



1st thematic workshop of the EU project NORMAN

CHEMICAL ANALYSIS OF EMERGING POLLUTANTS

November 27-28. 2006, Maó, Menorca (Balearic island) Spain

MONDAY, 27. November 2006

9.00 – 9.30 Registration

9.30 – 9.45 Welcome and Introductions to the workshops objectives
Dania Barcelo, IIQAB-CSIC, Barcelona, Spain

9.45 – 10.00 Elena Domínguez
European Commission DG Research, Brussels, Belgium
The EU's new Research Framework Programme 2007-2013: FP7

Session 1: EU research on emerging contaminants

Chair: D. Barceló

10.00 – 10.30 Valeria Dulio
INERIS, Verneuil-en-Halatte, France
NORMAN - Network of reference laboratories and related organisations for monitoring and bio-monitoring of emerging environmental pollutants

10.30 – 11.00 Johannes Barth
Eberhard Karls Universität Tübingen, Germany
Consideration of persistent and emerging pollutants in the AQUATERRA project

11.00 – 11.30 Poster session/Coffee break

Session 2: Polar Pesticides

Chair: H. Richnow

11.30 – 12.00 Miren Lopez de Alda
CSIC, Barcelona, Spain
Fully automated on-line SPE-LC-MS/MS analysis of polar pesticides in water and its application in different environmental monitoring programs

12.00 – 12.30 Monica Saez
CSIC, Madrid, Spain
New gas-chromatography-based approaches for the monitoring of pesticides

12.30 – 13.00 Marinella Farré
CSIC, Barcelona, Spain
Surface Plasmon Resonance Immunosensor for Environmental Water Samples Análisis

13.00 – 15.00 Lunch

Session 3: Pharmaceuticals

Chair: J. Barth

15.00 – 15.30 Toine Bovee
RIKILT-Institute of Food Safety, Wageningen, The Netherlands
Monitoring and biomonitoring of hormones and drug residues in the food chain: Advanced screening assays and coupling with accurate mass spectrometry.

15.30 – 16.00 Helene Budzinski
University of Bordeaux; CNRS; Talence, France
Pharmaceutical Substances: Emergent Contaminants of the Aquatic Systems

16.00 – 16.30 Meritxell Gros
IIQAB-CSIC, Barcelona, Spain
Liquid Chromatography-Tandem Mass Spectrometry as a Powerful Tool for The Determination of Pharmaceuticals in Environmental Samples

16.30 – 17.00 **Coffee break**

17.00 – 17.30 **John L. Zhou**

Department of Biology and Environmental Science, School of Life Sciences, University of Sussex, UK

Determination of pharmaceutical compounds in water by solid-phase extraction-liquid chromatography-tandem mass spectrometry

17.30 – 18.00 **Tina Kosjek**

Institut Jozef Stefan, Department of Environmental Sciences, Ljubljana, Slovenia

Study of pharmaceutical residues removal in a pilot wastewater treatment plant.

18.00 – 18.30 **Discussion of sessions 2 and 3**

TUESDAY, 28. November 2006

Session 4: Halogenated emerging contaminants

Chair: J. Parsons

9.30 – 10.00 **Guido Vanermen**

Flemish Institute for Technological Research, Mol, Belgium

Brominated flame retardants in industrial effluents: analytical methods and monitoring results.

10.00 – 10.30 **Michael Oehme**

Organic Analytical Chemistry, University of Basel, Switzerland

The never ending story of polychlorinated paraffins: New proposals to overcome the persistent quantification problem.

10.30 – 11.00 **Stefan van Leeuwe**

Institute for Environmental Studies, Vrije Universiteit, Amsterdam

The advances in analysis of perfluorinated organic surfactants (PFCs).

11.00 – 11.30 **Poster session/Coffee break**

Session 5: Other emerging contaminants

Chair: V. Dulio

11.30 – 12.00 Oliver Gans

Department of Hazardous Substances and Metabolites, Austrian Federal Environment Agency, Vienna, Austria

Determination of Selected Organophosphorus Flame Retardants (OPFRs) in Water and Sediment River Samples from Austria

12.00 – 12.30 Teresa Moreno

Earth Sciences Institute, CSIC; Barcelona

Emerging inorganic pollutants in the atmospheric particulate matter.

12.30 – 13.00 Ramadan Abuknesha

King's College London, UK

A new protease-immunoassay tandem assay method for detecting low levels of microbial activity in water samples

13.00 – 15.00 Lunch

Session 6: Degradation and bioavailability of emerging contaminants

Chair: M.J. Lopez de Alda

15.00 – 15.30 Hans - Herrmann Richnow

UFZ-Leipzig, Germany

Compound specific isotope analysis to characterise degradation pathway and to quantify in situ degradation of fuel oxygenates and other fuel derived contaminants

15.30 – 16.00 John Parsons

University of Amsterdam, The Netherlands

Bioavailability of organic contaminants in sediment and soil - emerging insights

16.00 – 16.30 Laura Martín-Díaz

CSIC, Cadiz, Spain

Design and Application of a Set of Analysis of a Battery of Biomarkers as a New Achievement in Dredged Material Characterization and Management

