12th ANNUAL
LC/MS/MS WORKSHOP ON ENVIRONMENTAL APPLICATIONS AND FOOD SAFETY

5-6 July 2016, Barcelona, Spain

FINAL PROGRAMME

Gold Sponsor:
Waters Corporation

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Venue: Institut d’Estudis Catalans; Carrer del Carme 47, Barcelona

Tuesday, 5th July 2016

8.30 – 9.15 Registration

9.15 – 9.30 Welcome and Introduction

Joan Antoni Solans, President of the Science and Technology Section, Institut d’Estudis Catalans, Barcelona, Spain
Damià Barceló, IDAEA-CSIC, Barcelona and ICRA, Girona, Spain

9.30 – 10.00 Keynote speaker:
Jorge Gardea-Torresdey, The University of Texas at El Paso, USA
Environmental implications of nanomaterials in the environment. Effects of nanoceria on Common bean: An spectroscopic and proteomic analysis

Session 1: Advanced methodologies and novel strategies in environmental analysis

Chair: Mehran Alaei

10.00 – 10.30 Achille Cappiello, Università degli Studi di Urbino, Italy
New strategies to enhance performance and stability in liquid chromatography-electron ionization mass spectrometry for environmental applications

10.30 – 11.00 Xiangru Zhang, Hong Kong University of Science & Technology, Hong Kong, China
A novel method for characterizing polar halogenated disinfection byproducts using LC/MS/MS precursor ion scan

11.00 – 11.30 Poster session/Coffee break

Session 1: continuation

Chair: Nikolaos S. Thomaidis

11.30 – 12.00 Serge Chiron, Université Montpellier, Montpellier, France
Enantiomeric fractionation as a tool for quantitative assessment of biodegradation: The case of metoprolol and climbazole

12.00 – 12.30 Eric Van Beelen, Waters Corporation, Strategic Technologies Development Manager Europe & India
Enhancing contaminant screening with MS using the power of ion mobility and routine CCS measurement

12.30 – 13.00 Diana S. Aga, Chemistry Department, University at Buffalo, Buffalo, NY, USA
The unobvious ways to optimize methods for LC/MS/MS analysis of pharmaceuticals in environmental samples
13.00 – 13.20 STUDENT PRESENTATION: Randolph Singh, The State University of New York at Buffalo, Buffalo NY, USA
Strategies for the Multi-class LC-MS/MS Analysis of Antimicrobials and Pharmaceuticals in Surface and Waste Water towards Understanding Different Wastewater Treatment Processes on a Global Scale

13.20 – 13.40 STUDENT PRESENTATION: Lucia Gusmaroli, Catalan Institute for Water Research (ICRA), Girona, Spain
Development of an online SPE-UPLC-MS/MS method for the multiresidue analysis of the WFD “Watch list” compounds

13.40 – 15.00 Lunch

Session 2: Advanced methodologies for food analysis, analysis of biological samples and biota

Chair: Yolanda Picó

15.00 – 15.30 Maria Jose Gonzalez, General Organic Chemistry Institute (CSIC), Madrid, Spain
Human exposure to plasticizers. The case of phthalates and their metabolites.

15.30 – 16.00 Marinella Farré, IDAEA-CSIC, Barcelona, Spain
High-resolution mass spectrometry applied to the study of metabolome modifications in filter-feeding organisms after nanomaterials and microplastics administration through the diet

16.00 – 16.20 Encarnacion Moyano, Department of Analytical Chemistry. University of Barcelona, Spain
Direct analysis by Mass Spectrometry: analysis of organic compounds in complex samples

16.20 – 16.50 Eric Van Beelen, Waters Corporation, Strategic Technologies Development Manager Europe & India
Facile identification of potential pesticide violations using non targeted data acquisition in combination with an integrated scientific information system

