Organized by:
Consejo Superior de Investigaciones Científicas, Barcelona, Spain
Catalan Institute for Water Research (ICRA), Girona, Spain
Institut d’Estudis Catalans, Barcelona, Spain

10th ANNUAL
LC/MS/MS WORKSHOP ON ENVIRONMENTAL APPLICATIONS AND FOOD SAFETY

1-3 July 2014, Barcelona, Spain

FINAL PROGRAMME

Gold Sponsors:
Waters Corporation
Thermo Scientific
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Bronze Sponsor:
Bruker
Venue: Institut d’Estudis Catalans; Carrer del Carme 47, Barcelona

Tuesday, 1st July 2014

8.30 – 9.00 Registration

9.00 – 9.15 Welcome and Introduction

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

9.15 – 9.30 SEEM Award
Damià Barceló, IDAEA-CSIC, Barcelona and ICRA, Girona, Spain

Session 1: LC-MS-MS in environmental analysis: Analytical challenges and new trends

Chair: Damià Barceló

9.30 – 10.00 MS tools for characterization of natural products used for agricultural phytosanitary treatments
Maria Teresa Galceran, University of Barcelona, Spain

10.00 – 10.30 Narrow detection of accidental spills for comprehensive river monitoring: challenges, strategies and case studies
Matthias Ruff, Eawag, Duebendorf, Switzerland

10.30 – 11.00 Combination of high-resolution tandem mass spectrometry with bioanalytical separations for non-targeted and effect-directed analysis of emerging contaminants in the aquatic environment
Lee P. Ferguson, Duke University, Durham, USA

11.00 – 11.30 Poster session/Coffee break

Chair: Frank Dorman

11.30 – 12.00 Semi-targeted detection of pharmaceuticals and illicit drugs in the aqueous environment using solid phase extraction, liquid chromatography-high resolution mass spectrometry and in silico data-mining tools
Leon Barron, King’s College London, London, UK

12.00 – 12.30 Analysis of Hydroxylated Metabolites of Polybrominated Diphenyl Ethers in Human Milk, Serum, and Liver Microsomes by Ultra-Performance Convergence Chromatography Combined with a Quadrupole Time-of-Flight Mass Spectrometry
Diana Aga, University of Buffalo, USA

12.30 – 13.00 Methodological challenges in the analysis of pharmaceuticals in environmental samples
Mira Petrovic, ICRA – Catalan Institute for Water Research, Girona, Spain
13.00 – 13.30  Wastewater-based epidemiology: The analysis of human biomarkers in sewage  
Kevin Thomas, NIVA, Oslo, Norway

13.30 – 15.00  Lunch

Session 2:  LC-MS-MS in environmental analysis: Target analysis, non-target screening
Chair: Diana Aga

15.00 – 15.30  Wide-scope mass spectrometric screening determination of emerging contaminants in wastewater samples  
Nikolaos S. Thomaidis, Department of Chemistry, University of Athens  
Greece

15.30 – 16.00  Analysis of Cytostatic and Cytotoxic Agents in Wastewater, Surface Water and Drinking Water using UHPLC-MS/MS  
Frank Dorman, Penn State University, USA

16.00 – 16.30  Investigation of pharmaceuticals transformation products in waters by UHPLC-QTOF MS  
Juan V. Sancho, University Jaume I, Castellón, Spain

16.30 – 17.00  Evaluation of the fate of diclofenac and other structurally related non-steroidal anti-inflammatory drugs (NSAIDs) in nitrifying lab- scale batch-reactors with high resolution-Orbitrap-MS  
Sandra Pérez, IDAEA-CSIC, Barcelona, Spain

17.00 – 17.20  Sweet, funky and healing waters: the surprising chemical diversity of ocean outfalls  
Piero R. Gardinali, Florida International University, USA

17.20 – 18.30  Elsevier cocktail – Introducing TrEAC – Trends in Environmental Analytical Chemistry

18.30  Asamblea del SEEM (Annual meeting of Spanish Society of Mass Spectrometry)
Session 3: LC-MS-MS in environmental analysis: Applications

