

SCARCE 2nd ANNUAL CONFERENCE

Integrated modelling and monitoring at different river basin scale

28-29 November 2011, Madrid, Spain



ORGANIZERS



idæa^a

CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

SUPPORTING ORGANIZATIONS

 Instituto Geológico
y Minero de España

Felipe Cañada

FUNDACION

GOMEZ
PARDO

campus



MONCLOA

 Consolider

PROGRAMA
**ingenio
2010**

 GOBIERNO
DE ESPAÑA

MINISTERIO
DE CIENCIA
E INNOVACION



Water has been a major driver of socio-economic development in all civilizations. The increasing anthropogenic manipulation of the hydrological cycle, as well as the exacerbation of climate change forcing, result in relevant pressures that translate in even larger uncertainties in sensitive areas. In particular, the Mediterranean region is undergoing severe alterations in water availability because of a decrease in the number of precipitation days, and an increase in days with heavy rains. The imbalance between the available water resources during extended droughts and the increasing anthropogenic water demand results in major ecological and economical problems.

The SCARCE project is defined as a multipurpose project that aims to describe and predict the relevance of global change impacts on water availability, water quality and ecosystem services in Mediterranean river basins of the Iberian Peninsula, as well as their impacts on the human society and economy. The project assembles a multidisciplinary view through hydrology, geomorphology, chemistry, ecology, ecotoxicology, economy, engineering and modelling. The project also considers the active involvement of Water Authorities and other relevant agents as stakeholders.

The second SCARCE Conference aims to gather interested researchers and water managers at the cross-roads of using water resources and keeping its ecological quality and conservation. Particularly, specific topics of this conference would be:

- ~ Monitoring programme design that includes long-term, concurrent hydrometeorological, water quality, morphology and biological monitoring of reference sites to improve evidence of causative links between climate variability and local ecological status.
- ~ Analysis of interactions between surface and groundwater hydrology taking place at the mesoscale (dm to tens of m).
- ~ Development of integrative simulation tools (process oriented models) to assess the effects of global changes in aquifers, streams and rivers.
- ~ Development of system-oriented tools defined at the river network (water body scale), taking into account the integration of the water cycle into the water resources management at catchment scale.
- ~ Assessment of the multiple effects of changes in the hydrological regime (duration, intensity, time, and frequency of floods and droughts) on both biodiversity and ecosystem processes.
- ~ Methodological framework development to quantify global change effects in terms of environmental and human risks.

This SCARCE Conference is intended to be an informal venue that encourages

an exchange of the latest information and ideas among scientists bearing pluridisciplinary approaches, in the deep belief that only through scientific debate it will be possible to produce good assessments and provide reliable predictions, later to be used and implemented by water managers.

The conference will be held at:
Salón de Actos de la Escuela de Minas
Universidad Politécnica de Madrid
Ríos Rosas, 21
Madrid, Spain

FINAL PROGRAMME

Monday, 28th November 2011

9.00 - 9.30 Registration

9.30 - 9.50 **Opening ceremony. Integrated modelling and monitoring: challenges ahead**
Rosa de Viviana¹, Carlos Conde², Francisco Javier Elorza³ and Damià Barceló^{4,5,6}

¹ General Director from the Instituto Geológico y Minero de España (IGME)

² Vice-rector of the Universidad Politécnica de Madrid (UPM)

³ Dpto. Matemática Aplicada y Métodos Informáticos, Escuela Técnica Superior de Ingenieros de Minas, Universidad Politécnica de Madrid, Madrid, Spain

⁴ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

⁵ Catalan Institute for Water Research (ICRA), Girona, Spain

⁶ King Saud University, Riyadh, Saudi Arabia

Session I: Monitoring network programme

Chairperson: Mira Petrovic

9.50 - 10.20 ***The implementation of Chemical Monitoring in Surface Waters under the Water Framework Directive***

Mario Carere

National Institute of Health, Department Environment, Italy

10.20 - 10.50 **Monitoring water-polluting pesticides at the catchment scale in the Ebro, Llobregat, Júcar and Guadalquivir Rivers**

Yolanda Picó, Ana Masia, Cristina Blasco and Pablo Vazquez

Food and Environmental Safety Research Group, Faculty of Pharmacy, University of Valencia, Burjassot, Spain

10.50 - 11.10 Automated analytical method for the determination of perfluorinated compounds in fish in Spanish rivers

