

### **EDA-EMERGE Specialized Course 3:**

### **“Chemical screening, prioritisation of environmental pollutants and data storage in European Databases “**

Venue: Environmental Institute (EI), Kos, Slovak Republic

Organizer: Dr. Jaroslav Slobodnik in cooperation with the European Commission Joint Research Centre

Date: 23.05 to 24.05.2013

Time: 9h00 – 18h30, 9h00 – 17h30

#### **Course Description**

The SC3 was a 2 day EDA-EMERGE training course on chemical screening, prioritisation of environmental pollutants and data storage in European databases.

The course aimed to provide theoretical and practical knowledge on monitoring of European waters in the regulative context of the European Waterframework Directive (WFD). Therefore, the SC3 provided both theoretical background of data processing and management as well as and practical implementation at the example of NORMAN MassBank. During the field trip the participants were introduced in the handling of large volume sampling techniques.

This amounted to a minimum total academic involvement of 15 hours and equivalent to 0.5 ECTS points for the participants.

## AGENDA

Thursday, 23.05.2013		
Time	Title	Lecturer
9:00 - 9:10	Welcome to the participants	Jaroslav Slobodnik
9:10 - 10:00	Monitoring of European waters according to the WFD (incl. 15 min discussion)	Jaroslav Slobodnik (EI)
10:00 - 11:00	Status of European waters and the European Integrated Platform for Chemical Monitoring Data WFD (incl. 15 min discussion)	Bernd Gawlik, (EC JRC IES)
11:00-11:30	<i>Coffee break</i>	
11:30 - 12:30	Prioritisation of emerging substances in the European context	Valeria Dulio, (INERIS)
12:30 - 14:30	<i>Lunch</i>	
14:30 - 15:15	Design of environmental web-based databases and approaches to assess data quality in the databases WFD (incl. 15 min discussion)	Ildiko Ipolyi (EI)
15:30 - 16:00	<i>Coffee break</i>	
16:00 - 16:15	Advanced mass spectral data processing and management using NORMAN MassBank	Tobias Schulze (UFZ)
16:15 - 17:15	Demonstration – filling out NORMAN MassBank with mass spectral data	Tobias Schulze (UFZ)
17:15 - 17:30	Discussion - How to do it within the European Demonstration Programme?	All
	<i>Dividing participants into two groups</i>	
17:30 - 18:30	Hands-on exercise – filling out NORMAN Data Collection Templates with chemical data (30 min)	Marcela Fabianova, Ildiko Ipolyi (EI)
	Hands-on exercise – filling out NORMAN Data Collection Templates with bioassays data (30 min)	Zuzana Rabova (EI)

Thursday, 24.05.2013		
Time	Title	Lecturer
9:00 - 9:15	Wrap up of the Day 1, discussion	All
9:15 - 10:30	Tutorial - prioritisation exercise using NORMAN dataset of emerging substances WFD (incl. 15 min discussion)	Marcela Fabianova, Valeria Dulio
10:30 - 10:45	<i>Coffee break</i>	
10:45 - 11:00	Introduction to large volume sampling techniques to be used within the EDP	Tobias Schulze (UFZ)
11:00 - 13:00	Field trip and hands on exercise – large volume sampling demonstration	Tobias Schulze (UFZ)
European Demonstration Programme		
15:00 - 15:50	Final design of EDP case studies	IRB/NIVA, UFZ/ RWTH, EI/ECETOX, IVM/KWR, INERIS /Eawag
15:50 - 17:30	Standard Operational Procedures to be used within the EDP (incl. 30 min discussion)	IVM, Eawag, NIVA, EI, RWTH, INERIS, UFZ

## COURSE CONTENT

The course consisted of lectures, workshops, practical demonstrations and an excursion, covering the following topics:

- Introduction to the monitoring of European water according to the WFD
  - Legislation and problems
  - Investigative monitoring
    - national surveys
    - European river basins (Joint Danube Survey, Tisa Survey, Danube Survey)
  - Emerging substances (known versus unknown, categorization , priorisation)
- Status of European waters and the European integrated platform for chemical monitoring data
  - Water resources and their regulation
  - Pan-European substance scanning
  - IPCheM – Information platform for chemical monitoring
- Prioritization of emerging substances in the European context
  - Why do we need to prioritise substances?
  - General features of prioritisation schemes
  - The NORMAN prioritisation framework for emerging substances
- Design of environmental web-based databases and approaches to assess data quality in the databases
  - Quality of analytical measurements and legislation
  - Data reporting & substance factsheets of chemical pollutants
- Advanced mass spectral data processing and management using NORMAN MassBank
  - Purposes and short history of NORMAN MassBank
  - Record structure and the record index
  - MassBank - a comprehensive tool for mass spectral clean-up, annotation and MassBank record generation
  - MassBank database management and record upload
- Tutorial on the prioritisation exercise using the NORMAN dataset of merging pollutants
- Exercises in filling out NORMAN data collection templates with chemical data
- Exercises in filling out NORMAN data collection templates with bioassay data
- Introduction to theoretical knowledge on large volume sampling techniques
- Demonstration on the application of large volume sampling at real sampling sites in a field trip.
- Organization of monitoring campaigns on the example of the European Demonstration Programme
  - Final design of the EDP case study
  - Standard Operational Procedures to be used within the EDP