Chair: Yolanda Picó

9.00 – 9.30 Parameters affecting the formation of perfluoroalkyl acids during wastewater treatment
Mehran Alaee, National Water Research Institute, Burlington, Canada

9.30 – 10.00 Fate and occurrence of fullerenes by LC-APPI-Orbitrap-MS/MS
Marinella Farré, IDAEA-CSIC, Barcelona, Spain

10.00 – 10.30 Perfluorinated compounds in the marine environment
Begoña Jiménez, General Organic Chemistry Institute (CSIC), Madrid, Spain

10.30 – 11.15 Poster session/Coffee break

Session 3 (cont)

Chair: Sandra Perez

11.15 – 11.45 Difficulties and solutions in the analysis of polar compounds by LC-MS:
Examples from research and routine analysis
Torsten Schmidt, University of Duisburg-Essen, Germany

11.45 – 12.15 Degradation of benzotriazoles by white-rot fungi Trametes versicolor
Marta Llorca, ICRA – Catalan Institute for Water Research, Girona, Spain

12.15 – 12.35 Simultaneous determination of 17 organophosphate flame retardants and
plasticizers in aquatic and terrestrial biota by LC-MS-MS
Giselle Santín, IDAEA-CSIC, Barcelona, Spain

12.35 – 12.55 Hydrophilic interaction liquid chromatography coupled to high resolution mass
spectrometry method for the determination of artificial sweeteners in river and
waste water samples
Daniela Salas, Universitat Rovira i Virgili, Tarragona, Spain

12.55 – 13.15 Application of liquid chromatography-quadrupole-time-of-flight-mass spectrometry
to the assessment of the transformation of 11-nor-9-carboxy-Δ9-
tetrahydrocannabinol during water chlorination
Iria Gonzalez-Marino, Mario Negri, Italy, and University of Santiago de
Compostela, Spain
13.15 – 15.00  Lunch

Session 3 (cont)

Chair: Mehran Alae

15.00 –15.30  Automated Derivatization, SPE Cleanup and LC-MS/MS Determination of Glyphosate and Others Polar Pesticides
André Schreiber, AB SCIEX, Concord ON, Canada

15.30 – 15.50  Multi-residue analysis of human and veterinary pharmaceuticals in marine environment using LC-tandem MS
Hee-Young Kim, Pusan National University, Korea

15.50 – 16.10  Determination of aminoglycosides in water samples using solid phase extraction followed by liquid chromatography coupled with tandem mass spectrometry,

16.10 – 16.30  Suspect screening and target analysis of Lamotrigine and its metabolites / transformation products in the aquatic environment with high resolution-(Orbitrap)-MS
Bozo Zonja, IDAEA-CSIC, Barcelona, Spain

16.30 – 17.30  Poster session/Coffee break

Session 4: LC-MS-MS in food safety: trends, challenges and applications

Chair: Marinella Farré

17.30 – 18.00  Trends in Food Safety Analysis: from Targeted to Non-Targeted
Bruno Le Bizec, LABERCA, Nantes, France

18.00 – 18.30  The power of collision cross section: a novel approach applied to multi contaminant analysis in food
Jean-Marc Joumier, Waters Corporation, St Quentin en Yvelines, France

18.30 – 19.00  food packaging and preservatives. Analytical challenges for multiclass determination using Lc-QqQ
Belen Gomara, General Organic Chemistry Institute (CSIC), Madrid, Spain

21.00  Joint dinner
Session 4: LC-MS-MS in food safety: trends, challenges and applications

Chair: Maria Teresa Galceran

9.00 – 9.30  Non-Target and Unknown Screening of Food Samples using Accurate Mass LC-MS/MS Screening Techniques  
André Schreiber, AB SCIEX, Concord, ON, Canada

9.30 – 10.00  Overcoming matrix effects in pesticide food analysis  
Amadeo Rodríguez Fernández-Alba, University of Almeria, Almeria, Spain

10.00 – 10.30  UHPLC-QqTOF-MS/(MS) for identifying and quantifying emerging contaminants in food  
Yolanda Pico, Faculty of Pharmacy, University of Valencia, Spain

