MO114 Nothobranchius furzeri, a potential new model for long-term ecotoxicity testing: first results C. Philippe, Laboratory of Aquatic Ecology Evolution and Conservation; A. Grégoir, KU Leuven / Laboratory of Aquatic Ecology Evolution and Conservation; G. De Boeck, University of Antwerp; L. Brendonck, KU Leuven.

***Nothobranchius furzeri*, a potential new model for long-term ecotoxicity testing: first results** *Nothobranchius furzeri* is a rising and promising vertebrate model for both fundamental and applied research. The species is currently used in physiological and biomedical research and its genome was recently sequenced. With a full generation time of ?37 days, *N. furzeri* offers a great potential to perform time- and cost-efficient long-term and multigenerational ecotoxicological studies compared to other fish-model species (zebrafish 60-75 days, medaka 70-81 days). Another advantage is their production of drought resistant dormant eggs that can be stored 'on the shelf', overcoming the need and costs of a continuous culture. Whenever needed, fish can be recruited within hours by wetting the eggs. This potential of *N. furzeri* has not yet been sufficiently explored in ecotoxicology, partly due to the continuing lack of important basic ecotoxicological information. Therefore, we here aim at providing an initial assessment of this promising ecotoxicological model. The sensitivity of *N. furzeri* to copper ($Cu(NO_3)_2 \cdot 3H_2O$) was assessed in an acute and chronic toxicity test. In these experiments, fish were continuously exposed to a range of copper concentrations, starting from 48h after hatching. In the acute toxicity test, mortality and buoyancy were scored to quantify LC_{50} and EC_{50} values during an exposure period of 14 days. The chronic toxicity exposure lasted for the whole lifetime and effects on growth and reproduction were quantified. Results of the acute toxicity test with *N. furzeri* demonstrate an overlap in sensitivity range with that of current fish models in ecotoxicology. In addition, long-term exposure to a sublethal concentration (inferred from the acute test), resulted in 100% mortality after 3 weeks. These concentrations also had a significant effect on growth and maturation time. Overall, through its unique trait-set (short maturation time and dormant eggs) and a sensitivity to a well studied toxicant that is comparable to conventional fish models, *N. furzeri* could rapidly be developed as a valuable ecotoxicological model for chronic and multigenerational toxicity testing. To draw more general conclusions on its sensitivity, more experimenting with different types of pollutants will however be needed.