

Monday, 27 September 2021	
08h00–20h00	Exhibition & Poster Viewing
08h00–12h00	Continuing Education Courses (CEC)
08h00–12h00	<p>CEC01 Thyroid hormones, brain development and toxicity testing Chairs: Marta Axelstad, Denmark, Manon Beekhuijzen, Netherlands and Barbara Demeneix, France</p> <p>Thyroid hormone action and disruption during development: pregnancy, brain and rat versus human Barbara Demeneix, UMR 7221 Molecular Physiology and Adaptation (CNRS/MNHN), Paris, France</p> <p>Low thyroid hormone during pregnancy and consequences for child neurological development Peter Taylor, Cardiff University, Cardiff, UK</p> <p>Safeguarding the thyroid system – developing an <i>in vitro</i> testing battery Sharon Munn, European Commission, Joint Research Centre, Ispra, Italy</p> <p>Recommendations for the future: lessons learned from thyroid hormone determinations in OECD/ US EPA guideline studies Abby Li, Exponent Inc., San Francisco, US</p> <p>Searching for an adverse effect endpoint in the developing brain Louise Ramhøj, Technical University of Denmark, Kgs. Lyngby, Denmark</p> <p>Current guideline testing: what is still missing? Manon Beekhuijzen, Charles River, Den Bosch, Netherlands</p> <p>Panel Discussion</p>
08h00–12h00	<p>CEC02 Advances in conducting systematic reviews for chemical assessment: automation, uncertainty assessment and synthesis Chairs: Andrew Rooney, US and Sebastian Hoffmann, Germany</p> <p>LECTURE: Global orientation to systematic review – successes, challenges, and preparing for next generation decision making on mechanistic data Elisa Aiassa, Assessment and Methodological Support Unit/ EFSA, Parma, Italy</p>

	<p>HANDS ON ACTIVITY 1: PECO, Inclusion/Exclusion</p> <p>LECTURE: Automated and semi-automated approaches for literature searching, screening, and data extraction for systematic reviews in environmental health Vickie Walker, National Institute of Environmental Health Sciences, Research Triangle Park, US</p> <p>HANDS ON ACTIVITY 2: Critical appraisal/Risk of Bias</p> <p>LECTURE: Synthesis, certainty (GRADE), and qualitative integration of human, animal, and mechanistic data Sebastian Hoffmann, Evidence-based Toxicology Collaboration (EBTC), Paderborn, Germany</p> <p>LECTURE: Quantitative evidence integration supporting toxicity value development and characterization of uncertainty Daniele Wikoff, ToxStrategies, Asheville, US</p> <p>HANDS ON ACTIVITY 3: Evidence certainty/GRADE</p> <p>LECTURE: Conduct and reporting standards for systematic reviews in toxicology and risk assessment Paul Whaley, Lancaster University, Lancaster Environment Centre, Lancaster, UK</p>
08h00–12h00	<p>CEC03 (subject to updates) Lessons learned and future directions for toxicology in water safety and security Chairs: Heidi Foth, Germany and Elaine Faustman, US</p> <p>Water bodies and frame work for protection Heidi Foth, Martin Luther University, Institute of Environmental Toxicology, Halle (Saale), Germany</p> <p>Contamination in groundwater by overuse of fertilizers and implications for human health Speaker tba.</p> <p>Contamination pattern by pesticides in water Aristidis Tsatsakis, University of Crete, Greece</p> <p>Arsenite in drinking water Louis Schiesari, University of Sao Paulo, Brazil</p> <p>Ecotoxicological assessment of pharmaceuticals and personal care products using predictive toxicology approaches Susanne Boutrup and Hans Sanderson DCE (NERI) - Department of Environmental Science, Denmark</p>

	<p>Dissipative use of lead a future risk for groundwater Thomas Schupp, FH Münster – University of Applied Sciences, Steinfurt, Germany</p> <p>Bromate in bathing water – a carcinogenic risk? Speaker tba.</p> <p>Metagenomic approaches for surveillance and testing water Elaine M. Faustman, US</p>
12h00–13h00	Virtual Lunch Break
13h00–14h00	Opening Ceremony incl. EUROTOX Merit Award
14h00–15h00	<p>Bo Holmstedt Memorial Fund Lecture Chair: Heather Wallace, EUROTOX President</p> <p>Context matters: next generation insights on the chemistry of DNA damage and mutation Shana Sturla, ETH Zürich, Zurich, Switzerland</p>
15h00–15h30	Virtual Coffee Break, Exhibition & Poster Viewing/Discussion
15h30–17h30	<p>Session 01 – Symposium The effect of chemicals on the gut microbiota: is it the cause of all problems? Chair: Reinhilde Schoonjans, Italy</p> <p>Gut microbiota and human health through lifespan Anne Salonen, University of Helsinki, Helsinki, Finland</p> <p>Dietary emulsifiers, human microbiota and intestinal inflammation Tom Van de Wiele, Ghent University, Ghent, Belgium</p> <p>Low calorie sweeteners and their impact on the gut microbiota Ian Rowland, Reading University, Reading, UK</p> <p>The role of diet on stability, resilience and modulation of the human gut microbiota Carmen Peláez, Autonomous University of Madrid, Madrid, Spain</p>

15h30–17h30	<p>Session 02 – Symposium <i>In vitro</i> organotypic models for predicting the toxicity of chemicals or drugs Chairs: Saadia Kerdine-Römer, France and Lisbeth Knudsen, Denmark</p> <p>Predictive (diseased) 3D lung models to assess effects of aerosolized nanomaterials and nanodrugs Barbara Rothen Rutishauser, Université de Fribourg, Fribourg, Switzerland</p> <p>Advanced <i>in vitro</i> models for nephrotoxicity testing: as complex as possible, but simple in use Rosaline Masereeuw, Utrecht Institute for Pharmaceutical Sciences, Utrecht, Netherlands</p> <p>Human 3D brain model to study developmental neurotoxicity Marie-Gabrielle Zurich, Université de Lausanne, Lausanne, Switzerland</p> <p>Mini-gut organoids for therapeutic testing Nathalie Vergnolle, IRSD, Toulouse, France</p>
15h30–17h30	<p>Session 03 – Symposium Artificial intelligence and machine learning in chemical risk assessment Chairs: João Barroso, Italy and Anne Marie Vinggaard, Denmark</p> <p>Systematic reviews and chemical risk assessment: current challenges, and the need for AI in overcoming them Paul Whaley, Lancaster University, Lancaster, UK</p> <p>Use of chemical informatics, quantum chemistry modelling and artificial intelligence algorithms to predict molecular initiating events Tim Allen, St. John's College, Cambridge, UK</p> <p>Machine learning <i>in silico</i> models in chemical hazard identification Eva Bay Wedeby, Technical University of Denmark, Kgs. Lyngby, Denmark</p> <p>Virtual physiological human Geris Liesbet, University of Liège, Liège, Belgium</p>