10.30 – 11.15  Poster session/Coffee break

Chair: Amadeo Rodríguez Fernández-Alba

11.15 – 11.45  Application of microfluidic UHPLC-MS and their impact upon challenges in the detection of small molecules in food safety  
Arjen Gerssen, RIKILT - Institute of Food Safety, Wageningen, Netherlands

11.45 – 12.15  Application of a Microfluidic Device with MS for the Screening of Pesticide Residues in Food Analyses  
Eric van Beelen, Waters Corporation, UK

12.15 – 12.35  Pesticides Multiresidue Analysis by LC/MS/MS Triple Quadrupole (TQ) and Quadrupole Time-of-Flight (Q-TOF) systems  
Javier López, Bruker Española, Madrid, Spain

12.35 – 12.55  Analytical strategies based on off-line and on-line (Turboflow) extraction and chromatography-tandem mass spectrometry for the trace determination of UV blockers in milk  
Daniel Molins, IDAEA-CSIC, Barcelona, Spain

12.55 – 13.30  Discussion + best student presentation/best poster awards

13.30  End of workshop
Posters

Environmental applications

1. **Method development and validation for the analysis of 20 hormones (including estrogens, androgens and progestagens compounds) in various aqueous matrices**
P. Bados, F. Combaluzier, M. Coquery, C. Miège
Irstea, UR MALY, Lyon-Villeurbanne Centre, 5 rue de la Doua-CS 70077, F-69626 Villeurbanne cedex, France

2. **Identification and characterization of different homo-polymers by MALDI-ToF-MS**
Daniel Rivas\(^a\), Antoni Ginebreda\(^a\), Carme Quero \(^b\), Sandra Pérez\(^a\), Damià Barceló \(^{a,c}\)
\(^a\) Department of Environmental Chemistry, Institute of Environmental Assessment and Water Research (IDAEA), Spanish Council for Scientific Research (CSIC), 08034 Barcelona, Spain
\(^b\) Quimica Biologica i Modelizacio Molecular, PTM-IQAC-CSIC, Jordi Girona 18-26, 08034 Barcelona, Spain
\(^c\) Catalan Institute for Water Research (ICRA), H2O Building, Scientific and Technological Park of the University of Girona, Girona, Spain

3. **Evaluation of the presence of pharmaceuticals in Portuguese seawaters: spatial and temporal distribution**
Paula Paíga\(^1\), Lúcia H.M.L.M. Santos\(^{1,2,*}\), Aleksandar Lolić\(^{1,3}\), Sandra Ramos\(^1\), Manuela Correia\(^1\), Cristina Delerue-Matos\(^1\)
\(^1\)REQUIMTE, Instituto Superior de Engenharia do Porto, Instituto Politécnico do Porto, Rua Dr. António Bernardino de Almeida, 431, 4200-072 Porto, Portugal
\(^2\)CIMAR/CIMAR - Interdisciplinary Centre of Marine and Environmental Research, University of Porto, Rua dos Bragas 289, P 4050-123 Porto, Portugal
\(^3\)Faculty of Chemistry, University of Belgrade, Studentski trg 12-16, 11158 Belgrade, Serbia

4. **Non-target approach for the determination of novel micropollutants in wastewater using liquid chromatography quadrupole-time of flight mass spectrometry (LC-QTOF-MS)**
P. Gago-Ferrero\(^1\), A.A. Bletsou\(^1\), R. Aalizadeh\(^1\), N.S. Thomaidis\(^1\)
\(^1\)Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, Panepistimiopolis Zographou, 15771 Athens, Greece

5. **Nationwide survey of PFASs in freshwater fishes: a tool to locate huge contamination sources?**
Cristina Bach, Virginie Boiteux, Christophe Rosin, Jean-François Munoz and Xavier Dauchy
ANSES, Nancy Laboratory for Hydrology, Water Chemistry Department, 40 rue Lionnois, 54 000 Nancy, France

6. **Determination of pesticides in sediments from Iberian River Basins using PLE and QuEChERS as extraction techniques**
Ana Masiá, Julian Campo, Cristina Blasco, Karina Vasquez and Yolanda Picó
Environmental and Food Safety Research Group, Faculty of Pharmacy, University of Valencia, Burjassot (Valencia), Spain

