



AUSTRALASIAN COLLEGE OF TOXICOLOGY & RISK ASSESSMENT

Reproductive/Developmental Toxicology and Risk Assessment – Advances and Practice

Oaks on Market, Melbourne
28–30 August 2019

12th ACTRA Annual Scientific Meeting & Continuing Education Day

WEDNESDAY 28 AUGUST 2019
Continuing Education Day

THURSDAY 29 – FRIDAY 30 AUGUST 2019
12th Annual Scientific Meeting

MEETING FOCUS

This conference will focus on advances in assessment and understanding of developmental and reproductive toxicology, and application in risk assessment practice. Although still to be refined, the program is likely to include:

- Recent changes in OECD reproduction/developmental test protocols: for better or worse, risk assessment implications!
- Adverse outcome pathways associated with reproductive/developmental toxicity.
- Predictability (or otherwise) of adverse endocrine disruptive effects suggested by *in vitro* assays and whether/how to incorporate into risk assessment?
- Relevance of non-mammalian assays to identify mammalian developmental and reproductive toxicants.
- Epidemiological associations with decreased birth weight: an endpoint for many chemicals, how do we interpret and use this information?
- Dose response and risk assessment of apparent reproductive effects at low exposures: Illustrated with Bisphenol A and replacement analogues.
- Assessing and dealing with risk to neonates exposed to chemicals in breast milk: is a chronic tolerable daily intake an appropriate comparator? PFOS is a topical case study.
- The developmental toxicity of TCE; risk assessment and communication repercussions at contaminated sites.
- Recent reproductive/developmental investigations of a herbal product.

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CONTINUING EDUCATION DAY

Risk assessment of reproductive and developmental toxicants: techniques and case studies

Wednesday 28 August 2019

Time	Topic	Speaker
08:15 – 09:00	Registration: Tea/Coffee	
09:00 – 09:15	Welcome Address	
	Morning Session Chair: Dr Lorraine Webster, DHHS Victoria	
09:15- 10:15	Biology and rationale for predictive reproductive/developmental toxicity testing for assessing risk of harm	Dr Paul Foster National Toxicology Program, USA (Retired)
10:15 – 10:45	Morning Tea	
	Late Morning Session Chair: Antti Mikkonen, CDM Smith	
10:45 – 11:45	Torturing the Community or taking them on the risk assessment journey	Dr Craig Dalton University of Newcastle, NSW
11:45 – 12:30	Introduction to epidemiology and challenges with risk assessment in the repro-development space	Dr Clare Looker DHHS Victoria
12:30 – 13:30	Lunch	
	Early Afternoon Session Dr Jean Meaklim, Greencap	
13:30 – 14:30	Physiological changes in pregnancy and placental transfer of environmental chemicals	Professor Claire Roberts University of Adelaide, SA
14:30 – 15:00	Optimising interpretation and regulatory review of repro-tox studies for environmental chemicals	Dr Rhian Cope APVMA, NSW
15:00 – 15:30	Estimating exposure and assessing risk to neonates and children from agvet chemicals used on companion animals: case study & practical examples	Dr Rhian Cope APVMA, NSW
15:30 – 15:45	Afternoon Tea	
	Late Afternoon Session Dr Ian Delaere, SA Health	
15:45 – 16:30	Previous session continued: discussion of case studies	Dr Rhian Cope APVMA, NSW
16:30 – 17:00	Discussion, questions and summary	Dr Peter Di Marco ACTRA President
17:00	Close of Continuing Education Day	

ANNUAL SCIENTIFIC MEETING

Reproductive/Developmental Toxicology and Risk Assessment – Advances and Practice

DAY 1 - Thursday 29 August 2019

Time	Topic	Speaker
08:30 – 09:00	Registration: Tea/Coffee	
	Morning Session: Methods and Tests in Reproductive/ Developmental Toxicology Chair: Dr Peter Di Marco, ACTRA President	
09:00 – 09:15	Welcome Address	Dr Peter Di Marco ACTRA President
09:15 – 10:15	Recent changes in OECD reproduction test guidelines: for better or worse, implications for risk assessment <ul style="list-style-type: none"> Increased scrutiny on testing & use of animals, particularly in Europe, balanced against needs for high quality tox information. 60% of animals employed in a testing portfolio are used on reproductive & developmental tox tests. How can we test for reproduction more efficiently? OECD 443 vs. other international approaches. EU response to 443 & implications for its application. 	Dr Paul Foster National Toxicology Program USA (Retired)
10.15 – 10:30	Methodological advances in developmental toxicity tests	Maryam Moslehi CDM Smith
10:30 – 10:45	Using Metabolomics to Understand Toxic Responses to Nanomaterials	Paul Wright RMIT University
10:45 – 11:15	Morning Tea	
	Late Morning Session: Methods and Tests in Reproductive / Developmental Toxicology Chair: Paul Wright, RMIT University	
11:15 – 11:45	The use of <i>in vitro</i> endocrine activity data for identifying and classifying chemical hazards in Australia	Dr Kerry Nugent NICNAS
11:45 – 12:35	Predictability (or otherwise) of adverse endocrine disruptive effects suggested by <i>in vitro</i> assays and whether/how to incorporate into risk assessment? <ul style="list-style-type: none"> EPA & OECD have a range of screening protocols for endocrine disruption. Three major activities (oestrogen, androgen & thyroid) covered How well do the screens predict adverse outcome in more standard tests using case studies with agents of similar structure? <i>In vitro</i> vs. <i>in vivo</i> screening: time & costs. Can screening information be used for risk assessment? New Lautenberg Act to limit use of vertebrate animals if assays of equivalent utility are available. 	Dr Paul Foster National Toxicology Program, USA (Retired)
12:35 – 12:50	Role of Indolo[3,2- <i>b</i>]carbazole on enhanced activation of Ah receptor in presence of CYP1 inhibiting PAHs and its implication to embryo toxicity in zebrafish	Ramesh Thapaliya Karolinska Institutet, Sweden
12:50 – 14:30	Lunch	ACTRA AGM