16.50 – 17.10 STUDENT PRESENTATION: Kahina Slimani, French Agency for Food, Environmental and Occupational Health & Safety, Fougères Laboratory, France
A quantitative determination method for the analysis of quaternary ammonium compounds residues in dairy products by HPLC-MS/MS

17.10 – 17.30 Poster session/Coffee break
Session 2. Continuation

Chair: Achille Cappiello

17.30 – 18.00 Amadeo Rodríguez Fernández-Alba, University of Almeria, Almeria, Spain
Evaluation of LC-High Resolution Mass Spectrometry for Pesticide Residue in Routine Analysis. Method Validation and Quality Control Parameters

18.00 – 18.30 Yolanda Pico, Faculty of Pharmacy, University of Valencia, Spain
High resolution mass spectrometry as a tool for characterization of polyphenols in olive oil and other foods

18.30 – 18.50 Ashley Sage, SCIEX Darmstadt, Germany
Target and Unknown Screening of Food Samples using High Resolution LC-MS/MS

18.50 – 19.10 STUDENT PRESENTATION: Monica Giulivo, Università Cattolica del Sacro Cuore di Piacenza, Italy
New analytical method for organophosphorus flame retardant determination in biota matrices using on-line turbulent flow chromatography-liquid chromatography coupled to tandem mass spectrometry

21.00 Dinner

WEDNESDAY, 6th July 2016

Session 3: High resolution MS for non-target analysis of environmental samples. Integrated target and non-target strategies

Chair: Xiangru Zhang

9.00 – 9.30 Heinz Singer, Eawag, Dübendorf, Switzerland
Locating point and diffuse sources in the aquatic environment by time series acquisition using LC-HRMS data’

9.30 – 10.00 Imma Ferrer, University of Colorado, Boulder, USA
Analyses and characterization of hydraulic fracturing waters by LC-QTOF-MS

10.00 – 10.30 Sandra Perez, IDAEA-CSIC, Barcelona, Spain
Suspect screening and non target analysis of organic contaminants and their metabolites in fish with LC-HRMS

10.30 – 10.50 Jaume C. Morales, Agilent Technologies, Barcelona, Spain
Identification of emerging contaminants in the environment by LC/Q-TOF MS using suspect and non-target screening workflows combined with commercial and open-source MS/MS libraries
10.50 – 11.30  Poster session/Coffee break

Session 3. continuation

Chair: Imma Ferrer

11.30 – 12.00 Nikolaos S. Thomaidis, Department of Chemistry, University of Athens Greece
Integrated target and non-target LC-HRMS strategies to characterize polar contaminants in the aquatic environment

12.00 – 12.20 Frans Schoutsen, Thermo Fisher Scientific Breda, The Netherlands
Overview of Applications with LC and Ion Chromatography coupled to LCMS and HRAMS

12.20 – 12.40 Ashley Sage, SCIEX Darmstadt, Germany
Screening and Quantitation of Targeted and Non-targeted Environmental Pollutants in Water Samples

12.40 – 13.00 STUDENT PRESENTATION: Yaroslav Verkh, Catalan Institute for Water Research (ICRA), Girona, Spain
Characterization of dissolved organic matter in wastewater using statistical non-target analysis of liquid chromatography-high resolution mass spectrometry (LC-HRMS) data

13.00 – 13.30 Keynote speaker:
Rolf U. Halden, Biodesign Center for Environmental Security, Biodesign Institute, Arizona State University, Tempe, Arizona, USA
Urban Metabolism and Population Metrology
Informed by Tandem Mass Spectrometry and Mass Balance Analyses

13.20 – 15.00 Lunch

Session 4  Novel applications in environmental analysis and food safety

Chair: Amadeo Fernandez-Alba

15.00 – 15.30 Mehran Alaei, National Water Research Institute, Burlington, Canada
A rapid and robust method for determination of 35 phthalates in influent, effluents and biosolids in wastewater treatment plants