7. Determination of ethyl sulfate in sewage water using ion-pair UHPLC-MS/MS
Andrés-Costa MJ¹, Andreu V² and Picó Y¹.
¹ Environmental and Food Safety Research Group, Faculty of Pharmacy, University of Valencia. Burjassot, Valencia, Spain
² Research Centre of Desertification (CIDE, CSIC-UV-GVA). Moncada, Valencia, Spain

8. Chiral UPLC-HRMS for complete identification of biliary metabolites of carbamazepine and ibuprofen in fish
J. Aceña¹, B. Zonja¹, P. Eichhorn¹, L. Sabater¹, M. Solé², S. Pérez¹ and D. Barceló¹,³
¹ Water and Soil Quality Research Group, IDAEA-CSIC, c/Jordi Girona 18-26, 08034 Barcelona (Spain). 2 Institute of Marine Sciences ICM-CSIC, Pg Marítim Barceloneta, 37-49, Barcelona (Spain).

9. Determination of hormones in sewage from wastewater treatment plants of Gran Canaria (Spain) using an On-line Solid Phase Extraction (SPE) coupled with Ultra-High Performance Liquid Chromatography tandem Mass Spectrometry
R. Guedes-Alonso, Z. Sosa-Ferrera, J.J. Santana-Rodríguez
Departamento de Química, Universidad de Las Palmas de Gran Canaria. 35017, Las Palmas de Gran Canaria, Spain.

10. Qualitative and quantitative analysis of poly(amidoamine) dendrimers in aqueous matrix by liquid chromatography–electrospray ionization-hybrid quadrupole/time-of-flight mass spectrometry (LC-ESI-QTOF-MS)
Ana Uclés¹, María Dolores Hernando², Roberto Rosal³, Eloy García-Calvo⁴, Amadeo R. Fernández-Alba¹
¹ European Union Reference Laboratory for Pesticide Residues in Fruit & Vegetables, Department of Chemistry and Physics, University of Almería, Agrifood Campus of International Excellence (ceiA3), Almería, Spain
² National Institute for Agriculture and Food Research and Technology, INIA, 28040, Madrid, Spain
³ Department of Chemical Engineering, University of Alcalá, 28771 Alcalá de Henares, Spain
⁴ Fundación IMDEA-Agua, C/ Punto Net 4, 2ª planta, Edificio ZYE, Parque Científico Tecnológico de la Universidad de Alcalá, 28805, Alcalá de Henares, Madrid, Spain
11. Novel Extraction and Analysis of 18 EPA PAHs from Mussel Tissue: Baseline Resolution of all PAHs in 6 Minutes with no Post Extraction Clean-up
Fabrizio Galbiati¹, Aaron Kettle¹, Michael Martin²
¹Thermo Fisher Scientific
²Kodak Corporation

12. Asymmetrical flow field-flow fractionation coupled to high resolution mass spectrometry for the determination and size characterization of fullerene aggregates in environmental waters.
P. Herreroa, P. S. Bäuerleinb, E. Emkeb, R. M. Marcéa, E. Pocurull and P. de Voogtb,c
a Department of Analytical Chemistry and Organic Chemistry, Universitat Rovira i Virgili, Sesceles Campus, Marcel·li Domingo s/n, 43007 Tarragona, Spain
b KWR Watercycle Research Institute, P.O. Box 1072, 3430 BB Nieuwegein, The Netherlands
c Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, Sciencepark 904, 1098 XH Amsterdam, The Netherlands

13. Simultaneous determination of antifouling biocides in soft tissues of molluscs by microwave assisted extraction followed by liquid chromatography tandem mass spectrometry
Lia Gracy Rocha Diniz¹, Eny Maria Vieira¹, Teresa Cristina Rodrigues dos Santos Franco², Cristina Afonso-Olivares³, Rayco Guedes-Alonso³, Sarah Montesdeoca-Espønda³, Mª Esther Torres-Padrón³, Zoraida Sosa-Ferrera³, José Juan Santana-Rodríguez³
¹ Instituto de Química de São Carlos, Universidade de São Paulo, Brazil.
² Laboratorio de Química Analítica e Ecotoxicologia, Universidade Federal do Maranhão, Brazil.
³ Departamento de Química, Universidad de Las Palmas de Gran Canaria, Spain