16.30 – 17.00 Discussion of sessions 4, 5 and 6

17.00 End of the workshop

1. HOURLY DETERMINATION OF C₆-C₁₂ ATMOSPHERIC VOCs USING AN AUTOMATIC ON-LINE GC-MS SYSTEM

N. Durana, M. de Blas, M. Navazo, L. Alonso, J.L. Ilardia, J. A. García, G. Gangoiti and J. Iza
Chemical and Environmental Engineering Department, School of Engineering, University of the Basque Country, Alameda de Urquijo s/n, E-48013 Bilbao, Spain

2. MICROWAVE-ASSISTED EXTRACTION AND ULTRASOUND EXTRACTION TO DETERMINE POLYCYCLIC AROMATIC HYDROCARBONS IN NEEDLES AND BARK OF PINUS PINASTER AND PINUS PINEA

Nuno Ratola(1), Sílvia Lacorte(2), Damià Barceló(2), Arminda Alves(1)*
(1)LEPAE, Departamento de Engenharia Química, Faculdade de Engenharia da Universidade do Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
(2) Department of Environmental Chemistry, IIQAB-CSIC, c/ Jordi Girona, 18-26, 08034 Barcelona, Catalonia, Spain

3. AN AUTOMATED TECHNIQUE FOR THE CONTINUOUS MONITORING OF ORGANIC MATERIAL CONCENTRATIONS AND TOTAL TOXICITY IN WATER SAMPLES: REAL WORLD APPLICATIONS OF THE BOD-TOXICITY MICROBIAL BIOSENSOR.

T. Díez-Caballero Arnau, Enric Poch, M^aJesús Aracil¹, Sergio Montoro.
Biosensores, S. L. Avenida Ausias March 1, Moncofar (Castellón) 12593, Spain

4. IMPROVEMENTS IN DETERMINATION OF LEAD IN ROUMANIAN WINES BY ELECTROTHERMAL ATOMIC ABSORPTION SPECTROMETRY

Mihaela Artimon, Daniela Bălan, Gabriela Luță, Maria Pele*
(^o)University of Agronomic Sciences and Veterinary Medicine, Faculty of Biotechnologies, Marasti 59, Bucharest, Romania

5. DEVELOPMENT, CALIBRATION AND FIELD VALIDATION OF PASSIVE SAMPLING DEVICES FOR MONITORING EMERGING CONTAMINANTS IN AQUATIC ENVIRONMENTS

Branislav Vrana and Katarína Šilhárová, Water Research Institute, National Water Reference Laboratory for Slovakia, Nabr. arm. gen. L. Svobodu 7, 81249 Bratislava, Slovakia

6. SIMULTANEOUS DETERMINATION OF THREE NITROIMIDAZOLES AND THEIR METABOLITES IN EGGS BY PRESSURIZED FLUID EXTRACTION (PFE) AND LIQUID CHROMATOGRAPHY- TANDEM MASS SPECTROMETRY

Nuria León^a, Vicent Yusà^a, Olga Pardo^a and Agustín Pastor^{b*}
^aPublic Health Laboratory of Valencia, Conselleria de Sanitat, Camí de la Marjal, s/n 46470 Albal, Valencia, Spain
^bAnalytical Chemistry Department, University of Valencia, Spain

7. USING DECISION TREE ANALYSIS AND GIS IN MODELLING (SEMI)VOC EMISSIONS AT THE EUROPEAN SCALE

Patrik Fauser¹, Alberto Pistocchi²
¹National Environmental Research Institute, Department of Policy Analysis, Roskilde, Denmark,
²European Commission, DG Joint Research Centre, Ispra (VA) Italy

8.

STUDIES OF LARGE ORGANO - METALLIC POLLUANTS USING ELECTRON SPECTROSCOPY

Al-Taiar A.H., Bentyeb K.

Department of Chemistry, Faculty of Science, University of Science and Technology, P.O.B. 29031 U.S.T.O., Oran 31036.

9.

APPLICATION OF HPLC AND ELISA METHODS FOR MONITORING OF SELECTED EMERGING POLLUTANTS IN SLOVAKIAN SURFACE WATERS

Zoltán Krascšenits and Mikuláš Bartal, Water Research Institute, National Water Reference Laboratory for Slovakia, Nabr. arm. gen. L. Svobodu 7, 81249 Bratislava, Slovakia

10.

RESPONSE SURFACE METHODOLOGY FOR THE MICROWAVE ASSISTED EXTRACTION OF INSECTICIDES FROM SOIL SAMPLES

M.C. Hernández-Soriano, A. Peña, M.D. Mingorance

Estación Experimental del Zaidín (CSIC), c/ Profesor Albareda, 1. E-18008 Granada (Spain)

11.

EVALUATION OF PESTICIDES POLLUTION IN THE IRRIGATION AND DRAINAGE CHANNELS OF THE EBRO RIVER DELTA DURING THE GROWING SEASON OF RICE USING CHEMOMETRIC AND GEOSTATISTICAL METHODS

Marta Terrado¹, Marina Kuster¹, Demetrio Raldúa², Miren Lopez de Alda¹, Damià Barceló¹ and Romà Tauler^{1*}

¹ Department of Environmental Chemistry, IIQAB-CSIC, Jordi Girona 18-26, Barcelona 08034, Spain

² Laboratory of Environmental Toxicology, UPC, CN 150 Km 14.5, Terrassa 08220, Spain

12.