15.30 – 15.50 Marta Llorca, IDAEA-CSIC, Barcelona, Spain
Assessment of perfluoroalkyl substances in microparticles from the deep Western Mediterranean Sea
15.50 – 16.10 STUDENT PRESENTATION: Gemma Casas, IDAEA-CSIC, Barcelona, Spain
Analysis of perfluoroalkyl substances in water, sediment and fish samples from Ebro Delta

16.10 – 16.30 STUDENT PRESENTATION: Deena M. Butryn, University at Buffalo, Department of Chemistry, Buffalo, New York, USA
Global Scale Analysis of Antimicrobials in Waste Water Treatment Plant Effluents

16.30 – 16.50 STUDENT PRESENTATION: Javier Jimenez-Villarin, Hidroquimia adn University of Barcelona, Spain
Detoxificating or toxificating? Case study of ofloxacin photocatalysis assessed with the toxicity evaluation by Vibrio fischeri and three human cell lines.

16.50 – 17.30 Poster session/Coffee break

Session 4: continuation
Chair: Diana Aga

17.30 – 17.50 Josep Sanchís, IDAEA-CSIC, Barcelona, Spain
Degradation kinetics of C60 fullerene aggregates suspended and aged under realistic environmental conditions

17.50 – 18.10 Abjean Jean-Pierre, Anses Fougères Laboratory, Residues and Contaminants Analysis Unit Fougères France.
LC-MS/MS determination of residues of biocidal disinfectants products on Food contact materials. Effect of food simulating agents on the persistence of residues on the surface

18.10 – 18.30 STUDENT PRESENTATION: Nicola Montemurro, Dept. of Agricultural and Environmental Science - University of Bari, Italy
Uptake of pharmaceuticals by crops grown under greenhouse conditions

18.30– 19.00 Closing ceremony (best poster and best student presentation award)
1. Optimized extraction of fullerenes from mussel tissues.
MP. Casali-Pereira1,2,*, MN. Marques1,3,*, J Sanchís1, M Farré1,†, D Barceló1,4
1. Water and Soil Quality Research Group, Institute of Environmental Assessment and Water
Research, Barcelona, Catalonia, Spain
2. NEEA/CRHEA/SHS, São Carlos Engineering School, University of São Paulo, São Carlos, São
Paulo, Brazil
3. Universidade Tiradentes and Instituto de Pesquisa e Tecnologia. Aracaju, Sergipe, Brazil
4. Catalan Institute of Water Research (ICRA), Girona, Catalonia, Spain

2. Personal care products (PCPs) active ingredients contamination in a Douro River tributary
M. Vilaa, M. Llomparta, M. F. Alpenduradaabc
aDepartment of Analytical Chemistry, Nutrition and Food Science, Faculty of Chemistry, Campus
Vida, University of Santiago de Compostela, E-15782 Santiago de Compostela, bIAREN - Water
Institute of the Northern Region, Rua Dr. Eduardo Torres, 229/4450-113 Matosinhos, Portugal;
cLaboratory of Hydrology, Faculty of Pharmacy, University of Porto, Rua Aníbal Cunha, 164/4050-
047 Porto, Portugal.

3. Comparison of methanol and acetonitrile as solvents in QuEChERS and sonication+SPE
extraction methods in determination of pharmaceutical in fish tissue.
Peña Herrera J.M.*, Aceña J., Pérez S., Barceló D.
Dept. of Environmental Chemistry, Institute of Environmental Assessment and Water Research
(IDAEA), Spanish Council of Scientific Research, (CSIC), Barcelona, Spain

4. Target and non-target screening of metoprolol and metoprolol acid during fungal treatment
by liquid chromatography coupled to high resolution mass spectrometry
Adrián Jaén-Gil1, Francesc Castellet-Rovira2, Marta Llorca1,3, Sara Rodríguez-Mozaz1, Montserrat
Sarrà2, Damià Barceló1,3
1Catalan Institute for Water Research, Scientific and Technological Park of the University of Girona,
C/ Emili Grahit 101, E-17003, Girona (Spain).
2Department of Chemical, Biological and Environmental Engineering, Escola d’Enginyeria,
Universitat Autònoma de Barcelona, Bellaterra, 08193, Barcelona (Spain).
3Department of Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18-26, 08034 Barcelona
(Spain).