Kelly Munro, Anthony Edge, Claudia P. B. Martins, David Cowan, Leon Barron
Analytical & Environmental Sciences Division, King’s College London, SE1 9NH London, United Kingdom.
Thermo Fisher Scientific, Tudor Road, Runcorn, WA7 1TA, United Kingdom
Thermo Fisher Scientific, 91963 Villebon sur Yvette, France

15. Evaluation of different post-data processing filters for the identification of ofloxacin’s TiO₂-NF photocatalysis transformation products by UHPLC-HRMS.
Javier Jimenez-Villarin¹, Laura Meschede Anglada², Diego Morillo Martin², Anna Serra Clusellas², Alex Conesa Cabeza², Julia Garcia-Montaño², Encarnacion Moyano Morcillo³
¹ Hidroquimia, Terrassa (Barcelona), Spain; ² Leitat Technological Center, Terrassa (Barcelona), Spain; ³ University of Barcelona, Barcelona, Spain

16. First determination of pharmaceuticals in Mexican surface waters from suspect screening to target analysis
José Abraham Rivera¹, Rosa María Melgoza², Antonio Rodríguez¹, Nicola Mastroianni³,
17. **Ultra-trace analysis of pesticides and microcystins in water with Bruker EVOQ™ LC/MS/MS system and On-Line Extraction (OLE®)**
Javier López, Miguel Ángel Pérez
Applications Development Laboratory
Chemical & Applied Markets
Bruker Española, S.A.
Parque Empresarial Rivas Futura, C/ Marie Curie, 5
28521 Rivas Vaciamadrí (Madrid, Spain)

18. **Assessment of four extraction procedures in the analysis of 23 perfluoroalkyl substances in soil, sediment, sludge and suspended solids**
J. Campo¹, M. Lorenzo¹, Y. Picó¹
(1) Food and Environmental Safety Research Group (SAMA-UV), Faculty of Pharmacy, University of Valencia, Av. Vicent Andrés Estellés s/n. 46100, Burjassot, València, Spain

19. **Evaluation of perfluorinated compounds contamination in water, sediment and biota of the Júcar River basin (E Spain)**
J. Campo¹, F. Pérez², A. Masiá¹, Y. Picó¹, M. Farré², D. Barceló², ³
(1) Food and Environmental Safety Research Group (SAMA-UV), Faculty of Pharmacy, University of Valencia, Av. Vicent Andrés Estellés s/n. 46100, Burjassot, València, Spain.
(2) IDAEA-CSIC, Department of Environmental Chemistry, Jordi Girona 18-26, Barcelona, Spain
(3) Catalan Institute for Water Research- ICRA, C/Emili Grahit, 101, Edifici H2O, Parc Científic i Tecnològic de la Universitat de Girona, E-17003 Girona, Spain

20. **Determination of 16 new illicit drugs in sewage and surface waters using UHPLC-QqTOF-MS in IDA mode**
Andrés-Costa MJ (1), Andreu V (2) and Picó Y (1).
(1) Environmental and Food Safety Research Group, Faculty of Pharmacy, University of Valencia. Burjassot, Valencia, Spain
(2) Research Centre on Desertification-CIDE (CSIC-UV-GVA), Moncada, Valencia, Spain
21. **Identification of new transformation products during enzymatic treatment of tetracycline and erythromycin antibiotics at laboratory scale**

Marta Llorca¹, Sara Rodríguez-Mozaz¹, Olivier Couillerot², Karine Panigoni², Jean de Gunzburg², Sally Bayer³, Rico Czaja³, Damià Barceló¹,²

¹ Catalan Institute for Water Research (ICRA), H2O Building, Scientific and Technological Park of the University of Girona, Emili Grahit 101, 17003 Girona, Spain
² Da Volterra, Le Dorian – Bât. B1 – 4e étage 172, rue de Charonne, 75011 Paris, France
³ C-LEcta GmbH, Perlickstraße 5, 04103 Leipzig, Germany

