into systems models of developmental toxicity. Together with exposure-based methods, these models yield a probabilistic assessment for chemical effects based solely on in vitro data.

Financial support: This work was funded by EPA's Office of Research and Development but does not reflect EPA policy.

http://dx.doi.org/10.1016/j.toxlet.2016.07.160

W1-4
Nanomaterials toxicity and teratogenicity in aquatic environment using *Rhinella arenarum* model

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Introduction: Nanotechnology is growing at an exponential rate and will undoubtedly have both beneficial and toxicological impact and consequences on health and environment. Amphibians are being increasingly used for toxicity screening purposes due to their high sensitivity to physicochemical stress and useful indicators of freshwater contamination. Amphibians, with life stage comprising embryos, tadpoles, and adults, have an extremely permeable skin, which makes them excellent indicators of environmental health. *Rhinella arenarum* is widely distributed in our region (Río Cuarto, Cordoba Province, Argentina). AMPHITOX is a set of customized toxicity test for acute, short term chronic, chronic and early life stages of amphibian embryos of *R. arenarum*, which allow selecting the most appropriate exposure period and end points according to the toxicity of the sample and the purpose of the study.

Objective: The main purpose of this study is to evaluate the susceptibility of embryos at 2–4 blastomeric stage (s2–s4) and larvae in premetamorphosis (stage 25) (AMPHITOX bioassay) to different concentrations of polyaniline (PANI) nanomaterials (nanofibers and nanoparticles).

Methods: The susceptibility of *R. arenarum* larvae to PANI during the 25th stage of development was evaluated by exposing the larvae to different concentrations of each nanomaterial. On the other hand, the teratogenic assay of different nanomaterials to embryos was carried out by observing the embryotoxic effects at continuous exposure from early blastula (S.2–S.4) during a 96 h period.

Results: These results demonstrated a stage-dependent susceptibility for PANI-nanomaterials. Early stage embryos are more sensitive than more mature embryos. The mayor toxicity perhaps it could be attributed to the minor size of the nanomaterials and its bioaccumulation.

Conclusions: This *in vivo* model might serve to determine not only the PANI toxicity but also other nanomaterials, consequently this popular alternative organism can be extensively used as models in nanotoxicology.

Financial support: Author is grateful to SECyT of UNRC and CONICET for financial support.

http://dx.doi.org/10.1016/j.toxlet.2016.07.161

Workshop 2: Global perspectives on safety, regulatory and risk assessment of food additives or contaminants

W2-1
Introduction to the safety and benefits of additives

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Food Additive is an ingredient with a purpose and is added to preserve nutritional quality, provide necessary ingredients/constituents for consumers having special dietary needs and also to enhance keeping quality and stability of food. Food Additive improves organoleptic properties, improves processing, preparation, storage, distribution of food and reduces wastage of food. Food Additives are used in small quantities and offers convenience plus enjoyment of food in a wide variety of appetizers. It is to be used under conditions of Good Manufacturing practices and the quantity of Food Additive added is limited to lowest possible level necessary to accomplish desired effect. Only those food additives permitted for use in a food/category can be used within permissible limits. FA is permitted for use by regulatory authorities based on strong scientific risk analysis, from safety, health and toxicological perspective. This will be illustrated with a few examples.

http://dx.doi.org/10.1016/j.toxlet.2016.07.163

W2-2
An overview on the risk assessment by the Joint FAO/WHO Expert Committee on Food Additives

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The Codex Alimentarius system presents a unique opportunity for all countries to join the international community in formulating and harmonizing food standards and ensuring their global implementation. The work of FAO (Food and Agriculture Organization of the United Nations) and WHO (World Health Organization) with respect to food standards consists of the following three independent yet complementary activities listed below that will be elaborated in this presentation (1) The provision of scientific advice by expert bodies (JECFA – Joint Expert Committee on Food Additives) and meetings established by FAO and WHO; (2) The elaboration of food standards by the Codex Alimentarius Commission taking into consideration the scientific advice provided by FAO and WHO; and (3) The creation of capacity building programmes related to strengthening food control systems taking into account the standards developed by the Codex Alimentarius Commission.

http://dx.doi.org/10.1016/j.toxlet.2016.07.164

W2-3
Threshold of toxicological concern

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Chemical/toxicological hazard and risk assessment in food safety relies on a variety of general principles. Contaminants are defined chemicals which are neither present naturally in the food