5. Identification and quantification of glyphosate and its byproducts by LC-MS.
Nayara Silva Lima Bezerra1*, Isabella Ferreira Nascimento Maynard2, Maria Nogueira
Marques3†, Eliane Bezerra Cavalcanti4
Universidade Tiradentes, Avenida Murilo Dantas, n°300, Farolândia, Aracaju, SE, Brazil

6. Detection of cannabinoids by liquid chromatography-mass spectrometry in milk and meat to
ensure food safety.
María Jesús Andrés-Costa(1)*, Úrsula Escrivá(1), Vicente Andreu(2), Yolanda Picó(1)
7. **Solvent extractants combination for dispersive liquid-liquid microextraction of fungicides from fruits by liquid chromatography with tandem mass spectrometry**
Pilar Viñasa, Marta Pastor-Belda, Natalia Campillo, Isabel Garrido, Pilar Hellín, Pilar Flores, José Fenoll
Department of Analytical Chemistry, Faculty of Chemistry, Regional Campus of International Excellence "Campus Mare Nostrum", University of Murcia, E-30100 Murcia, Spain bEquipo de Calidad Alimentaria. Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario (IMIDA). C/ Mayor s/n. La Alberca, 30150 Murcia. Spain

8. **Dispersive liquid-liquid microextraction for the determination of synthetic phosphodiesterase-5 inhibitors in water and urine samples by liquid chromatography with tandem mass spectrometry**
Pilar Viñasa, Javier Marín, Natalia Campillo, Manuel Hernández-Córdoba, Isabel Garrido, José Fenoll
Department of Analytical Chemistry, Faculty of Chemistry, Regional Campus of International Excellence "Campus Mare Nostrum", University of Murcia, E-30100 Murcia, Spain bEquipo de Calidad Alimentaria. Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario (IMIDA). C/ Mayor s/n. La Alberca, 30150 Murcia. Spain

9. **Development of analytical methodologies based in HPLC-HRMS for the determination of lipophilic and hydrophilic marine bioxins in seawater**
Cristina Bosch-Orea, Josep Sanchís, Marinella Farré, Damià Barceló
1Water and Soil Quality Research Group, Dep. Of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
2Catalan Institute for Water Research (ICRA), H2O Building, Girona, Spain

10. **Analysis of ethyl sulfate in wastewater – a tool to trace alcohol consumption at the community level**
Ester López-García, Nicola Mastroianni, Cristina Postigo, Miren López de Alda, Damià Barceló
1Water and Soil Quality Research Group, Department of Environmental Chemistry, Institute of Environmental Assessment and Water Research (IDAEP-CSIC), Jordi Girona 18-26, 08034, Barcelona, Spain.
2Catalan Institute for Water Research (ICRA), Parc Científic i Tecnològic de la Universitat de Girona, Edifici H2O, Emili Grahit 101, 17003 Girona, Spain.

11. **Automated LC-MS analysis of sunscreen residues in salty waters**
Maria Pau Serra-Roig, Daniel Molins-Delgado, Damià Barceló, M. Silvia Díaz-Cruz

