

REP LECOTOX 2nd WORKSHOP

Programme and Abstracts

**TRENDS IN ECOLOGICAL RISK
ASSESSMENT**

21 – 23 September 2009

Programme

Monday 21 Sept 2009

11:00 - 11:45

Opening

Slavka Gajin, acting Dean of UNSFS

Radmila Kovačević, REP LECOTOX Co-ordinator

Ivana Teodorović, Workshop Organizing Committee

SECTION 1: RISK ASSESSMENT OF CHEMICALS WITH SPECIAL ATTENTION TO REACH

11:45 - 12:30 KEY NOTE LECTURE:

Integrated approaches to the evaluation of the human and ecological risks – case of POPs – How we can use data from monitoring for risk assessment?

Ivan Holoubek, RECETOX, Masaryk University, Brno, Czech Republic

12:30 - 13:30

Lunch break

Legislative aspect

13:30 - 14:15

Regulatory Need for Integrated Risk and Health Impact Assessment – Current Approaches and New Directions,

Dimosthenis Sarigiannis, Institute for Health and Consumer Protection European Commission - Joint Research Centre, Ispra, Italy

14:15 - 15:00

New Legislative Framework on Chemicals Management and Risk Assessment in Serbia,

Katarina Krinulović, Ministry of Environment and Spatial Planning, Chemicals

Department, Belgrade, Serbia

15:00 - 15:30

Coffee break

B. Emerging substances and nanomaterials: analysis, environmental fate, effects, ERA

15:30 - 16:00

Assessment of endocrine disruptive potential of complex pollutant mixtures in river ecosystems,

Klára Hilscherová, RECETOX, Masaryk University, Brno, Czech Republic

16:00 - 16:30

Assessment of emerging contaminants in municipal wastewaters – a transition country perspective,

Marijan Ahel, Institute Rudjer Boskovic, Zagreb, Croatia

16:30 - 17:00

Two invited WS participants - short oral presentations

The expression of CYP1A and metallothionein in hepatopancreas of Merluccius merluccius and Mullus barbatus

from the Adriatic sea,

Mirjana Mihailović, Department of Molecular Biology, Institute for Biological Research “Siniša Stanković”, Belgrade, Serbia

Comparison of the action of single PBDE congeners and mixtures on ovarian steroid secretion. An irreversible effect on progesterone secretion,

Ewa L Gregoraszczuk, Department of Physiology and Toxicology of Reproduction, Institute of Zoology, Jagiellonian University, Kraków, Poland

17:00-18:00

Discussion

Dinner reception (at the Conference Venue, right after the last session)

Tuesday 22 Sept 2009

SECTION 1: RISK ASSESSMENT OF CHEMICALS WITH SPECIAL ATTENTION TO REACH (continued) 1.C. Incorporating “Omic” Information into Risk Assessment and Policy

9:00 - 9:45

Potential applications of system biology (“omics”) for the regulation of chemicals and pharmaceuticals,

Stefan Scholz, Department of Bioanalytical Ecotoxicology, UFZ, Leipzig, Germany

9:45 - 10:30

Application of “Omic” technologies to monitoring,

Brett Lyons, CEFAS, UK

10:30 - 11:00

Coffee break

11:00 - 12:00

Poster session 12:00 - 13:00

Discussion 13:00 - 14:00

Lunch break

SECTION 2: ECOSYSTEM RISK

ASSESSMENT 14:00 - 14:45 KEY NOTE LECTURE:

“From complex contamination to individual toxicants -Effect-directed analysis as an approach to unravel cause-effect relationships in polluted sediments”

Werner Brack, Department for Effect-Directed Analysis, UFZ, Leipzig, Germany

2. A. Aquatic ecosystems, ERA in WFD and

GD 14:45 - 15:30 Sediment and the WFD: a current and future perspective inspired by Sed Net,

Jos Brils, Deltares, Utrecht, The Netherlands

15:30 - 16:00

Coffee break

16:00 - 16:30 Effect-

directed analyses (EDA) approach for identification of hazardous chemical contamination in the Sava River Basin,

Tvrtko Smital, Institute Rudjer Boskovic, Zagreb, Croatia

16:30 - 17:00

Nutrient pollution of surface waters and associated risks to ecosystems and human health (water blooms & cyanobacterial toxins),

Luděk Bláha, RECETOX, Brno, Czech Republic

SHORT ORAL PRESENTATIONS

THE EXPRESSION OF CYP1A AND METALLOTHIONEIN IN HEPATOPANCREAS OF MERLUCCIOUS MERLUCCIOUS AND MULLUS BARBATUS FROM THE ADRIATIC SEA

Mirjana Mihailović¹, Miodrag Petrović¹, Nevena Grdović¹, Svetlana Dinić¹, Aleksandra Uskoković¹, Melita Vidaković¹, Ilijana Grigorov¹, Desanka Bogojević¹, Svetlana Ivanović-Matić¹, Vesna Martinović¹, Jelena Arambašić¹, Danijela Joksimović², Randel Mihajlović³, Svetlana Labus-Blagojević⁴, Goran Poznanović¹.

¹ Department of Molecular Biology, Institute for Biological Research “Siniša Stanković”, Belgrade, Serbia;

² Institute of Marine Biology, Kotor, Montenegro;

³ Faculty of Natural-Mathematical Sciences, Kragujevac, Serbia;

⁴ Milan Jovanović-Batut Institute for Public Health, Belgrade, Serbia

CYP1A is an established biomarker of fish exposure to PAHs and PCBs. The metallothioneins (MT) constitute a family of Cys-rich proteins that bind a wide range of metals and participate in their uptake, transport and regulation. The aim of this work was to detect changes in CYP1A and MT protein levels in the hepatopancreas of two commercially important fish species: *Mullus barbatus* and *Merluccius merluccius* from three different types of locality in the Adriatic Sea (the open sea area of Platamuni, the port of Bar and Valdanos,) in winter. The relative concentration of CYP1A was highest in both fish species from Bar. Chemical analysis of sea water did not reveal the presence of PAHs. Increased concentrations of PCBs were observed only in Bar. A species-specific and higher increase in the protein concentration of CYP1A was observed in *Mullus barbatus* compared to *Merluccius merluccius*. The levels of MT were highest in *Merluccius merluccius* from Bar and in *Mullus barbatus* from Valdanos. Induction of MT correlated with elevated concentrations of Pb and Cu, determined by chemical analysis of sea water from Valdanos and Bar, respectively. According to the examined parameters, the Platamuni locality exhibited the lowest level of contamination.