Francisca Pérez¹, Marta Llorca¹, Marinella Farré¹ and Damià Barceló^{1,2,3}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Catalan Institute for Water Research (ICRA), Girona, Spain

³ King Saud University, Riyadh, Saudi Arabia

11.10 - 11.30 Poster session/Coffee break

Chairperson: Mario Carere

11.30 - 12.00 Levels and spatial distribution of emerging contaminants in the Iberian rivers

Mira Petrovic^{1,2}, Marina Gorga³, Victoria Osório³, Sandra Perez³ and Damià Barceló^{1,3,4}

¹ Catalan Institute for Water Research (ICRA), Girona, Spain

² Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain

³ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

12.00 - 12.20 Integration of on-line and off-line methodologies for the assessment of river water quality

Ramon López-Roldán¹, Susana González¹, Sergi Pelayo², Benjamín Piña², Agustina de la Cal³, Raquel Céspedes³, Alfredo Diaz³, Maria Rosa Boleda³, Ricard Devesa³ and Jose Luis Cortina¹

¹ Water Technology Centre (CETAqua), Cornellà de Llobregat, Barcelona, Spain

² Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

³ Aguas de Barcelona, Barcelona, Spain

12.20 - 12.40 Presence of illicit drugs in different wastewater treatment plants in Mediterranean river basins of the Iberian Peninsula

Nicola Mastroianni¹, Miren López de Alda¹ and Damià Barceló^{1,2,3}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Catalan Institute for Water Research (ICRA), Girona, Spain

³ King Saud University, Riyadh, Saudi Arabia

12.40 - 14.00 Lunch

Session II: Analysis of interactions between surface and groundwater hydrology

Chairperson: Francisco Javier Elorza

14.00 - 14.30 Understanding the fate and behaviour of selected pharmaceuticals in soil-aquifer material prior to artificial recharge

Manuela Barbieri¹, Jesús Carrera¹, Carlos Ayora¹, Xavier Sanchez-Vila², Tobias Licha³, Karsten Nödler³, Victoria Osorio⁴, Sandra Pérez⁴, Marianne Köck-Schulmeyer⁴, Miren López de Alda⁴, Damià Barceló^{4,5,6}, Joana Tobella Brunet⁷ and Marta Hernández García⁷

¹ GHS, Dept. of Geosciences, IDAEA-CSIC, Barcelona, Spain

² GHS, Dept. of Geotechnical Engineering and Geo-Sciences - Technical University of Catalonia, Barcelona, Spain

³ Hydrochemistry Group, Dept. of Applied Geology - Geoscience Centre of the University of Göttingen, Göttingen, Germany

⁴ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

⁵ Catalan Institute for Water Research (ICRA), Girona, Spain

⁶ King Saud University, Riyadh, Saudi Arabia

⁷ Water Technology Centre (CETAqua), Cornellà de Llobregat, Barcelona, Spain

14.30 - 15.00 Numerical solution of problems based on shallow water and St. Venant's equations.

Arturo Hidalgo¹, Angel Balaguer-Beser² and Llanos Gascón²

¹ Escuela Técnica Superior de Ingenieros de Minas, Universidad Politécnica de Madrid, Madrid, Spain

² Universidad Politécnica de Valencia, Dep. Matemática Aplicada, Valencia, Spain

15.00 - 15.20 Modeling and mapping chemical reactions in complex subsurface natural systems

Daniel Fernàndez-Garcia, Xavier Sanchez-Vila, Felipe de Barros, Simonetta Rubol, Christopher Henri and Nicolás Iturra

GHS, Dept. Geotechnical Engineering and Geosciences, Universitat Politècnica de Catalunya, UPC-Barcelona Tech, Barcelona, Spain

15.20 - 15.40 The dynamics of groundwater resources in the El-Qaa irrigation district of Orontes Basin in Northern Bekaa Valley of Lebanon

Fadi Karam¹, Joseph Monical², Prasanta Kalita², Randa Massaad³, Ihab Jomaa³, Hassan Machlab⁴ and Schuyler Korban⁵

¹ Integrated Land and Water Management Program, International Center for Agricultural Research in the Dry Areas, The Middle East Water and Livelihood Initiative, Aleppo, Syria

² Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, United States

³ Department of Irrigation and Agrometeorology, Lebanese Agricultural Research Institute, Tal Amara, Lebanon

⁴ International Center for Agricultural Research in the Dry Areas - Lebanon, Beirut, Lebanon