12. **Study of ultrafiltration removal efficiency for nonsteroidal anti-inflammatory drugs applying liquid chromatography tandem mass spectrometry**
Carlos Carbonell-Alcaina, María-Isabel Ibora-Clar, María-Isabel Alcaina-Miranda, Jorge García-Ivars, Barredo-Damas, Sergio, Yolanda Pico-García
(a)Research Institute for Industrial, Radiophysical and Environmental Safety (ISIRYM), Universitat Politècnica de València, C/ Camino de Vera s/n, 46022 Valencia, Spain,
13. Benefits of LCxLC-HRMS for the reduction of matrix effects for the analysis of pesticides in complex environmental matrices
Christelle Margoum\textsuperscript{1}, Morgan Sarrut\textsuperscript{2}, Céline Guillemain\textsuperscript{1}, Florent Rouvière\textsuperscript{2}, Philippe Bados\textsuperscript{1}, Sabine Heinisch\textsuperscript{2}
\textsuperscript{1}Irstea, Freshwater systems, ecology and pollution research unit, 5 rue de la Doua, F-69100 Villeurbanne cedex, France
\textsuperscript{2}Université de Lyon, Institut des Sciences Analytiques, UMR 5280, CNRS, Université Lyon 1, ENS Lyon - 5, rue de la Doua, F-69100 Villeurbanne, France

14. Application of LC-MS to the analysis of photolytic and photocatalytic degradation of febantel
M. Ćizmić, S. Babić, I. Škorić, D. Ljubas, B. Žonja, L. S. Perez, Ćurković, M. Petrović
\textsuperscript{a} Department of Analytical Chemistry, Faculty of Chemical Engineering and Technology, University of Zagreb, Croatia
\textsuperscript{b} Department of Energy, Power Engineering and Environment, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Croatia
\textsuperscript{c} Department of Materials, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Croatia
\textsuperscript{d} Catalan Institute for water research (ICRA); Girona, Spain
\textsuperscript{e} IDAEA-CSIC, Barcelona, Spain

15. HRMS-based detection of wastewater-borne pharmaceuticals and their phototransformation products identified in batch experiments and in European river water samples using suspect screening
Michael Hannemann\textsuperscript{1}, Sandra Perez\textsuperscript{1}, Damià Barceló\textsuperscript{1}
\textsuperscript{1}Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18-26, 08034 Barcelona, Spain

16. MALDI-TOF MS Imaging study of changes occurred in the surface of solid polycaprolactone diol exposed to different aquatic environments
Daniel Rivas\textsuperscript{1}, Antoni Ginebreda\textsuperscript{1, 3}, Sandra Pérez\textsuperscript{1}, Bozo Zonja\textsuperscript{1}, Carmen Quero\textsuperscript{2}, Damià Barceló\textsuperscript{1, 3}
\textsuperscript{1}IDAEA-CSIC, Institute of Environmental Assessment and Water Research, C/Jordi Girona, 18-26, 08034 Barcelona, Spain
\textsuperscript{2}IQAC-CSIC, Institute of Advanced Chemistry of Catalonia, C/Jordi Girona, 18-26, 08034 Barcelona, Spain
\textsuperscript{3}ICRA, Catalan Institute for Water Research, Scientific and Technologic Park of the UdG, Emili Grahit, 101-17003 Girona, Spain.

17. Development and validation of an analytical method for the determination of Pyrethrins and Pyrethroids in fruit samples by LC-ESI-MS/MS
Alexander Ccancapa, Ana Masía, Yolanda Picó
Food and Environmental Safety Research Group (SAMA-UV), Centro de Investigaciones sobre Desertificación (CIDE, UV-GV-CSIC), Facultat de Farmàcia, Universitat de València, Av. Vicent Andrés Estellés s/n, 46100 Burjassot, Valencia, Spain.
18. Assessment of the distribution and impact of pesticides along the Ebro River Basin
Alexander Canccapa1, Ana Masiá1, A. Navarro-Ortega2, Yolanda Picó1, Damià Barceló2,3
1Food and Environmental Safety Research Group (SAMA-UV), Facultat de Farmàcia, Universitat
de València, Av. Vicent Andrés Estellès s/n, 46100 Burjassot, Valencia, Spain.
2Water and Soil Quality Research Group, Dep. of Environmental Chemistry, IDAEA-CSIC, Jordi
Girona 18-26, 08034 Barcelona, Spain.