22. **Assessment of occurrence and acute toxicity of rodenticides and avicides in water**

Marta Llorca¹, Sara Rodríguez-Mozaz¹, Damià Barceló¹,²

¹ Catalan Institute for Water Research (ICRA), H2O Building, Scientific and Technological Park of the University of Girona, Emili Grahit 101, 17003 Girona, Spain
² Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18-26, 08034 Barcelona, Spain

23. **Determination of endocrine disruptor compounds in water samples. Comparison between EQuan™ direct injection technology versus turbulent flow chromatography followed by liquid chromatography-tandem mass spectrometry**,

Marina Gorga¹, Mira Petrovic²,³, Damià Barceló¹,²

¹ Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18-26, 08034 Barcelona (Spain)
² Catalan Institute for Water Research (ICRA), H2O Building, Scientific and Technological Park of the University of Girona, Emili Grahit 101, 17003 Girona (Spain)
³ Catalan Institution for Research and Advanced Studies (ICREA), Barcelona, Spain

24. **Screening and Quantitation of Targeted and Non-targeted Environmental Pollutants in Water Samples**

Christopher Borton¹, André Schreiber²

¹ AB SCIEX, Concord ON, Canada
² AS SCIEX, Foster, CA

25. **Evaluation of white rot fungi for the removal of emerging pollutants**

D. Lucasᵃ, S. Rodríguez-Mozazᵃ, L. Ferrando-Climentᵃ, C. Cruz-Moratóᵇ, M. Badíaᵇ, E. Marco-Urreaᵇ, G. Caminalᶜ, T. Vicentᵇ, M. Sarràᵇ, D. Barcelóᵃ,ᵈ

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ᶜ Institut de Química Avançada de Catalunya (IQAC) CSIC. Jordi Girona 18-26, 08034 Barcelona (Spain)
ᵈ Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-CSIC, Jordi Girona 18-26, 08034 Barcelona (Spain)
26. Bioaccumulation of pharmaceuticals in fish of Suquía River basin (Córdoba, Argentina)
VALDES, María Eugenia1; BISTONI, María de los Ángeles1; WUNDERLIN, Daniel Alberto2;
HUERTA, Belinda3; RODRIGUEZ-MOZAZ, Sara3; Barceló, Damià3,4
1IDEA (Instituto de Diversidad y Ecología Animal)- CONICET and Facultad de Ciencias
Exactas, Físicas y Naturales, Universidad Nacional de Córdoba, Av. Vélez Sársfield 299, 5000
Córdoba, Argentina.
2ICYTAC — Instituto de Ciencia y Tecnología de Alimentos Córdoba, CONICET and Facultad
de Ciencias Químicas, Dpto. Química Orgánica, Universidad Nacional de Córdoba, Ciudad
Universitaria, 5016 Córdoba, Argentina.
3Catalan Institute for Water Research (ICRA), Emili Grahit 101, 17003 Girona, Spain
4 Water and Soil Quality Research Group, Department of Environmental Chemistry, IDAEA-
CSIC, Jordi Girona 18-26, 08034 Barcelona, Spain

27. Profiling of anti-androgens activities in estuarine sediments along the Transmanche
Channel
Diana Alvarez-Muñoz1, Julia Horwood1, Christophe Minier2, Nick Pope3, Bill Langston3,
Elizabeth M. Hill1.
1School of Life Sciences, University of Sussex, Brighton BN1 9QJ, United Kingdom.
2 Laboratory of Ecotoxicology, UPRES EA-3222, UFR de Sciences et Techniques, Université du
Havre, 25 rue Philippe Lebon, BP 540, 76058 Le Havre Cedex, France.
3 Marine Biological Association, The Laboratory, Citadel Hill, Plymouth PL1 2PB, United
Kingdom.
* Present address: Catalan Institute for Water Research (ICRA), Parc Científic i Tecnologic de la
Universitat de Girona, 17003, Girona, Spain.