15h30–17h30	<p>Session 03 A – Symposium EAPCCT symposium on COVID-19 and the toxicity of therapeutic drugs and vaccines Chair: Martin Wilks, Switzerland and Paul Dargan, UK</p> <p>Specific treatments in the critically ill COVID-19 patients: benefits and toxicities Bruno Mégarbane, University of Paris, France</p> <p>Understanding vaccine-induced immune thrombocytopenia and thrombosis Beverly Hunt, Guy's and St Thomas' NHS Foundation Trust and King's College London, UK</p> <p>Impact of the COVID crisis on European poison centres Davide Lonati, Poison Control Centre and National Toxicology Information Centre - Toxicology Unit, Pavia, Italy</p> <p>The Toxicology Investigators Consortium (ToxIC) and the Establishment of the FDA-ACMT Pharmacovigilance Program to Study Adverse Drug Events from COVID-19 Therapeutics Paul Wax, American College of Medical Toxicology, Phoenix, AZ, US</p>
17h30–18h00	<p>Virtual Coffee Break, Exhibition & Poster Viewing/Discussion</p>
18h00–20h00	<p>Session 04 – Symposium Personalized nano-immunotoxicology for the workplace Chairs: Martin Himly, Austria and Paola Italiani, Italy</p> <p>Does immunotoxicity of nanomaterials depend on the individual pre-existing conditions? A need for a personalised testing strategy Paola Italiani, National Research Council, Naples, Italy</p> <p>In vitro immuno-nanotoxicological methods that take pre-existing conditions into account Martin Himly, Salzburg University, Salzburg, Austria</p> <p>Assessing the immunological hazard of sub-chronically inhaled nanomaterials in normal and diseased lung models Martin Clift, Swansea University, Swansea, UK</p> <p>Impact of nanomaterials on haemodynamic parameters in normal and disease conditions Julie Laloy, Université de Namur, Namur, Belgium</p>

18h00–20h00	<p>Session 05 – Symposium The use of minipigs in juvenile studies in an evolving regulatory landscape Chairs: Andrew Makin, Denmark and Lars Friis Mikkelsen, Denmark</p> <p>Use of juvenile minipigs in testing drugs and foodstuffs to demonstrate safety for human children – practical issues Andrew Makin , Andrew Makin Preclinical Consulting, Kokkedal, Denmark</p> <p>The minipig – a rising star for nonclinical safety testing in support of development of paediatric medicines? Georg Schmitt, Roche Pharma, Basel, Switzerland</p> <p>The juvenile Göttingen Minipig: role of organ development in view of food and drug safety in neonates, infants and toddlers Steven Van Cruchten, University of Antwerp, Antwerp, Belgium</p> <p>Early life nutrition and later life cardiometabolic health in Göttingen Minipigs Sietse Jan Koopmans, Wageningen UR Livestock Research, Wageningen, Netherlands</p>
18h00–20h00	<p>Session 06 – Symposium Human induced pluripotent stem cell (iPSC)-based test systems for future mechanism-based chemical safety testing Chairs: Catherine Verfaillie, Belgium and Marcel Leist, Germany</p> <p>iPSC-derived neurospheres for chemical safety assessment Andras Dinnyes, Biotalentum, Gödöllő, Hungary</p> <p>Multicellular 3D liver models based on hiPSC-derived liver cells Catherine Verfaillie, Leuven University, Leuven, Belgium</p> <p>Dissecting lineage specific oxidative stress response dynamics using high content imaging of the hiPSC HMOX1 fluorescent reporter line Marije Niemeijer, Leiden Academic Centre for Drug Research, Leiden, Netherlands</p> <p>Nephrotoxic liability assessment using hiPSC-derived renal glomerular and proximal tubular epithelial cells Anja Wilmes, Free University Amsterdam, Amsterdam, Netherlands</p>
18h00–19h00	<p>Industry Symposium I</p>
19h00–20h00	<p>Industry Symposium II</p>

Tuesday, 28 September 2021	
08h00–18h30	Exhibition & Poster Viewing
08h00–12h00	<p>CEC04 Inflammation as a mediator of toxic responses Chairs: Emanuela Corsini, Italy and Ron Tjalkens, US</p> <p>Inflammation as a mediator of toxic responses Marie Cumberbatch, Immune Insight, Alderley Park, UK</p> <p>The multiple facets of skin inflammation: from direct toxic insult to specific immune responses Marc Pallardy, Université Paris-Saclay, Châtenay-Malabry, France</p> <p>Innate immune inflammatory signaling in glial cells modulates chemical neurotoxicity Ron Tjalkens, Colorado State University, Fort Collins, US</p> <p>Evaluating cytokines in immunotoxicity testing Emanuela Corsini, University of Milan, Milan, Italy</p>
08h00–12h00	<p>CEC05 Nanotoxicology Chair: Ulla Vogel, Denmark</p> <p>Genotoxicity of nanomaterials Julia Catalán Rodríguez, Finnish Institute of Occupational Health, Helsinki, Finland</p> <p>Nanomaterial-induced inflammation, acute phase response and risk of cardiovascular disease Ulla Vogel, National Research Center of the Working Environment, Copenhagen, Denmark</p> <p>Toxicity of nanomaterial in the user phase Anne Saber, National Research Center of the Working Environment, Copenhagen, Denmark</p>