19. HPLC-MS/MS sample preparation for quantification of praziquantel residue in an uncommon
biological matrix: the edible snail Cornu aspersum
Laia Gállego and Mercedes Gracena
Laboratory of Parasitology, Department of Health Microbiology and Parasitology, Faculty of
Pharmacy, University of Barcelona, Av. Joan XXIII s/n, 08028 Barcelona, Spain.

20. Universal method to determine PPCP’s in waters by liquid chromatography coupled to
different mass spectrometry approach
Eric Carmona1*, María Jesús Andrés1, Yolanda Picó1
1Environmental and Food Safety Research Group (SAMA-UV), Desertification Research Centre CIDE (CSIC-UV-GV), Faculty of Pharmacy,
University of Valencia, Av. Vicent Andrés Estellès s/n, Burjassot, 46100 Valencia, Spain.

21. Characterization of polyphenolic compounds in Red Chicory (Cichorium intybus) varieties
from southern Po Delta area.
Nicola Marchetti, Caterina Bergantin, Annalisa Maietti, Paola Tedeschi, Vincenzo Brandolini, Luisa
Pasti and Alberto Cavazzini
Department of Chemistry and Pharmaceutical Sciences, University of Ferrara, Italy

22. Fast multi-residue method for the determination of antibiotics and some of their metabolites
in fish and bivalves and its application to seafood samples
Albert Serra-Compte1, Diana Álvarez-Muñoz1, Sara Rodríguez-Mozaz1, Damià Barceló1,2
1Catalan Institute for Water Research (ICRA), Girona, Spain
2Department of Environmental Chemistry (IDEA-CSIC), Barcelona, Spain

23. Study of the degradability of drug glucuronides in mixed liquor from WWTPs using LC-
HRMS
Manuel Garcia-Vara1, Bozo Zonja1, Peter Eichhorn1, Sandra Pérez1, Damià Barceló1
1Water and Soil Quality Research Group, IDAEA-CSIC, c/ JordiGirona, 18-26, 08034 Barcelona,
Spain

24. Fast and high throughput analysis of legal and illegal psychoactive drugs in breast and
bovine milk.
Cristina Postigo1, Nicola Mastroianni1, Miren López de Alda1, Yolanda Valcarcel2,3, Sara Esteban
Garcia-Navas1, Damià Barceló1,4
1Water and Soil Quality Research Group, Department of Environmental Chemistry, Institute of
Environmental Assessment and Water Research (IDAEA-CSIC), Barcelona, Spain.
2Research and Teaching Group in Environmental Toxicology and Risk Assessment, Rey Juan
Carlos University, Avda. Tulipán, Madrid, Spain
3Department of Medicine and Surgery, Psychology, Preventive Medicine and Public Health,
Immunology and Medical Microbiology, Faculty of Health Sciences, Rey Juan Carlos University,
25. LC-MS/MS analysis of highly polar, low volatile and low molecular weight disinfection by-products in water.
Anna Mir¹, Cristina Postigo¹, Damià Barceló¹,²
¹ Water and Soil Quality Research Group, Department of Environmental Chemistry, Institute of Environmental Assessment and Water Research (IDAEA-CSIC), Jordi Girona 18-26, 08034, Barcelona, Spain.
² Catalan Institute for Water Research (ICRA), Parc Científic i Tecnològic de la Universitat de Girona, Edifici H2O, Emili Grahit 101, 17003 Girona, Spain.

26. Researching the presence of environmental contaminants, endocrine disruptors and pharmaceuticals, in farmed seafood
D. Álvarez-Muñoz¹, N. Cáceres¹, S. Rodríguez-Mozaz¹, D. Barceló¹,²
¹ Catalan Institute for Water Research (ICRA), Spain.
² Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-CSIC, Spain.