⁵ Office of International Programs, University of Illinois at Urbana-Champaign, United States

15.40 - 16.00 Poster session/Coffee break

Session III: Assessment of the multiple effects of changes in the hydrological regime

Chairperson: Arturo Elosegi

16.00 - 16.30 *The challenge of analysing climate change impacts on the hydrology of Mediterranean river basins - A perspective from the CLIMB project*

Ralf Ludwig and the CLIMB consortium

Ludwig-Maximilians-Universität, München, Germany

-
- 16.30 - 16.50** **Effects of metal pollution under high discharge conditions**
Helena Guasch¹, Marta Ricart^{1,2}, Berta Bonet¹, Natàlia Corcoll¹ and Awadesh Kumar¹
¹ Institute of aquatic ecology, University of Girona, Girona, Spain
² Catalan Institute for Water Research (ICRA), Girona, Spain
- 16.50 - 17.10** **The use of wood sticks to assess stream ecosystem functioning: comparison with leaf breakdown rates**
Maite Arroita, Ibon Aristi, Lorea Flores, Joserra Díez and Arturo Elosegi
 Faculty of Science and Technology, University of the Basque Country, Bilbao, Spain
- 17.10 - 17.30** **Toxicity testing and behavioral changes in two species exposure to several pharmaceutical compounds: the copepod *Tisbe battagliai* and the shrimp *Atyaephyra desmarestii*.**
Elena Nieto¹, Pilar Drake¹, C. Trombini¹, Enrique González-Ortegón, Miriam Hampel¹ and Julián Blasco¹
¹Instituto de Ciencias Marinas de Andalucía (ICMAN-CSIC), Puerto Real, Spain
- 17.30 - 17.50** **Effects of global change on the functioning of Mediterranean rivers: breakdown of organic matter as an assessment tool**
Ibon Aristi¹, Jose R. Díez², Aitor Larrañaga¹ and Arturo Elosegi¹
¹ Faculty of Science and Technology, University of the Basque Country, Bilbao, Spain
² Faculty of Education, University of the Basque Country, Vitoria-Gasteiz, Spain
- 17.50 - 18.10** **Vulnerability of hydrological services to climatic extremes in a Mediterranean river basin**
Marta Terrado¹, Vicenç Acuña¹, Driss Ennaanay^{2,3}, Heather Tallis² and Sergi Sabater^{1,4}
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² The Natural Capital Project, Stanford University, California, USA
³ Riverside Technology Inc., Fort Collins, Colorado, USA
⁴ Institute of Aquatic Ecology, University of Girona, Girona, Spain
- 21:00** **Joint Dinner**

Tuesday, 29th November 2011

Session IV: Modelling developments

Chairperson: Ramon J. Batalla

- 9.00 - 9.30** ***Integrated Modelling and Monitoring of Pollutants in River Basins at European Scale***
Giovanni Bidoglio
Joint Research Centre of the European Commission, Ispra, Italy

- 9.30 - 10.00** **Adaptation of the InVEST model to a Mediterranean catchment: global and spatial methods to investigate model sensitivity**
 Marta Terrado¹, Ana Passuello², María Schez-Canales³, Vicenç Acuña¹, Marta Schuhmacher², Alfredo López³ and F. Javier Eloza³
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² Environmental Engineering Laboratory, Departament d'Enginyeria Química, Universitat Rovira i Virgili, Tarragona, Spain
³ Dpto. Matemática Aplicada y Métodos Informáticos, Escuela Técnica Superior de Ingenieros de Minas, Universidad Politécnica de Madrid, Madrid, Spain
- 10.00 - 10.30** **Application of scaling equations to deal with the spatial aggregation effect on watershed hydrological modelling**
Miguel Barrios^{1,2} and Félix Francés¹
¹ Research Institute of Water and Environmental Engineering (IIAMA), Universidad Politécnica de Valencia, Valencia, Spain
² Faculty of Forest Engineering, Universidad del Tolima, Ibagué, Colombia
- 10.30 - 10.50** **Flushing flows in the lower Ebro. Monitoring and modelling**
Álvaro Tena^{1,2}, L. Ksiazek³, Damià Vericat^{1,2,4,5}, Antonio Palau^{2,6} and Ramon J. Batalla^{1,2,4,7}
¹ Fluvial Dynamics Research Group
² Department of Environment and Soil Sciences, University of Lleida, Lleida, Spain
³ Department of Hydraulic Engineering and Geotechnics, University of Agriculture, Krakow, Poland
⁴ Forest Science Center of Catalonia, Solsona, Spain
⁵ Institute of Geography and Earth Sciences, Aberystwyth University, Ceredigion, UK
⁶ Endesa Generación SA, Lleida, Spain
- 10.50 - 11.10** **Modeling nutrient loads and in-stream retention in basins under chronic human impact: lessons from the Llobregat River basin (NE Spain)**
Rosana Aguilera¹, Rafael Marcé¹ and Sergi Sabater^{1,2}
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² Institute of Aquatic Ecology, University of Girona, Girona, Spain
- 11.10 - 11.30** **Poster session/Coffee break**