	<p><i>In vitro</i>-based high-throughput screening and toxicogenomics to support effective safety evaluation of engineered nanomaterials Penny Nymark, Karolinska Institutet, Institute of Environmental Medicine, Stockholm, Sweden</p>
08h00–12h00	<p>CEC06 Toxicity assessment in drug development Chair: Stine Bartelt, Måløv, Denmark</p> <p>Challenging early target safety assessment strategies Jens Schuemann, Novartis Institute for BioMedical Research, Basel, Switzerland</p> <p>Phototoxicity of small molecules – from initial assessment to <i>in vivo</i> studies Allan Dahl Rasmussen, Lundbeck A/S, Valby, Denmark</p> <p>Effects of an FGF21 analogue on the female reproductive system Stine Bartelt, Novo Nordisk A/S, Måløv, Denmark</p> <p>PEGylated coagulation factor IX: The road to regulatory approval Hanne Offenber, Novo Nordisk A/S, Måløv, Denmark</p>
12h00–13h00	<p>Virtual Coffee Break, Exhibition & Poster Viewing/Discussion</p>
13h00–14h00	<p>EUROTOX–SOT Debate Chairs: Félix Carvalho, EUROTOX President-Elect and Michael Aschner, SOT Vice President</p> <p>Alan Boobis (EUROTOX debater) and Syril Pettit (SOT debater)</p>
14h00–16h00	<p>Session 07 – Roundtable Setting the European Environment and Health Research Agenda, 2020-2030: the HERA project Chairs: Robert Barouki, France and Manolis Kogevinas, Spain</p> <p>Identifying research gaps in environment and health research Roel Vermeulen, Utrecht University, Utrecht, Netherlands and Annette Peters, Helmholtz Zentrum, Munich, Germany</p> <p>Stakeholder approach for identification of research needs of policy and practice in environment, climate and health Brigit Staatsen, RIVM, Bilthoven, Netherlands</p>

	<p>Major environmental stressors and their effect on health: a global perspective Julia Nowacki, WHO Regional Center, Bonn, Germany</p> <p>Infrastructure needs in the field of environment and health Jana Klánová, Recetox, Brno, Czech Republic</p>
14h00–16h00	<p>Session 08 – Symposium Back-translation from clinical outcomes, how did investigative toxicology, modelling and simulation actually perform? Chairs: Harrie C.M. Boonen, Denmark and François Pognan, Switzerland</p> <p>Mathematical modelling combined with new in-vitro technologies to enable quantitative translation between preclinical and clinical safety Carmen Pin, AstraZeneca, Cambridge, UK</p> <p>A case study of a retrospective review of risk factors for DILI based on <i>in vitro</i> and <i>in vivo</i> data Thomas Steger-Hartmann, Bayer AG, Berlin, Germany</p> <p>Moving from detection of cardiovascular liabilities to quantitative mechanistic translational understanding: challenges and opportunities Amy Pointon, AstraZeneca, Cambridge, UK</p> <p>eTRANSAFE's Rosetta stone – a new approach to overcome safety translational hurdles Jan Kors, Erasmus University Medical Center, Rotterdam, Netherlands</p>
14h00–16h00	<p>Session 09 – Workshop Increasing confidence in non-animal approaches for regulatory decision-making Chairs: Suzanne Fitzpatrick, US and Fiona Sewell, UK</p> <p>Acceptance of <i>in silico</i> methods for regulatory purposes Glenn Myatt, Leadscope, Columbus, US</p> <p>Strengthening a grouping/read-across case using omics-derived molecular mechanistic evidence from an invertebrate model Tomasz Sobanski, ECHA, Helsinki, Finland & Mark Viant, University of Birmingham, Birmingham, UK</p> <p>A new path for pesticide assessment: using the AOP framework as a tool in risk assessment</p>

	Susanne Hougaard Bennekou, Technical University of Denmark, Kgs. Lyngby, Denmark
14h00–16h00	<p>Session 28 – Symposium Preclinical immune-safety evaluation of immuno-oncology therapies Chair: Curtis Maier, US</p> <p>Current nonclinical evaluation of immune-related safety risks for IO biopharmaceuticals N. N.</p> <p>Current nonclinical evaluation of immune-related safety risks for engineered T cell therapies Hervé Lebrec, AMGEN, US</p> <p>Clinical toxicology of immune checkpoint blockers Nathalie Chaput-Gras, University Paris-Sud Institut Gustave Roussy, Châtenay-Malabry & Villejuif, France</p> <p>Regulatory considerations and establishing FIH dose across immunomodulators Gabriele Reichmann, Paul-Ehrlich-Institut, Langen, Germany</p>
16h00–16h30	Virtual Coffee Break, Exhibition & Poster Viewing/Discussion
16h30–18h30	<p>Session 10 – Symposium Computational modeling of AOP networks to assist risk assessment of chemicals Chairs: Frederic Bois, UK and Joost Beltman, Netherlands</p> <p>Quantitative Bayesian networks analyses of mitochondrial toxicity Frederic Bois, CERTARA Inc., Sheffield, UK</p> <p>Logic modeling of toxicology pathways Attila Gabor, EMBL, Heidelberg, Germany</p> <p>Data-driven computational modeling of the DNA damage response and liver toxicity Joost Beltman, Leiden University, Leiden, Netherlands</p> <p>Virtual liver modeling Dirk Drasdo, INRIA & University of Leipzig, Paris & Leipzig, France & Germany</p>

