Sunday, September 8, 2019		
08h00–21h00	Congress registration	16h00–21h00 Exhibition
10h30–16h00	**Continuing Education Courses (CEC),** including coffee & lunch breaks	
10h30–16h00	**CEC1** **Development and evaluation of AOPs** • AOP Background and Principles • AOP wiki and live demonstration • Weight of Evidence/Confidence Evaluation for AOPs • Application of AOPs to consider biological plausibility of associations observed in epidemiological studies: exposure to pesticides and Parkinson's disease • Application of AOPs for the development of Defined Approaches (DA) and Integrated Approaches to Testing and Assessment (IATA)	
10h30–16h00	**CEC2** **Application and integration of increasingly mechanistically driven tools for risk assessment** • Overview of WHO chemical risk assessment methodology tools • Characterizing uncertainty in hazard characterization: principles and approach developed by the WHO/IPCS • Mode of action/adverse outcome pathway analysis • Application and utility of chemical-specific adjustment factors in risk assessment • Combined Exposures to Multiple Chemicals; Tiered Integration of Tools	
10h30–16h00	**CEC3** **The pre-specified protocol part of evidence-based assessment in toxicology**	

	• The role of a pre-specified protocol in evidence-based assessments • Scoping, literature search strategy, inclusion and exclusion criteria • Assessing internal validity • Summarizing and synthesizing the evidence • Aspects of weight of evidence
10h30–16h00	**CEC4** **Real world safety assessments for data-poor products: How to approach data gaps** • Properties of typical products requiring safety assessments: Focus on non-intentionally added substances (NIAS) • Quantitative structure-activity relationship (QSAR) and grouping approaches such as read-across and category formation • Thresholds of toxicological concern (TTC) • *In vitro* assays: Validated assays for regulatory purpose versus explorative assays for Research & Development and high throughput • Data sources for exposure assessment
10h30–16h00	**CEC5** **Dietary exposure assessment** ***Supported by the Finnish Food Safety Authority*** • Dietary exposure assessment: an overview • Unravelling the chemical information hiding in our food • Food consumption data • Total diet studies: benefits and challenges

	• Dietary exposure modelling: MCRA software • Statistical modelling: BIKE Model
10h30–16h00	**CEC6** **Determining safe exposure limits in occupational toxicology, application to pharmaceuticals** • Key elements of reliable risk assessment of chemicals • Regulatory perspective on application of health based exposure limits (HBEL) in drug manufacturing • Derivation of acceptable daily exposures (ADE) or Occupational exposure limits (OEL) – An industry approach • Overcoming data gaps: Generic versus substance-specific approaches in health based exposure limit (HBEL) setting • Case study, special end points, route to route extrapolation • Determining safe exposure limits in occupational toxicology, application to pharmaceuticals
10h30–16h00	**Satellite Meeting by ECETOC** **"Hazard Identification, Classification and Risk Assessment of Carcinogens: Too Much or Too Little?"**
16h00	**Opening of the exhibition**
17h00–19h00	**Opening Ceremony** incl. **Keynote Lecture 1** and **EUROTOX Merit Award**
19h00–21h00	**Welcome Reception** in the exhibition area
Monday, September 9, 2019	
08h00–18h00	Congress registration / 09h00–16h30 Exhibition
09h00–10h00	**Keynote Lecture 2**
10h00–10h30	Coffee Break, **Exhibition** & **Poster Viewing 1**
10h30–12h30	**Session 1** **Metabolic capacity and functionality of the gut microbiome** ***Supported by ECETOC***

	• Determining the role of the gut microbiota in the toxicity of foodborne chemicals in *vitro* • Metabolomic applications to decipher gut microbial metabolic influence in health and disease • Influence of the microbiome on plasma metabolite patterns – an inter-omic approach • Contribution of the gut microbiome to host endogenous and xenobiotic metabolism and the carcinogenic potential of the microbiome
10h30–12h30	**Session 2** **Fetus – the most sensitive individual** • Fetal exposure to toxic compounds • Environment and male reproductive health • Epigenetics in fetal susceptibility to toxicity • Future trends in testing for developmental toxicity
10h30–12h30	**Session 3** **The exposome – understanding the role of environmental exposure in human health and disease** • EXPOsOMICS: Novel approach to the assessment of exposure to high priority environmental pollutants • Chemical exposure metabolomics • The human early-life exposome and its link to children's health • Developing the regulatory utility of the exposome
10h30–12h30	**Session 4** **How innate immune cells recognize toxicants** • Innate cells sense toxicants as microorganisms