Chairperson: Giovani Bidoglio

- 11.30 - 12.10** **Applying monitoring and modelling techniques to study sediment transport dynamics in a mesoscale cathment**
José A. López-Tarazón^{1,2}, Ramon J. Batalla^{1,2,3,4}, Damià Vericat^{1,2,3,5} and Till Francke⁶
¹ Fluvial Dynamics Research Group
² Department of Environment and Soil Sciences, University of Lleida, Lleida, Spain
³ Forest Science Center of Catalonia, Solsona, Spain
⁴ Catalan Institute for Water Research (ICRA), Girona, Spain
⁵ Institute of Geography and Earth Sciences, Aberystwyth University, Ceredigion, UK
⁶ Institute of Earth and Environmental Sciences, University of Potsdam, Potsdam, Germany

- 12.10 - 12.40 **Stochastic Modeling of a fuzzy index to determine the quality of water in the Cauca River**
 William Ocampo-Duque¹, Diana Carolina Osorio García¹, Christian Piamba Ceballos¹, Montse Mari² and Marta Schuhmacher²
¹ Facultad de Ingeniería, Pontificia Universidad Javeriana Cali, Colombia.
² Grupo de Análisis y Gestión Ambiental, Departament d'Enginyeria Química, Universidad Rovira i Virgili, Tarragona, Spain
- 12.40 - 13.00 **An integrated modelling system for long term planning of water resources management and global change adaptation**
Laurent Pouget¹, Suzy Mc Ennis¹, Ernest Adrogué i Calveras¹, Pierre-Antoine Versini² and Daniel Sempere²
¹ Water Technology Centre (CETAqua), Cornellà de Llobregat, Barcelona, Spain
² Centre of Applied Research in Hydrometeorology (CRAHI), Barcelona, Spain

Session V: Methodological framework development to quantify global change effects

Chairperson: Antoni Ginebreda

- 13.00 - 13.30 ***The use of hydrologic modeling as a technical support for River Basin Management: The Case of the Confederation Hidrográfica del Júcar***
Javier Ferrer Polo
 Confederación Hidrográfica del Júcar, Valencia, Spain
- 13.30 - 15.00 **Lunch**
- 15.00 - 15.30 ***Forest fires in Spain in a context of global change: From the country, to the landscape and down to the ecosystem***
José Manuel Moreno
 Universidad de Castilla-La Mancha, Toledo, Spain
- 15.30 - 16.00 ***Title to be determined***
Justo Mora
 Confederación Hidrográfica del Tajo, Spain
- 16.00 - 16.30 **Water Quality-Management model in the Júcar River Basin**
Javier Paredes, Joaquín Andreu, Abel Solera and Andrea Momblanch
 Institute of Water and Environmental Engineering. Technical University of Valencia, Valencia, Spain
- 16.30 - 16.50 **Poster session/Coffee break**

Chairperson: Damià Barceló

Final programme

- 16.50 - 17.10** **Global change impacts on water availability in three Mediterranean catchments of Catalonia (NE Spain)**
Diana Pascual¹, Eduard Pla¹ and Roger Milego²
¹ Centre for Ecological Research and Forestry Applications (CREAF), Autonomous University of Barcelona, Bellaterra, Spain
² European Topic Centre for Spatial Information and Analysis (ETC/SIA), Autonomous University of Barcelona, Bellaterra, Spain
- 17.10 - 17.30** **Contribution of river basin ecosystem services to human well-being in Mediterranean Basins.**
Graciela Ferrer¹, Miquel A. Gual², Sherman Farhad² and Francesc La Roca¹
¹ University of Valencia, Department for Applied Economics, Valencia, Spain
² University Pablo de Olavide, Department for Economics, Quantitative Methods and Economic History, Seville, Spain