16h30–18h30	<p>Session 11 – Symposium Emerging tools for the investigation and prediction of liver toxicity Chairs: Mathieu Vinken, Belgium and Magnus Ingelman-Sundberg, Sweden</p> <p>ULA 3D spheroids as a tool for studying normal and diseased liver function and for prediction of drug pharmacokinetics and hepatotoxicity Magnus Ingelman-Sundberg, Karolinska Institutet, Stockholm, Sweden</p> <p>Functional imaging of hepatotoxicity Jan Hengstler, Leibniz Research Center (IfADo), Dortmund, Germany</p> <p>Dynamic imaging of stress response pathway activation for quantitative systems liver toxicity approaches Bob van de Water, Leiden University, Leiden, Netherlands</p> <p>Using real time sensors to illuminate human-relevant mechanisms of action Yaakov Nahmias, Silberman Institute of Life Sciences, Jerusalem, Israel</p>
16h30–18h30	<p>Session 12 – Symposium Application of high throughput transcriptomics in mechanism-based chemical safety assessment Chair: Henniske Kamp, Germany</p> <p>High throughput transcriptomics for determining chemical-induced perturbations to predict adverse renal outcomes Paul Jennings, Free University Amsterdam, Netherlands</p> <p>Early prediction of late adverse outcome using benchmark dose modelling of high throughput transcriptomics data Scott Auerbach, U.S. NIEHS/National Toxicology Program, Durham, US</p> <p>Transcriptomic profiling of the inter-individual variability of chemical-induced cellular stress response activation in primary human hepatocytes Marije Niemeijer, Leiden University, Leiden, Netherlands</p> <p>Genomics-based platforms in combination with machine learning algorithms enabling well informed and reliable risk assessments for different toxicological endpoints Andy Forreryd, SenzaGen, Lund, Sweden</p>

16h30–17h30	Industry Symposium III
17h30–18h30	Industry Symposium IV
18h30–20h00	<p>Short Oral Communications I Chairs: tba.</p> <p>SOC01-01 Development of a kidney-on-a-chip model that replicates an antisense oligonucleotide-induced kidney injury biomarker response T. T. Nieskens¹, O. Magnusson¹, M. Persson¹, P. Andersson², M. Söderberg¹, A. Sjögren¹ ¹AstraZeneca, CVRM Safety, Clinical Pharmacology and Safety Sciences, R&D, Gothenburg, Sweden ²AstraZeneca, R&I Safety, Clinical Pharmacology and Safety Sciences, R&D, Gothenburg, Sweden</p> <p>SOC01-02 Pyrrolizidine alkaloids affect miRNA expression in human HepaRG cells A. M. Enge, H. Sprenger, A. Braeuning, S. Hessel-Pras German Federal Institute for Risk Assessment, Berlin, Berlin, Germany</p> <p>SOC01-03 Novel <i>in vitro</i> model captures drug-induced inflammation as a mechanism contributing to hepatotoxicity F. Tasnim¹, X. Huang^{1,2}, Y. T. Soong¹, H. Yu^{1,2,3} ¹ Institute of Bioengineering and Nanotechnology, Health and Medical Technologies, Singapore, Singapore ² National University of Singapore, Department of Physiology, Yong Loo Lin School of Medicine, Singapore, Singapore, Singapore ³ CAMP IRG, Singapore-MIT Alliance for Research and Technology, Singapore, Singapore</p> <p>SOC01-04 Scientific validity of non-animal-derived antibodies J. Barroso, M. Halder, M. Whelan European Commission, Joint Research Centre, Ispra (VA), Italy</p> <p>SOC01-05 <i>In vitro</i> toxicity screening of an inclusive panel of engineered nanomaterials using an advanced 3D liver model S. V. Llewellyn¹, G. E. Conway¹, U.-K. Shah¹, G. J. Jenkins¹, M. J. Cliff¹, S. H. Doak¹ Swansea University, In Vitro Toxicology Group, Swansea, UK</p> <p>SOC01-06</p>

	<p>Development of a Liver Carcinoma Biomarker Panel in 3D HepG2 Liver Spheroids Following Exposure to Ag and Tio₂ Nanomaterials G. E. Conway¹, S. V. Llewellyn¹, P. Nymark^{2,3}, U. B. Vogel⁴, S. Halappanavar⁵, G. J. Jenkins¹, M. J. Clift¹, S. H. Doak¹ ¹InVitro Toxicology Group, Swansea University Medical School, Swansea, United Kingdom ²Institute of Environmental Medicine, Karolinska Institute, Stockholm, Sweden ³Misvik Biology Oy, Turku, Finland ⁴National Research Centre for the Working Environment, Copenhagen, Denmark ⁵Environmental Health Science and Research Bureau, Health Canada, Ottawa, Canada</p> <p>SOC01-07 Combining single cell gene expression analysis and a 3D <i>in vitro</i> liver model to investigate cell type-specific responses to pro-fibrotic TGF-β1 C. J. Messner^{1,2}, L. Babrak¹, G. Titolo¹, M. Caj¹, E. Miho^{1,3,4}, L. Suter-Dick^{1,2} ¹Fachhochschule Nordwestschweiz, Institute for Chemistry and Bioanalytics, Muttenz, Basel-Land, Switzerland ²Swiss Centre for Applied Human Toxicology, Basel, Basel-Stadt, Switzerland ³SIB Swiss Institute of Bioinformatics, Lausanne, Switzerland ⁴aiNET GmbH, Basel, Switzerland</p>
<p>18h30–20h00</p>	<p>Short Oral Communications II Chairs: tba.</p> <p>SOC02-01 Towards a personalized drug development using autologous iPSC-derived Multi-Organ-Chips A. Ramme, L. Koenig, D. Faust, M. Jäschke, N. Nguyen, E.-M. Dehne, U. Marx TissUse GmbH, Berlin, Berlin, Germany</p> <p>SOC02-02 Prediction of inotropic effect based on calcium transients in human iPSC-derived cardiomyocytes using novel waveform parameters and a modified random forest algorithm H. Yang¹, O. Obrezanova², A. Poinon², W. Stebbeds³, J. Francis³, K. A. Beattie⁴, P. Clements⁴, J. S. Harvey⁴, G. F. Smith², A. Bender¹ ¹University of Cambridge, Department of Chemistry, Cambridge, United Kingdom ²AstraZeneca, BioPharmaceuticals R&D, Cambridge, United Kingdom ³GlaxoSmithKline, R&D, Stevenage, UK ⁴GlaxoSmithKline, R&D, Ware, UK</p> <p>SOC02-03</p>

High-throughput phenotypic profiling within the NAMs-based, tiered hazard evaluation strategy at the United States