	• Lessons for toxicology from pathogen sensing by the innate immunity • Metal-induced immunotoxicity: ionic metals, innate immune receptors and skin allergy • Scavenger receptors recognize toxicants • Revisiting the paradigm of particle toxicity: surface disorder and membranolysis; Revisiting the paradigm of silica pathogenicity with synthetic quartz crystals: the role of crystallinity and surface disorder.
10h30–12h30	**Session 5** **New tools and application in reg. risk assessment – moving toward mechanistic risk assessment** ***Supported by EU-ToxRisk Project*** • Development of *in vitro* tests – Quality assurance and cross system testing • Modeling the impact of several *in vitro* systems in a read-across approach – applicability of the Dempster Shafer Theory • Incorporating QIVIVE and PBTK into toxicity testing and assessment • Development of qualitative and quantitative AOPs and their integration into risk assessment • Integrate NAMs into reg. risk assessment – experiences from read-across case studies
12h30–13h30	Lunch Break, **Exhibition** & **Poster Viewing 1**
13h30–14h30	**EUROTOX–SOT Debate**
14h30–15h00	Coffee Break, **Exhibition** & **Poster Viewing 1**
15h00–17h00	**Session 6** **Developments in the use of systematic review in chemical risk assessment** ***Supported by Eurotox Risk Assessment Speciality Section (ERASS)*** • Principles of using systematic review methods in chemical risk assessment

	• Getting the balance right between objectives and resources for a systematic review – the importance of problem formulation • Use of systematic review methods by national programmes – examples from the USA • Systematic review, evidence and decision-making – experience from WHO
15h00–17h00	**Session 7** **Speeding up hazard assessment of nanomaterials** • Hazard assessment of engineered nanomaterials: setting the scene • High-content/high-throughput screening of nanomaterials • Systems biology approaches for nanomaterial hazard classification • Systems toxicology to support development of adverse outcome pathways
15h00–17h00	**Session 8** **Human adaptation to environmental pollution: dose-response relationship revisited** • Hormesis: Scientific foundations and its implications for biology, toxicology and medicine • Biomarkers for adaptive responses: how toxicology changes into pharmacology • Clues to adaptation of the human population to the environment: lessons from Czech biomonitoring studies • MicroRNA response to environmental carcinogens: from adaptation to damage
15h00–17h00	**Session 9** **Application of new approach methods and development of integrated approaches to testing and assessment – moving toward mechanistic risk assessment** ***Supported by EU-ToxRisk Project*** • Read-across concept in EU-ToxRisk and integration of new approach methods into risk assessment – example branched carboxylic acids

	• Integration of new approach methods in a structure based read-across for DART effects • Learnings from EU-ToxRisk read-across case studies: application of new approach methods • Ab initio- prediction of liver toxicity by *in vitro* systems and spatio-temporal modelling
15h00–17h00	**Session 10** **The process of ageing and its modulation: telomeres as biomarkers in *in vitro* and *in vivo* studies** • Clinical aspects of Precision Medicine using as biomarkers telomere length, fatty acids and organic acids • Low grade chronic inflammation and telomere shortening: immunosenescence process in human • Live fast, die young mode: influence of substance abuse on telomeres and telomerase • Telomeres biology involvement in thyroid neoplasia: from aging clock to aggressive cancers
17h00–18h00	**Speciality Section Meetings**
19h30–21h30	**City Hall Reception,** *sponsored by the City of Helsinki*

