?**'

As the Chair and Co-Chair, we are writing to request that the session '**Can We Panelize Seizure?**' be given the IAT designation.

Seizure liability remains a significant cause of attrition in drug discovery and development, leading to loss of competitiveness, delays and increased costs. Tackling this issue requires the very best innovative science translated into application with rigor and consensus across the key sectors of academia, industry and the regulatory agencies.

This workshop highlights the current issue (detection of seizure still relies on observations made in the GLP animal studies; speaker 2) and the consequences of that (attrition and the inability to have an earlier prediction of seizurogenic risk; speaker 1). The workshop then presents recent technical innovations (microelectrode array to detect seizurogenic signals; speaker 3) and the recent scientific discoveries regarding our developing understanding of the neuronal ion channels implicated in the seizurogenic response (voltage-gated sodium and potassium channels and the ligand-gated ion channels, GABA-A and nicotinic acetylcholine receptors; speaker 4). The workshop highlights how taking these technical and scientific breakthroughs into the applied arena provides the opportunity to panelize seizure by creating a panel of ion channel assays that predict seizure, linked to an in vitro assessment, with the ultimate aim of eliminating compounds predicted to be associated with the pro-seizurogenic state.

We recognize that the major challenge in the application of innovative toxicology is consensus across the academic, industry and regulatory communities: what should we measure, how should we measure it, who should measure it and how would we use the data for decision making in drug discovery and development? To address this, we have the insight of an FDA assessor who can highlight opportunities and challenges from past experience such as that gained with hERG and CiPA (speaker 5). We have also ensured we have representation from industry, academia and government and from the US, Europe, the UK and Japan. We anticipate the outcome of this workshop to be a white paper on next steps to develop and apply the basic science in a decision-making and/or regulatory context.

Thankyou for considering this letter of support for IAT and we would be happy to provide any further information you may require.

Kind regards

A handwritten signature in black ink, appearing to read 'Ruth Roberts', with a stylized, flowing script.

Ruth Roberts, PhD, ATS, ERT, FRSB, FBTS, FRCPath