	Early Afternoon Session: Epidemiological and Clinical Perspective	
	Chair: Lorraine Webster, DHHS Victoria	
14:30 – 15:00	Environmental exposures and low birth weight; what is the evidence telling us?	Dr Martine Dennekamp EPA Victoria
15:00 – 15:30	Human embryology and teratology of environmental toxicants	Dr William (Bill) Webster University of Sydney
15:30 – 15:45	Reproductive and developmental effects and their consideration in the derivation of workplace exposure standards	Nathan Aust WSP Australia
15:45 – 16:10	Afternoon Tea	
	Late Afternoon Session – Understanding developmental hazards	
	Chair: Effi Liden, DHHS Victoria	
16:10 – 16:40	Developmental effects of herbal preparations	Dr Helen Ritchie University of Sydney
16:40 – 16:55	Toxicity of Iodine during Pregnancy and Lactation	Rosalind Dalefield FSANZ
16:55 – 17:15	The effect of phenytoin on embryonic heart rate <i>in vivo</i>	Dr Helen Ritchie University of Sydney
17:15 – 17:30	Discussion and Questions	
17:30	Close of Day 1 of ASM	
18:30 – 23:00	Annual Scientific Meeting Dinner & Dancing Intercontinental Melbourne the Rialto	

ANNUAL SCIENTIFIC MEETING

Reproductive/Developmental Toxicology and Risk Assessment – Advances and Practice

DAY 2 - Friday 30 August 2019

Time	Topic	Speaker
08:30 – 09:00	Registration: Tea/Coffee	
	Morning Session: Reproductive/Developmental Toxicology in Contaminated Site Assessment Chair: Tarah Hagen, SLR Consulting	
09:00 – 09:50	The developmental toxicity of TCE; risk assessment and communication repercussions at contaminated sites	Dr Roger Drew Drew Toxicology Consulting Dr Ian Delaere SA Health
09:50 – 10:40	Assessing and dealing with risk to neonates exposed to chemicals in breast milk: Case study - PFOS.	Dr Roger Drew Drew Toxicology Consulting Dr Angie Bone DHHS, Victoria
10:40 – 10:55	Concepts in inhalation dosimetry for trichloroethylene from vapour intrusion	Dr Len Turczynowicz Adelaide University
10:55 – 11:10	Protective and pragmatic? Theoretical future vapour intrusion scenarios for urban TCE plumes	Katie Richardson Senversa
11:10 - 11:40	Morning Tea	
	Late Morning Session: Understanding Reproductive/Developmental Chemical and Botanical Hazards & Neurobehavioural Toxicity Testing Chair: Dr Rhian Cope, APVMA	
11:40 – 12:10	Mode of action of thalidomide's developmental toxicity	Dr Kai Zwingenberger CSL Behring, Switzerland
12:10 – 12:40	Application of neonatal neurobehavioural toxicity tests in risk assessment	Professor Brian Priestly Monash University & ACHHRA
12:40 – 13:30	Developmental toxicity of an herbal supplement, Vinpocetin: being 'all natural' does not mean safe! <ul style="list-style-type: none"> • Issues with DSHEA (The Dietary Supplement Health and Education Act). • No requirement for manufacturers to show safety. • Vinpocetin, from the periwinkle plant, markets as a 'brain booster' –including teenagers (for help with exams) • NTP rat studies showed embryo-foetal death & terata. • What else was necessary to show harm? • Risk assessment struggles with Agencies, Lessons learned 	Dr Paul Foster National Toxicology Program, USA (Retired)
13:30 – 14:30	Lunch	

	Early Afternoon Session – Student Travel Grant & Submitted Papers	
	Chair: Gordon Reidy, ACTRA Vice-President	
14:30 – 14:45	Student Travel Grant Presentation Applying ecotoxicology at a rehabilitated mine tailing to assess heavy metal transfer and bioaccumulation to a marsupial	Amy MacIntosh University of Tasmania
14:45 – 14:55	Student Travel Grant Presentation Discussion and Questions	
14:55 – 15:10	Do Laboratory Methods Really Affect the Quality of PFAS Data?	Giorgio De Nola SLR Consulting
15:10 – 15:25	Developing Environmental Health Tracking Network in Victoria	Benjamin Edokpolo EPA Victoria
15:25 – 16:00	Afternoon Tea	
	Late Afternoon Session: Reproductive Toxicity of Solvents & Submitted Papers	
	Chair: Victor Kabay, EPA Victoria	
16:00 – 16:30	A Roundup® of glyphosate risks	Dr Jean Meaklim Greencap
16:30 – 16:45	Assessment of Potential Health Risks associated with Soil Pica Behaviour from PAH and Lead Paint Impacts on Soil	Ruth Jarman EnRisks
16:45 – 17:00	Discussion, Questions and Summary	
17:00	Close of Day 2 of ASM	