Tuesday, September 10, 2019		
08h00–18h00	Congress registration	09h00–16h30 Exhibition
09h00–10h00	**SOT Merit Award Lecture**	
10h00–10h30	Coffee Break, **Exhibition** & **Poster Viewing 2**	
10h30–12h30	**Session 11** **Challenges of non-animal approaches for food safety: from inception to application** ***Supported by ILSI*** • High throughput screening in the risk and benefit assessment of food ingredients • Adverse outcome pathways and beyond • Strategies for avoiding animal testing in food safety and efficacy evaluation: challenges and opportunities • Regulatory perspective on non-animal approaches to assess foods and food ingredients	
10h30–12h30	**Session 12** **Implications of biodistribution of inhaled nanoparticles: effects in organs other than the lung** • The lung as a barrier to inhaled particles: dosimetry and biodistribution • Effects of particles on the central nervous system • Effects of particles on the placenta and fetus • Effects of particles on male and female fertility	
10h30–12h30	**Session 13** **Knowledge-based computational approaches in predictive toxicology** ***Supported by EU-H2020*** • The power of workflows - toxicological read across using the Open PHACTS discovery platform	

	• Integrating explicit knowledge and statistics in the *in silico* modelling • Predicting with confidence: Toxicological *in silico* model building and prediction using Conformal Prediction • Small is beautiful: application of local models in toxicology
10h30–12h30	**Session 14** **Understanding the interindividual variability in toxicity involving the psychotropic drugs** • Psychotropic drug poisonings admitted to the emergency department: epidemiology and morbidities • Drug-induced toxicity at therapeutic doses versus acute overdose: physiopathological differences • Alcohol poisonings: understanding inter-individual toxicokinetic differences and effect variations • Lithium poisoning: how the ingestion pattern can modify its neuropharmacokinetics and neurotoxicity
10h30–12h30	**Session 15** **Investigative Toxicology Leaders Forum (ITLF): Scientific advancements and case studies for the optimization of drug discovery. Trends in investigative toxicology** • Olson revisited – Translational Analysis of Safety Data (IMI eTRANSAFE) • Application of *in vitro* pharmacokinetic simulations using "microformulator" technology for quantified risk assessments • Development of 3D eye models for early assessment of retinal toxicity. A CRACK-IT Challenge • Development of *in vitro* systems for ADC toxicity
12h30–13h30	Lunch Break, **Exhibition** & **Poster Viewing 2**
13h30–14h30	**ILSI/HESI Lecture**
14h30–15h00	Coffee Break, **Exhibition** & **Poster Viewing 2**
15h00–17h00	**Session 16**

	Chemical risk assessment using human *in vitro*, *ex vivo*, *in silico* and biomonitoring data ***Supported by the Danish Society of Pharmacology and Toxicology*** • Chemical risk assessment: How well do human *in vitro* and *in silico* data predict the *in vivo* situation? • PBK modeling for chemical risk assessment: *in vitro* biomarkers for developmental toxicity and their extrapolation to the *in vivo* situation • Prediction of adverse male reproductive health effects using *in vitro* tests and PBK modelling • Human biomonitoring and complex serum mixture effects as biomarkers of impact on fetal growth
15h00–17h00	**Session 17** **Experimental comprehensive toxicological studies simulating real-life exposures: Long-term combined exposures on multi end-points** • Experimental designs and protocols from methodology to application: problems and solutions • Oxidative stress biomarkers in long-term toxicity studies of combined exposures • Comparative evaluation and challenges in translating endpoints from experimental studies to human epidemiological observations • The concept of Toxicology safety evaluations in 21st century
15h00–17h00	**Session 18** **Biomarkers in predictive toxicology and risk assessment** • The exposome in practice • Microfluidic systems to identify new biomarkers • Lessons learnt from 'omics' technologies *in vivo* in the last decades • Use of biomarkers in the assessment of risk from environmental contamination by perfluorinated compounds: strengths and

	weaknesses
15h00–17h00	**Session 19** **Endocrine disruption: identification of root causes** ***Supported by ECETOC*** • A perspective of ED and Regulation in the EU • ED identification and the use of weight of evidence • Dose-response relationship of single and combined exposure to ED chemicals *in vitro* & *in vivo* • Epidemiology – a new perspective on root causes of observations
15h00–17h00	**Session 20** **Investigative Toxicology Leaders Forum (ITLF): Scientific advancements and case studies for the optimization of drug discovery** • DILI revisited – key results of the IMI project MIP-DILI • Bile acid sequestration by cholestyramine mitigates FGFR4 inhibition-induced ALT elevation • Elucidating the role of mitochondrial dysfunction in drug-induced intrahepatic cholestasis • Mitochondrial toxicity in the context of hypoxia
19h00–0h00	Congress Dinner at Clarion Hotel