Environmental Protection Agency

J. Nyffeler^{1,2}, C. Willis¹, M. Culbreth¹, R. E. Brockway^{1,3}, L. J. Everett¹, G. Patlewicz¹, I. Shah¹, D. Chang¹, K. Paul Friedman¹, J. Wambaugh¹, J. A. Harrill¹

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SOC02-04

Mutations in the filaggrin gene determine immune response after dermal chemical exposure

E. Rietz Liljedahl², H. K. De Paoula², M. Engfeldt², A. Julander¹, C. Lidén¹, C. Lindh², **K. Broberg**^{1,2}

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SOC02-05

The impact of pooling animal histopathology control data on the statistical detection of treatment-related findings

P. S. R. Wright¹, K. A. Briggs², R. Thomas², G. F. Smith³, G. Maglennon⁴, P. Mikulskis⁵, M. Chapman⁶, N. Greene⁷, A. Bender¹

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SOC02-06

Novel biomimetic membranes for nanoparticle transport studies at biological barriers

L. A. Furer¹, A. Díaz Abad¹, G. Fortunato², S. Schürle-Finke³, T. Buerki-Thurnherr¹

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³ETH Zürich, Responsive Biomedical Systems Lab, Zürich, Switzerland

SOC02-07

Validation of the ToxProfiler reporter assay for toxicological profiling and determination of the underlying mode of action

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Wednesday, 29 September 2021	
09h00–18h30	Exhibition & Poster Viewing
10h00–11h00	Specialty Sections meetings Individual Members meeting
12h00–13h00	Virtual Coffee Break, Exhibition & Poster Viewing/Discussion
13h00–14h00	SOT Merit Award Lecture 1 Chairs: George Daston, SOT Past President and Heather Wallace, EUROTOX President
14h00–16h00	<p>Session 13 – Workshop Modes of action in non-genotoxic carcinogenesis Chairs: Jan Vondracek, Czech Republic and William H Bisson, US</p> <p>Developing an OECD integrated approach for the testing and assessment of non-genotoxic carcinogens Miriam Jacobs, Public Health England, Chilton, UK</p> <p>Cellular and newly proposed models to study the transforming ability of pollutants for translational toxicology William H Bisson & Annamaria Colacci, OHSU Knight Cancer Institute & ARPAE, Portland & Bologna, US & Italy</p> <p>Non-coding RNAs mechanisms enforcing oncogenic programs and allowing establishment of metastatic niches Martin Bushell, The Beatson Institute, Glasgow, UK</p>
14h00–16h00	<p>Session 14 – Symposium New approaches using <i>in vitro</i> assays and 3D models can improve prediction of immune reactions to xenobiotics Chairs: Marc Pallardy, France and Saadia Kerdine-Römer, France</p> <p>Immune response to chemicals and drugs: understanding is key for prediction Marc Pallardy, University Paris-Sud, Châtenay-Malabry, France</p> <p>How mechanisms can be used to develop new approaches to predict drug-induced hypersensitivity Dean Naisbitt, University of Liverpool, Liverpool, UK</p> <p>The challenges of predicting biological products immunogenicity using T-cell assays</p>

	<p>Bernard Maillère, University of Paris Saclay, Paris, France</p> <p>Challenges and opportunities of 3D-skin models: the way forward for assessing chemical sensitizers? Sue Gibbs, Amsterdam University Medical Center, Amsterdam, The Netherlands</p>
14h00–16h00	<p>Session 15 – Symposium Impact of climate change on food safety Chairs: Angela Mally, Germany and George Kass, Italy</p> <p>The impact of climate change on mycotoxin and related fungi risks in Europe: current scenario and future perspectives Antonio Moretti, Institute of Sciences of Food Production, National Research Council, Bari, Italy</p> <p>Climate change impacts on harmful algal bloom toxicity Dedmer van de Waal, Netherlands Institute of Ecology (NIOO-KNAW), Wageningen, Netherlands</p> <p>Ocean warming and Ciguatera poisoning Elisa Berdalet, Institute of Marine Sciences (ICM-CSIC), Barcelona, Spain</p> <p>Tetrodotoxins in seafood from European waters Ron Hoogenboom, RIKILT Wageningen University & Research, Wageningen, Netherlands</p>
14h00–16h00	<p>Session 29 – Symposium Is there a human risk to PFAS exposure? Chairs: Philippe Grandjean, Denmark and Martin Wilks, Switzerland</p> <p>Investigating developmental effects of PFAS using a 3D human induced pluripotent stem cell differentiation model Anne Marie Vinggaard, Technical University of Denmark, Kgs. Lyngby, Denmark</p> <p>Epidemiological approaches to PFAS toxicity Philippe Grandjean, University of Southern Denmark & Boston University, Odense & Boston, Denmark & US</p> <p>Exposure to real-life PFAS mixtures present in several human matrices, assessed with ex vivo effect biomarkers Eva Cecilie Bonefeld-Jørgensen^{1,2}, Vicente Mustieles^{3,4,5,6}, Andrea Rodríguez^{3,4,5,6}, Maria Wielsøe¹, <u>Mariana F. Fernandez</u>^{3,4,5,6} ¹Centre for Arctic Health & Molecular Epidemiology, Department of Public Health Aarhus University, Denmark ²Greenland Centre for Health Research, University of Greenland, Nuuk, Greenland ³University of Granada, Center for Biomedical Research (CIBM), Spain</p>