27. Multi-Compound and Multi-Class Identification and Quantification using High Resolution LC-MS/MS
Ashley Sage², André Schreiber¹, Jianru Stahl-Zeng², Michael Deng¹, Vanaja Raguvaran¹
¹ SCIEX 71 Four Valley Drive, Concord, ON, Canada;
² SCIEX Darmstadt, Germany

28. Automated Derivatization, SPE Cleanup and LC-MS/MS Determination of Glyphosate and Others Polar Pesticides
Ashley Sage¹, Jianru Stahl-Zeng¹, André Schreiber² and Oscar Cabrilles³
¹ SCIEX, Darmstadt, Germany
² SCIEX, Concord ON, Canada;
³ GERSTEL, Linthicum, MD, USA

29. Pharmaceuticals in source separated blackwater: occurrence and removal during liquid composting followed by ammonia treatment
Meritxell Gros¹, Alina Koch¹, Lotta Levén², Sahar Dalahmeh³, Emelie Ljung², Göran Lundin⁴, Håkan Jönsson³, David Eveborn², Lutz Ahrens¹ and Karin Wiberg¹
¹ Dept. of Aquatic Sciences and Assessment, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden
² Swedish Institute of Agricultural and Environmental Engineering (JTI), Uppsala, Sweden
³ Dept. of Energy and Technology, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden
⁴ SP Process Development, Technical Research Institute of Sweden, Södertälje, Sweden

30. Qualitative and quantitative determination of pharmaceuticals in avian scavengers
Jens Dreschmann¹, Sandra Pérez¹, Guillermo Blanco², Ethel Eljarrat¹, Damià Barceló¹
¹ Department of Environmental Chemistry (IDAEA-CSIC), Barcelona (Spain).
² Department of Evolutionary Ecology, Museo Nacional de Ciencias Naturales (CSIC), Madrid (Spain).
31. Comprehensive Screening of an Environmental Water Sample with a High Resolution Mass Spectrometer Coupled with Ion Mobility and an Integrated Scientific Information System
Eric Van Beelen¹, L Mullin², G Cleland² and J Burgess²
Waters Corporation, France  2.Waters Corporation, USA

32. Analysis of microplastics by LC-QExactive Orbitrap and assessment of their adsorption capacity for organic contaminants
Gabriella Schirinzi¹, Marta Llorca¹, Marinella Farré¹, * and Damià Barceló¹,²
¹Institute of Environmental Assessment and Water Research (IDAEA-CSIC), Barcelona, (Catalonia, Spain)
²Catalan Institute for Water Research (ICRA), Girona (Catalonia, Spain).

33. Analytical method for determination of EDCs and related compounds in river water samples using the automated online EQuan liquid chromatography switching system coupled to mass spectrometry
Mira Ćelić¹, Sara Insa¹, Biljana Škrbić², Mira Petrović¹,³
¹Institut Català de Recerca de l’Aigua, Girona, Spain
²Laboratory for Chemical Contaminants and Sustainable Development, Faculty of Technology, Novi Sad, the Republic of Serbia
³Catalan Institution for Research and Advanced Studies (ICREA), Barcelona, Spain

34. A Single LC-MS/MS Method for Confirmation and Quantification of over 400 Pesticides in Complex Matrix without Compromising Data Quality
Dimple Shah¹, Gareth Cleland¹
¹Waters Corporation, Milford, MA, USA

35. Simple and effective cleanup for uplc-ms/ms determination of veterinary drug residues in egg
Kim Van Tran¹, Sujie Xia², Michael S. Young¹ and Jeremy C Shia¹
¹Waters Corporation, 5 Tech Drive; Milford, MA  01757, USA; spain@waters.com
²Shanghai Institute for Food and Drug Control, 1500 Zhangheng Rd., Shanghai, China 201203

36. Accessible and efficient screening of multiclass contaminants in food
Eimear McCall,1 Gareth Cleland,2 and Joe Romano2
1Waters Corporation, Stamford Ave, Altrincham Road, Wilmslow, SK9 4AX, UK
2Waters Corporation, 34 Maple Street; Milford, MA 01757, USA; spain@waters.com