Wednesday, September 11, 2019		
08h00–13h00	Congress Registration	09h00–12h00 Exhibition
08h30–09h30	**Bo Holmstedt Memorial Fund Lecture**	
09h30–11h30	**Session 21** **Comprehensive toxicological profiles in nanoformulations for blood brain barrier** • *In vivo* imaging of nanoparticles' effects and side effects in the healthy and diseased brain • Extracellular matrix and nanoparticles interaction – breaching new barriers? • Amphiphilic poly-N-vinylpyrrolidone nanoparticles as drug carriers: Synthesis – Characterisation – Properties – Toxicological profile – Applications • Bio-inspired nanoparticles in neuroscience	
09h30–11h30	**Session 22** **Advancing toxicological evaluations in resolving current policy controversies in GMO products** • Integrating multiple 'omics' analysis to study the effects of herbicide-tolerant crops • Adverse outcome pathways (AOPs) and challenges in chronic studies with GMOs • Risks from genetically modified plants; past, present and the future • Scientific challenges for GMO regulation in Europe – the EFSA GMO Panel Chair's perspective	
09h30–11h30	**Session 23** **Optimization of existing and construction of new testing strategies for skin sensitization potency** • Development of performance-based test guideline for skin sensitization • Chemical reactivity mapping of skin sensitizers in a reconstituted human epidermis model using HRMAS NMR Spectroscopy • A defined approach for skin sensitization potency integrating *in silico*, in chemico and *in vitro* cell data	

	• Practical application of existing and new testing strategies/defined approaches for risk assessment of cosmetic compounds
09h30–11h30	**Session 24** **Toxic epidemics: why should we still be worried in 2019?** • The opioid analgesics • The new psychoactive substances • The anticholinesterasic pesticides • The toxic alcohol
11h30–12h00	Coffee Break & **Exhibition**
12h00–14h00	**Session 25** **Detection, assessment, management and communication of risk in mass human toxic exposures** • Warfare scenarios involving chemicals • Environmental contamination by organochlorine residues: Lindane manufacture residues • Outbreaks by contaminated food and beverages • Risk communication in mass poisoning situations – what do we do, where do we go?
12h00–14h00	**Session 26** **Suitability of non-animal approaches in different industries: One size fits all?** • Non-animal approaches in the safety assessment of food and cosmetic ingredients: similarities and differences • Hurdles to improve validation of alternative methods for chemicals and proposed solutions • Pharmaceutical Companies: alternative approaches in Research & Development versus pre-clinical toxicology. What is really used?

	• Establishing scientific credibility/validity of new approaches for different decision-making contexts • Panel discussion with all speakers: What can be leveraged across sectors and what not?
12h00–14h00	**Session 27** **Neurotoxicity in the scientific and regulatory outlook** • *In vitro* model of neurotoxicity • Exploring chemically induced neurotoxicity mode of action • Toward the regulatory application of DNT in vitro assays • The use of zebrafish as an alternative model for behavioural testing
12h00–14h00	**Session 28** **Hepatotoxicity: mechanisms, new insight into liver function, and possibilities of *in vitro* prediction** ***Supported by BMBF/NWO and EU (innoSysTox and EU-ToxRisk)*** • Insight into mechanisms of hepatotoxicity by two-photon microscopy and derivation of predictive *in vitro*/*in silico* systems • Computational modeling of cellular stress pathway activity and application in liver toxicity prediction • *In vitro* metabolome data and a comparison to the *in vivo* situation • Activation of cytoprotective adaptive responses in liver cells by the antibiotic nitrofurantoin
14h00–14h30	**Closing Ceremony** and **Awards presentation**

Due to the very dense scientific programme you might wish to arrange your travel schedule accordingly.
In line with this, we recommend to arrange for accommodation early in advance, as the availability of a suitable hotel room might not be granted at a later stage. Detailed information can be found online: EUROTOX 2019 hotel reservation.