



Replacement of mammalian models: the role of in vitro techniques with fish and invertebrates

**Glasgow SECC, Sunday 28th - Monday 29th June 2009.
CALL FOR PAPERS-1st Announcement**

The overall aim of this symposium is to seek new opportunities for the replacement of mammalian models by drawing together the long standing expertise of the comparative physiologists who pioneered and developed in vitro systems in non-mammalian species, and to share this expertise with the toxicology community including mammalian toxicologists, ecotoxicologists, policy makers and regulators, who are increasingly interested in the role of alternative models in hazard assessment. This meeting is organised by popular demand, following a session held on in vitro techniques at the Society for Experimental Biology (SEB) annual meeting in 2007. The symposium in 2009 will gather the most up-to-date information on in vitro techniques with fish and invertebrates, and explore the applications of this work in fundamental toxicology research and the regulatory arena.

The symposium will be held in Glasgow at the Scottish Exhibition & Conference Centre (SECC) and hosted during the SEB's annual conference which runs 28th June to 1st July 2009. Registration to the symposium can also cover entrance to the rest of the SEB annual conference, and delegates who attend the in vitro symposium will be able to attend the other wide-ranging cell, animal and plant biology sessions running at the meeting. The in vitro techniques symposium is a joint venture between the SEB (<http://www.sebiology.org>), the National Centre for Replacement, Refinement and Reduction of Animals in Research (NC3Rs, <http://www.nc3rs.org.uk>), the Society of Environmental Toxicology and Chemistry-UK branch (SETAC-UK, <http://www.setac-uk.org.uk/index.htm>), the European Union's Joint Research Centre (JRC) at Ispra (<http://ec.europa.eu/dgs/jrc/index.cfm?id=10&lang=en>), the In Vitro

Toxicology Society (IVTS, <http://www.ivts.org.uk>), and the Spanish Network for the Development of Alternative Methods (REMA, <http://www.remanet.net/ingles/remaingles.htm>).

THEMES

Oral presentations or posters welcome on any of the following themes.

- **Technical papers** on making and preparing the in vitro system; cell culture methods, tissue preparations, and organ perfusion systems.
- **Validation of techniques**, preparation viability and criteria for establishing the quality of the in vitro preparation.
- **Application of in vitro methods for physiological** or mechanistic studies of adverse effects on physiology; organ function with solutes, metabolites, drugs or chemicals (gut, liver, gill/lung etc.), mechanisms of toxicity (vascular injury, oxidative stress, cardiotoxicity, neurotoxicity, immunotoxicity, etc.).
- **Application of in vitro methods to ecotoxicology and toxicology**; environmental pollutants, agrochemicals, pharmaceuticals, environment and human health issues.
- **Mammalian versus fish or invertebrate comparisons**; can we use these techniques to replace some mammalian work?
- **In vitro techniques on unusual species**, birds, reptiles, amphibians etc.
- **Regulatory issues and risk assessments**; standardisation of non-mammalian methods to make regulatory protocols, application to legislation such as REACH, clinical trials directives, safety of chemicals and pharmaceuticals legislations. This includes quality assurance, and other steps needed for the wider application of these methods in hazard and risk assessment.
- **Policy issues and legislation**; what policy exists now that requires more use of in vitro techniques, what needs to be developed to comply with new legislation?
- **Ethical issues**; are we meeting the principles of the 3Rs, are the ethical issues any different for lower vertebrates and preparations from complex invertebrates such as squid, octopus or decapods crustaceans?
- **Knowledge transfer**; what knowledge from medical toxicology, bioengineering, cell biology, regulatory issues, and physical chemistry can inform on the applications, and improvement of in vitro techniques?
- **In Vitro Techniques for novel substances**; nanomaterials and nanoparticles, new generation agrochemicals, novel pharmaceuticals, emerging environmental contaminants.

Registration and Submission of Abstracts

The abstract submission and conference registration will be available online at the SEB website from December 2008, <http://www.sebiology.org/meetings/index.php> for the meetings page. Scientific enquiries to the organising committee can be made to Dr Richard Handy at the University of Plymouth (rhandy@plymouth.ac.uk), and booking enquiries to the SEB office (Kate Steel, kate.steel@sebiology.org).