	<p>⁴Department of Radiology and Physical Medicine, School of Medicine, University of Granada, Granada, Spain ⁵Instituto de Investigación Biosanitaria Ibs Granada, Spain; ⁶Consortium for Biomedical Research in Epidemiology & Public Health (CIBERESP), Spain</p> <p>Wide-spread PFAS contamination of drinking water in Sweden – exposure and health risk assessment Anders Glynn, SLU, Uppsala, Sweden</p>
16h00–16h30	<p>Virtual Coffee Break, Exhibition & Poster Viewing/Discussion</p>
16h30–18h30	<p>Session 16 – Symposium Human microengineered organs-on-chips: advancing regulatory science through innovation Chairs: Suzanne Fitzpatrick, US and Adrian Roth, Switzerland</p> <p>Organs-on-chips for safety testing and disease modelling Geraldine A. Hamilton, Emulate Inc., Boston, US</p> <p>Human on a chip – are we there yet? Uwe Marx, TissUse GmbH, Berlin, Germany</p> <p>Incorporating organ-on-chip into integrated approaches to testing and assessment Sofia Batista Leite, European Commission's Joint Research Centre, Ispra, Italy</p> <p>An industry perspective: importance of organs-on-chips for advancing drug discovery and development Adrian Roth, Roche Pharma, Basel, Switzerland</p>
16h30–18h30	<p>Session 17 – Symposium Designing toxicology studies to support development of cell-based therapies Chair: Niklas Öhrner, Denmark, Ridhirama Bhuwania, Germany</p> <p>Regulatory considerations for cell based therapies David Jones, MHRA, UK</p> <p>Non-clinical study design considerations in the development of cellular therapeutics Mark Johnson, Northern Biomedical Research, Norton Shores, MI, US</p> <p>Preclinical assessment of a pluripotent cell therapy for Parkinson's Disease</p>

	<p>Agnete Kirkeby, Lund University, Lund, Sweden</p> <p>How cell therapies derived from pluripotent stem cells are evaluated for tumorigenicity <i>in vivo</i> and <i>in vitro</i> Dorthe Bach Toff, NovoNordisk, Måløv, Denmark</p>
16h30–18h30	<p>Session 18 – Symposium Mechanistic toxicology as the basis for modelling and prediction of organ-specific toxicity Chairs: Anna Bal-Price, Italy and Ulla Vogel, Denmark</p> <p>Applying the adverse outcome pathways network for understanding and predicting neurotoxicity Anna Bal-Price, European Commission Joint Research Centre, Ispra, Italy</p> <p>Application of the adverse outcome pathway conceptual framework for translation of mechanistic data into regulatory decisions: adverse outcome pathways for kidney injury as case study Angela Mally, University of Würzburg, Würzburg, Germany</p> <p>Novel means of enabling high-throughput toxicogenomics and adverse outcome pathways for prediction of lung toxicity Penny Nymark, Karolinska Institute, Stockholm, Sweden</p> <p>Development and application of an adverse outcome pathway of cholestatic liver injury Mathieu Vinken, Vrije Universiteit Brussels, Brussels, Belgium</p>
16h30–17h30	Industry Symposium V
17h30–18h30	Industry Symposium VI
18h30–20h00	<p>Short Oral Communications III Chairs: tba.</p> <p>SOC03-01 Rat biodistribution of cerium dioxide and titanium dioxide nanomaterials after single and repeated inhalation exposure I. Gosens¹, E. Duistermaat¹, J. Boere¹, P. Fokkens¹, J. Vidmar², K. Löschner², C. Delmaar¹, A. L. Costa³, R. Peters⁴, F. Cassee^{1, 5}</p> <p>¹National Institute for Public Health and the Environment (RIVM), Bilthoven, Netherlands ²Technical University of Denmark, National Food Institute, Kongens Lyngby, Denmark ³Institute of Science and Technology for Ceramics, National Research Council, Faenza, Italy</p>

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⁵Institute for Risk Assessment Studies,, Utrecht, Netherlands

SOC03-02

Estimation of uncertainty in multi-level *in silico* models predicting biomarkers of drug-induced proarrhythmic risk

K. Kopanska¹, J. C. Gómez-Tamayo^{1,2}, J. Llopis-Lorente³, B. A. Trenor-Gomis³, J. Sáiz³, M. Pastor¹

¹ Universitat Pompeu Fabra, Research Programme on Biomedical Informatics (GRIB), Department of Experimental and Health Sciences, Barcelona, Spain

² Janssen, Research & Development, Beerse, Belgium

³ Universitat Politècnica de València, Centro de Investigación e Innovación en Bioingeniería, Valencia, Spain

SOC03-03

Next generation risk assessment for skin sensitization combining non-animal data and read- across: a case study with Resorcinol

F. Gautier¹, F. Tourneix², H. Assaf Vandecasteele¹, D. Bury¹, N. Alépée²

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SOC03-04

Expanding the H295R steroidogenic assay using LC-MS/MS and an ER-alpha reporter gene assay as read-outs using azole fungicides as test compounds

P. Vazakidou, C. Koopmans, S. Grimberg, S. Evangelista, J. Koekkoek, M. Lamoree, P. Leonards, M. van Duursen
Vrije University of Amsterdam, Department Environment and Health, Amsterdam, Netherlands

SOC03-05

A novel prediction model to evaluate genotoxicity based on a gene signature in metabolically competent human HepaRG™ cells

A. Thienpont¹, S. Verhulst², L. van Grunsven², V. Rogiers¹, T. Vanhaecke*¹, B. Mertens*^{3,4}

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SOC03-06

Strategies for a weight of evidence-based carcinogenicity assessment of human pharmaceuticals

J. W. van der Laan

Medicines Evaluation Board, Section on Pharmacology, Toxicology and Kinetics, Utrecht, Netherlands