Final remarks and closure of the meeting

- 17.30 - 17.50** **Final remarks and closure of the meeting**
Damià Barceló^{1,2,3}
¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
² Catalan Institute for Water Research (ICRA), Girona, Spain
³ King Saud University, Riyadh, Saudi Arabia
- 17.50** **End of meeting**

In italics, invited presentations

Posters

- 1.- **Quantification of pharmaceuticals in soils and sediments of Pego-Oliva Marsh by LC-MS/MS.**
Pablo Vazquez-Roig¹, Vicente Andreu², Juan Antonio Pascual², Cristina Blasco¹ and Yolanda Picó¹
¹ Food and Environmental Safety Research Group, University of Valencia, Burjassot, Valencia, Spain
² Centro de Investigaciones sobre Desertificación-CIDE (CSIC, Univ. Valencia, Gen. Valenciana). Albal, València, Spain

- 2.- **Fish community in wadeable stretches of the Guadalquivir River basin (southern Iberian Peninsula): a proposal of priority areas for its conservation**
Carlos Fernández-Delgado¹, R. J. De Miguel¹, F. Aranda¹, R. Moreno-Valcárcel¹, C. Arribas¹, F.J. Oliva-Paterna² and L. Gálvez-Bravo³
¹ Departamento de Zoología, Universidad de Córdoba, Córdoba, Spain
² Departamento de Zoología y Antropología Física, Universidad de Murcia, Murcia, Spain
³ Instituto de Investigación en Recursos Cinegéticos (IREC), Universidad de Castilla-La Mancha, Ciudad Real, Spain

- 3.- **Antibiotic contamination and promotion of antibiotic resistance in aquatic microorganisms and fish in two Catalan reservoirs**
Belinda Huerta¹, Elisabet Marti¹, Meritxell Gros¹, Sara Rodríguez-Mozaz¹, Jose Luis Balcázar¹, Damià Barceló^{1,2,3} and Rafael Marcé¹
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
³ King Saud University, Riyadh, Saudi Arabia

- 4.- **Upwind fourth-order nonoscillatory schemes for nonhomogeneous hyperbolic conservation laws**
Arturo Hidalgo¹, Angel Balaguer-Beser² and Llanos Gascón²
¹ Escuela Técnica Superior de Ingenieros de Minas, Universidad Politécnica de Madrid, Madrid, Spain
² Universidad Politécnica de Valencia, Departamento Matemática Aplicada, Valencia, Spain

- 5.- **Simulating habitat restoration actions: a machine learning approach**
 Esther Julia Olaya Marín, Francisco Martínez-Capel, Juan Diego Alcaraz-Hernández and Rui Soares Costa
 Institut d'Investigació per a la Gestió Integrada de Zones Costaneres, Universitat Politècnica de València, Grau de Gandia, Spain

- 6.- **Presence of UV filters in sediments and surface waters in the Guadalquivir river basin**
Pablo Gago Ferrero¹, M.Silvia Díaz Cruz¹ and Damià Barceló^{1,2,3}
¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
² Institute of Environmental Assessment and Water Research, Barcelona, Spain
³ Catalan Institute for Water Research (ICRA), Girona, Spain
⁴ King Saud University, Riyadh, Saudi Arabia