SYNERGISTIC AND ANTAGONISTIC EFFECTS OF C_{ORG} AND NO₃⁻ IN DENITRIFICATION ACTIVITY FROM A WETLAND SOIL IN THE BASQUE COUNTRY

B. Muñoz¹, Antigüedad² I. and E. Ruiz¹

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(2) Hydrogeology Group. University of the Basque Country. 48940 Leioa, Bizkaia. Basque Country (Spain)

13.

EC FP6 COORDINATION ACTION (CA) ON RISK-BASED MANAGEMENT OF THE WATER-SEDIMENT-SOIL SYSTEM AT THE RIVER BASIN SCALE (RISKBASE)

Jos Brils¹, Thomas Track², Philippe Negrel³, Werner Brack⁴, Dietmar Müller⁵, Damia Barcelo⁶, M.Silvia Diaz-Cruz⁶, Winfried Blum⁷, Wim Salomons⁸, Joop Vegter⁹, Vala Ragnarsdottir¹⁰ & Cathy Eccles¹¹

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⁷Universität für Bodenkultur, Peter Jordan Str. 82, 1190, Vienna, Austria (contractor)

⁸IVM, De Boelelaan 1087, 1081 HV Amsterdam, The Netherlands (contractor)

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¹⁰University of Bristol, Queens Road, BS8 1RJ, Bristol, UK (contractor)

¹¹EC DG Research, CDMA 03/155, B-1049, Brussels, Belgium (scientific officer)

14.

TOXICITY ASSESSMENT OF FLUORINATED ALKYL COMPOUNDS USING *Vibrio fischeri*

Elena Martínez¹, Marinella Farré¹, Asunción Navarro¹, Marta Villagrasa¹, Fernando Rubio², Damià Barceló¹

¹Environmental Chemistry Department, IIQAB-CSIC

²ABRAXIS LLC, PA, 18974

15.

EXAMINATIONS OF PHYSICAL AND CHEMICAL PROPERTIES OF SEDIMENTS TOWARDS ADSORPTION OF SELECTED ANTIPHLOGISTIC DRUGS

Katarzyna Styszko-Grochowiak¹, Andrew Parker², Janusz Golas^{1*}, Artur Strzelecki¹, Agnieszka Iwanicha¹, Jerzy Gorecki¹

¹ Department of Environmental Sciences, AGH University of Science and Technology, 30-059 Krakow, Poland

² Department of Soil Science, The University of Reading, Whiteknights, PO Box 227, Reading RG6 6AB, UK

16.

ENVIRONMENTAL ANALYSIS OF FLUORINATED ALKYL SUBSTANCES BY LIQUID CHROMATOGRAPHY-(TANDEM) MASS SPECTROMETRY. A REVIEW.

Marta Villagrasa, Maria López de Alda, Damià Barceló

Department of Environmental Chemistry, IIQAB-CSIC, Jordi Girona 18-26, 08034 Barcelona, Spain

17.

DESIGN AND PERSPECTIVES OF THE USE OF A BATTERY OF BIOMARKERS FOR THE ADVERSE EFFECT ASSESSMENT OF NEW EMERGING POLLUTANTS: PHARMACEUTICALS AND PERSONAL CARE PRODUCTS (PPCPS)

Martín-Díaz, M.L.^{1,2}, DelValls, T.A² Gagné F.³, Blaise C.³

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³St. Lawrence Centre, Environment Canada, 105 McGill St., Montreal, Qc., Canada H2Y 2E7

18.

TENAX EXTRACTION AS A TOOL TO EVALUATE THE AVAILABILITY OF EMERGING CONTAMINANTS IN SEDIMENTS.

De la Cal, A.1; Van den Berg, H.3; Eljarrat, E.1; Grotenhuis, J.T.C.2; Murk, A.J.3; and Barceló, D.1

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19.

SPE STRATEGIES AS APPLIED TO THE EXTRACTION OF SULPHONAMIDE ANTIMICROBIALS FROM DIFFERENT WATER SAMPLES.

M.J. García Galán, M.S. Díaz-Cruz, D. Barceló

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20.

APPLICATION OF A NEWLY DEVELOPED, HIGHLY SENSITIVE METHOD, BASED ON PRESSURIZED LIQUID EXTRACTION AND ANALYSIS BY LIQUID CHROMATOGRAPHY-ELECTROSPRAY-TANDEM MASS TO THE ANALYSIS OF TWENTY-TWO MEDIUM TO POLAR PESTICIDES IN SEDIMENTS OF THE LLOBREGAT RIVER BASIN

Maria Hosana Conceição, Marta Villagrasa, Maria José López de Alda, Damià Barceló

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08034 Barcelona, Spain

21.

LC-MS- ION TRAP DETERMINATION OF NATURAL AND SYNTHETIC ESTROGENS IN DRINKING WATER

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