	<p>SOC03-07 Air pollutants induced immunotoxicity linked to COVID-19 complications: toxicogenomic approach D. Jorgovanovic, K. Živančević, K. Baralić, A. Buha Djordjevic, E. Antonijević Miljaković, B. Antonijević, D. Đukić-Ćosić University of Belgrade - Faculty of Pharmacy, Department of Toxicology, Belgrade, Serbia</p>
<p>18h30–20h00</p>	<p>Short Oral Communications IV Chairs: tba.</p> <p>SOC04-01 Estimating the kinetics of titanium dioxide nanoparticles in rats after inhalation using physiologically based kinetic modelling J. Minnema¹, C. Delmaar¹, I. Gosens¹, F. R. Cassee^{1,2}, L. Tran³, B. Bokkers¹ ¹National Institute for Public Health and the Environment, Bilthoven, Netherlands ²Institute for Risk Assessment Studies, Utrecht University, Utrecht, Netherlands ³Institute of Occupational Medicine, Edinburgh, UK</p> <p>SOC04-02 Glyphosate and T cells: an immunotoxicity <i>in vitro</i> evaluation A. Maddalon¹, V. Galbiati¹, M. Iulini², M. Marinovich¹, E. Corsini² ¹University of Milan, Department of Pharmacological and Biomolecular Sciences, Milan, Italy ²University of Milan, Department of Environmental and Political Sciences, Milan, Italy</p> <p>SOC04-03 Analysis of Murine Liver mRNA Expression, DNA Methylation, And Histone After Repeated Exposure To Chemicals J. Kanno, K.-I. Aisaki, R. Ono, S. Kitajima National Institute of Health Sciences, Division of Cellular & Molecular Toxicology/Center for Biological Safety & Research, Kawasaki, Japan</p> <p>SOC04-04 Human iPSC-derived retinal organoid model for <i>in vitro</i> toxicity screening V. Chichagova¹, B. Dorgau^{1,2}, C. de Santis¹, M. Georgiou², M. Carter², G. Hilgen^{2,3}, J. Collin², R. Queen², G. Chung¹, J. Ajeian¹, M. Moya-Molina^{1,2}, S. Kustermann⁴, F. Pognan⁵, P. Hewitt⁶, M. Schmitt^{6,2}, E. Sernagor², L. Armstrong^{1,2}, M. Lako² ¹Newcells Biotech Ltd, Newcastle-upon-Tyne, UK ²Newcastle University, Biosciences Institute, Newcastle-upon-Tyne, UK ³Northumbria University, Applied Sciences, Newcastle-upon-Tyne, UK ⁴F. Hoffmann-La Roche Ltd, Basel, Switzerland ⁵Novartis, Basel, Switzerland ⁶Merck Healthcare KGaA, Darmstadt, Germany</p>

SOC04-05

An *in vitro* harmonized strategy to assess the toxicity of chemicals using multiple human induced pluripotent stem cell (hiPSC)-derived models

C. Nunes^{1, 2}, P. Singh^{3, 4}, Z. Mazidi^{5, 6}, C. Murphy⁷, A. Bourguignon^{8, 9}, S. Wellens¹⁰, S. Ghosh¹¹, M. Zana⁸, C. Verfaillie¹¹, M. Culot¹⁰, A. Dinnyés^{8, 13}, P. Jennings⁷, J. Grillari^{5, 6, 12}, T. Exner¹⁴, M.-G. Zurich^{1, 2}

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¹⁴Seven Past Nine d.o.o., Cerknica, Slovenia

SOC04-06

Brain organoids to study SARS-Cov-2 infection of developing CNS

L. Smirnova¹, C. K. Bullen², H. T. Hogberg¹, A. Pekosz³, W. Bishai², T. Hartung¹

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SOC04-07

***In silico* approaches to link adverse outcomes to molecular initiating events through AOPs**

A. A. Oliveira, A. Caley, S. A. Stalford, S. Kane, R. Foster, E. Hill, G. Kocks, A. Fowkes, A. Myden, D. Newman, J. D. Vessey
Lhasa Limited, Leeds, UK

Thursday, 30 September 2021	
09h00–18h30	Exhibition & Poster Viewing
09h00–12h00	Business Council Meeting
12h00–13h00	Virtual Coffee Break, Exhibition & Poster Viewing/Discussion
13h00–14h00	SOT Merit Award Lecture 2 Chairs: George Daston, SOT Past President and Heather Wallace, EUROTOX President
14h00–16h00	Session 19 – Workshop Can we panelize seizure? Chairs: Ruth Roberts, UK and Jennifer Pierson, US Seizure liability in drug discovery and development: current state of play Jean-Pierre Valentin, UCB, Braine-l'Alleud, Belgium Using ion channels to panelize seizure: where are we up to? Mike Morton, ApconiX, Alderley Park, UK Development of seizure prediction methods using <i>in vitro</i> microelectrode array (MEA) Ikuro Suzuki, Tohoku Institute of Technology, Sendai, Japan Panel Discussion focusing on key questions: confidence in the biology, confidence in the robustness of the assay and confidence in translation to the clinic and the patient All speakers
14h00–16h00	Session 20 – Symposium Modernizing cancer risk assessment: beyond the bioassay Chairs: Gina Hilton, UK and Mirjam Luijten, Netherlands Current challenges in a paradigm shift for cancer risk assessment Alan Boobis, Imperial College London, UK Current transcriptional benchmark dose approaches that are available to safely assess carcinogenicity risk

	<p>Virunya Bhat, Independent Consultant, US</p> <p>Practical strategies for a weight of evidence-based safety assessment Jan Willem van der Laan, Netherlands Organization for Applied Scientific Research (TNO), Zeist, Netherlands</p> <p>Visioning a risk assessment without the rodent bioassay Mirjam Luijten, RIVM, Netherlands</p>
14h00–16h00	<p>Session 21 – Symposium Drug – exposome interactions Chairs: Benedikt Warth, Austria and Angela Mally, Germany</p> <p>The exposome: drugs, toxicants, and metabolites Gary W. Miller, Columbia University, New York City, US</p> <p>Impact of dietary xenoestrogens and other food contaminants on drug metabolism and action Benedikt Warth, University of Vienna, Vienna, Austria</p> <p>The Central European Longitudinal Studies of Parents and Children (CELSPEC) from an exposome perspective Jana Klánová, Masaryk University, Brno, Czech Republic</p> <p>Biotransformation-driven interactions and precision responses to chemotherapy Shana Sturla, ETH Zurich, Zurich, Switzerland</p>
14h00–16h00	<p>Session 30 – Symposium Revisiting paracetamol-induced multisystem toxicity: novel mechanistic insights Chairs: Hilmi Orhan, Turkey and Hartmut Jaeschke, US</p> <p>Paracetamol hepatotoxicity: Discovering new drugs based on mechanistic insight from animal studies Hartmut Jaeschke, University of Kansas Medical Center, Kansas City, US</p> <p>Paracetamol-associated adverse reactions in kidney: different mechanistic pathways compared to liver Hilmi Orhan, Ege University, Izmir, Turkey</p> <p>Paracetamol and pregnancy: short- and long-term consequences for mother and child N. N.</p>