28. Determination of the non steroidal anti-inflammatory drugs in the influent and effluent of
wastewater treatment plant from Romanian Tisza River Watershed by DLLME-SFO and
LC-MS analysis
Mihail Simion BELDEAN-GALEA1, Virginia COMAN2, Ioana BALEA2, Jerome VIAL3, Didier
THIEBAUT3
1. Babeş-Bolyai University, Faculty of Environmental Science and Engineering, 30 Fântânele
street, 400294, Cluj-Napoca, Romania
2. Babeş-Bolyai University, Raluca Ripan Institute for Research in Chemistry, 30 Fântânele
street, 400294, Cluj-Napoca, Romania
3. École Supérieure de Physique et de Chimie Industrielles de la Ville de Paris, 75231 Paris
cedex 05, France
Food safety

29. Pesticide analysis in grape and wine samples by liquid chromatography tandem mass spectrometry and elisa techniques comparing QuEChERS with a simple extraction method
Ana Uclés¹, María Dolores Gil García², Piedad Parrilla², María Martínez Galera², Amadeo R. Fernández-Alba¹.
¹ European Union Reference Laboratory for Pesticide Residues in Fruit & Vegetables. University of Almeria, Agrifood Campus of International Excellence (ceiA3).
² Department of Chemistry and Physics, Area of Analytical Chemistry, University of Almería, Spain. Agrifood Campus of International Excellence (ceiA3).

30. The use of ion mobility enabled mass spectrometry (IM-MS) for the development and characterisation of robust analytical methods for the quantitation of veterinary drug residues in foods of animal origin
Jean-Marc Joumier¹, Sara Stead², Michael McCullagh², David Eatough², Kieran Neeson², Monica Garcia Lopez³, Danny Chan³ and Richard J. Fussell³.
¹ Waters EHQ, BP 608, St Quentin en Yvelines, 78056, France
² Waters Corporation, Atlas Park, Simonsway, Manchester M22 5PP, UK
³ Food and Environment Research Agency, York, Sand Hutton, YO41 1LZ, North Yorkshire

31. Development and validation of rapid screening method for twelve mycotoxins in cereal based foods using immunoaffinity clean-up and a single quadrupole mass detector
Jean-Marc Joumier¹, Sara Stead², Dominic Roberts², Eimear McCall², Veronica Lattanzio³ and Stephen Powers⁴.
¹ Waters EHQ, BP 608, St Quentin en Yvelines, 78056, France
² Waters Corporation, Atlas Park, Simonsway, Manchester M22 5PP, UK
³ ISPA, Via Amendola, 70126, Bari BA Puglia, Italy

32. Revealing the identification power of Collision Cross Section (CCS): a novel approach applied to pesticide analysis in food
Eric van Beelen¹, Séverine Goscinny², Michael McCullagh³, Vincent Hanot², Ramesh Rao³, Gauthier Eppe⁴ and David Douce³.
¹ Waters EHQ, BP 608, St Quentin en Yvelines, 78056, France
² Scientific Institute of Public Health, rue Juliette Wytsman 14, 1050 Brussels
³ Waters, Floats Road, Manchester, United Kingdom
⁴ University of Liège, Mass Spectrometry Laboratory, Institut de Chimie, Bat. B6c, B-4000 Liège

33. Routine Targeted Quantitation and Identification of Pesticide Residues using Triple Quadrupole LC-MS/MS and Advanced Scheduling of MRM Transitions
André Schreiber¹, Lauryn Bailey², and Jianru Stahl-Zeng.
¹ AB SCIEX Concord, ON, Canada;
² AB SCIEX Framingham, MA, USA;
³ AB SCIEX Darmstadt, Germany
Targeted Multi-Compound and Multi-Class Screening in Food Samples using Accurate Mass LC-MS/MS Screening Techniques
André Schreiber¹, Nick Zhu², Cheng Yuan Cai², David Cox¹, Jianru Stahl-Zeng³
¹ AB SCIEX 71 Four Valley Drive, Concord, ON, Canada
² AB SCIEX Shanghai, China
³ AB SCIEX Darmstadt, Germany