	<p>Paracetamol and development – reasons for concern David Kristensen, University of Copenhagen & Inserm, Irset, Copenhagen & Rennes, Denmark & France</p>
16h00–16h30	<p>Virtual Coffee Break, Exhibition & Poster Viewing/Discussion</p>
16h30–18h30	<p>Session 22 – Symposium Computational models to reliably predict chemical mixture toxicity Chairs: Aristidis Tsatsakis, Greece and Michael Aschner, US</p> <p>SMF-1, SMF-2 and SMF-3DMT1 orthologues regulate and are regulated differentially by manganese levels in C. elegans Michael Aschner, Albert Einstein College of Medicine, New York, US</p> <p>Systems toxicology models for the development of AOP networks induced by exposure to complex mixtures Denis Sarigiannis, University School of Advanced Studies IUSS, Pavia, Italy</p> <p>Computational modelling: A new paradigm for chemical mixtures risk assessment? Antonio F. Hernandez, University of Granada School of Medicine, Granada, Spain</p> <p>PBPK modelling: Bridging animal-free toxicology tools and conventional <i>in vivo</i> testing for cumulative risk assessment after long-term-low-dose exposure to chemical mixtures Marina Goumenou, University of Crete Medical School, Heraklion, Greece</p>
16h30–18h30	<p>Session 23 – Symposium The value of micro-physiological systems for drug safety assessment – a series of case studies Chairs: Ekaterina Breous-Nystrom, Switzerland and Thomas Steger-Hartmann, Germany</p> <p>Microphysiological systems evolution – introducing the immune compartment Ekaterina Breous-Nystrom, Roche, Basel, Switzerland</p> <p>A microfluidic two-organ chip to investigate species specific differences of thyroid-liver crosstalk in human and rats Diana Karwelat, Bayer AG, Berlin</p> <p>Adopting organ-chips as internal decision making-tools: a quantitative evaluation of human liver-chip predictive validity Lorna Ewart, Emulate, London, UK</p>

	<p><i>In vitro</i> rat and human GI organoid models for oncology candidate compounds assessment Valeria Chichagova, Newcells Biotech, Newcastle, UK</p>
16h30–18h30	<p>Session 24 – Symposium Building confidence in the use of new approach methodologies for safety decision-making Chairs: Alistair Middleton, UK and Ans Punt, Netherlands</p> <p>Strategies to evaluate <i>in vitro in silico</i> physiologically based kinetic (PBK) models as essential tool in next generation (animal-free) risk evaluations Ans Punt, RIKILT Wageningen University and Research, Wageningen, Netherlands</p> <p><i>In silico</i> approaches to link adverse outcomes to molecular initiating events through AOPs Oliveira Anax, Lhasa Limited, Leeds, UK</p> <p>Strategic use of high-throughput transcriptomics and phenotypic profiling data in support of regulatory decisions Joshua Harrill, US EPA NCCT, Research Triangle Park, US</p> <p>An industry perspective on strategies for integrating new approach methodologies for next generation risk assessment Maria Baltazar, Unilever Safety and Environmental Assurance Centre, Bedford, UK</p>
16h30–17h30	Industry Symposium VII
17h30–18h30	Industry Symposium VIII

Friday, 1 October 2021	
09h00–17h00	Exhibition & Poster Viewing
10h00–12h00	EC21-3 Meeting
12h00–13h00	Virtual Coffee Break, Exhibition & Poster Viewing/Discussion
13h00–14h00	HESI CITE Lecture
14h00–16h00	<p>Session 25 – Symposium Safeguarding female reproductive health across disciplines Chairs: Julie Boberg, Denmark and Paul Fowler, UK</p> <p>New insights into how early-life exposure to industrial chemicals can disrupt female reproductive development Hanna KL Johansson, Technical University of Denmark, Kgs. Lyngby, Denmark</p> <p>Reproductive toxicity in wildlife N. N.</p> <p>Influence of EDCs on female puberty – evidence from human epidemiology Anders Juul, Copenhagen University Hospital, Copenhagen, Denmark</p> <p>EDCs and female fertility – what can we learn from human clinical samples? Richelle Duque Björvang, Karolinska University Hospital, Stockholm, Sweden</p>
14h00–16h00	<p>Session 26 – Symposium Computational toxicology – New advances and acceptance in academia, industry and regulation Chairs: Timothy Allen, UK and Ruth Roberts, UK</p> <p>Developing and assessing <i>in silico</i> profilers for organ-level toxicity using non-standard data Mark Cronin, Liverpool John Moores University, Liverpool, UK</p> <p><i>In silico</i> toxicology – what computational tools can (and cannot) do Andreas Bender, University of Cambridge, Cambridge, UK</p>

	<p>Industrial perspectives on <i>in silico</i> tools – early screening to regulatory applications Catrin Hasselgren, Genentech, San Francisco, US</p> <p>Open source computational toxicology tools in food and feed safety: integrating historical data, meta-analysis and species-specific generic models Jean-Lou Dorne, EFSA, Parma, Italy</p>
14h00–16h00	<p>Session 27 – Symposium</p> <p>Predictive systems to identify etiological factors and pathogenic mechanisms of neurodegeneration Chairs: Jonathan Doorn, US and Jason Cannon, US</p> <p>Translation of mechanistic data into <i>in vivo</i> systems to predict risk for neurodegeneration Jason Cannon, Purdue University, West Lafayette, US</p> <p>Altered neurotransmitter homeostasis as a mechanistic biomarker of neurotoxicity progressing to neurodegeneration Jonathan Doorn, University of Iowa, Iowa City, US</p> <p>Application of an adverse outcome pathway-based <i>in vitro</i> testing battery for neurotoxicity evaluation Katharina Koch, IUF-Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany</p> <p><i>In vitro</i> neurotoxicity test methods: from development to degeneration Remco Westerink, Utrecht University, Utrecht, Netherlands</p>
14h00–16h00	Industry Symposium IX
14h00–16h00	Industry Symposium X
16h00–17h00	Closing Ceremony and Awards presentation