- 7.- Nekton response to the freshwater inputs in a Temperate European Estuary with regulated riverine inflow**
 Enrique González-Ortegón¹, M^a Dulce Subida¹, Alberto Arias¹, Francisco Baldó², Jose Antonio Cuesta¹, Carlos Fernández-Delgado³, César Vilas⁴ and Pilar Drake¹
¹ Instituto de Ciencias Marinas de Andalucía (CSIC), Puerto Real, Spain
² Instituto Español de Oceanografía, Cádiz, Spain
³ Departamento Zoología, Universidad de Córdoba, Córdoba, Spain
⁴ IFAPA Centro El Toruño, El Puerto de Santa María, Cádiz, Spain
- 8.- Development of a multi-compartmental physiologically based pharmacokinetic model for PFOS and PFOA in breast milk. Children exposure through breast milk**
 Francesc Fàbrega^{1,2}, Martí Nadal², Marta Schuhmacher^{1,2} and Josep L. Domingo²
¹ Environmental Engineering Laboratory, Departament d'Enginyeria Química, Universitat Rovira i Virgili, Tarragona, Catalonia, Spain
² Laboratory of Toxicology and Environmental Health, School of Medicine, IISPV, Universitat Rovira i Virgili, Reus, Spain
- 9.- Relationship between metals bioavailability and speciation in river water depending on the stressors**
 M.I. López¹, Neus Roig¹, Montse Mari¹, Martí Nadal², Marta Schuhmacher¹ and Josep L. Domingo²
¹ Environmental Engineering Laboratory, Departament d'Enginyeria Química, Universitat Rovira i Virgili, Tarragona, Spain
² Laboratory of Toxicology and Environmental Health, School of Medicine, IISPV, Universitat Rovira i Virgili, Reus, Spain
- 10.- Hydrology and Water Quality Modeling under Data Scarcity for Low Flow River in Mediterranean Watershed**
 Rubab Fatima Bangash, Ana Passuello and Marta Schuhmacher
 Environmental Engineering Laboratory, Departament d'Enginyeria Química, Universitat Rovira i Virgili, Tarragona, Spain
- 11.- Analysis of volatyl methylsiloxane in waters: comparison between MASE and headspace extraction methods**
 Pablo Vazquez-Roig¹, Degao Wang², Tommy Bisbicos², Yolanda Picó¹ and Mehran Alaei²
¹ Food and Environmental Safety Research Group, University of Valencia, Burjassot, Spain
² Water Science and Technology Directorate, Environment Canada, Burlington, Canada
- 12.- Freshwater inputs as forcing mechanisms on the lower trophic levels of the Guadalquivir estuary.**
 Enrique González-Ortegón and Pilar Drake
 Instituto de Ciencias Marinas de Andalucía (ICMAN-CSIC) Puerto Real, Spain
- 13.- Functional bacterial diversity in the epipsammic biofilm at the Llobregat River**
 Anna Freixa¹, Anna M. Romani¹, Lidia Ponsatí² and Sergi Sabater^{1,2}
¹ Institute of Aquatic Ecology, University of Girona, Girona, Spain
² Catalan Institute for Water Research (ICRA), Girona, Spain

14.- Contamination of polar pesticides in sediments from Rivers of the Iberian Peninsula

Ana Masia, Cristina Blasco, Pablo Vazquez and Yolanda Picó

Food and Environmental Safety Research Group, Faculty of Pharmacy, University of Valencia, Burjassot, Spain

15.- Occurrence and partition of perfluorinated compounds in water and sediment from Xuquer River (Valencia, Spain)

Matthias Onghena¹, Ana Masia¹, Marinella Farré², Yolanda Picó¹ and Damià Barceló^{2,3,4}

¹ Food and Environmental Safety Research Group, Faculty of Pharmacy, University of Valencia, Burjassot, Spain

² Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

³ Catalan Institute for Water Research (ICRA), Girona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

16.- Quantitative detection of trace perfluorinated compounds in environmental samples by Liquid Chromatography-Quadropole-Time of Flight Mass Spectrometry

Yolanda Picó¹, Matthias Onghena¹, Cristina Blasco¹, Marinella Farré² and Damià Barceló^{2,3,4}

¹ Food and Environmental Safety Research Group, Faculty of Pharmacy, University of Valencia, Av. Vicent Andrés Estellés s/n, 46100 Burjassot, Valencia, Spain

² Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

³ Catalan Institute for Water Research (ICRA), Girona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

17.- Quinolone and fluoroquinolone residues in agricultural soils from Valencian Community (Spain)

Vicente Andreu¹, Juan Antonio Pascual¹ and Yolanda Picó²

¹ Centro de Investigaciones sobre Desertificación-CIDE (UV, Conselleria d'Agricultura, CSIC), Ctra. Naquera-Moncada, Valencia Spain

² Food and Environmental Safety Research Group, Faculty of Pharmacy, University of Valencia, Burjassot, Spain

18.- Application of the Soil and Water Assessment Tool (SWAT) to model faecal indicator bacteria concentrations in the River Ouse catchment, UK

Michael Dilley, Sarah Purnell, James Ebdon and Huw Taylor

Environment and Public Health Research Unit, School of Environment and Technology, University of Brighton, Brighton, United Kingdom

19.- Seasonal monitoring of Pharmaceuticals on a sewage impacted section of a Mediterranean River (Llobregat River, NE Spain) and their relationship with hydrological conditions.

Victoria Osorio¹, Sandra Pérez¹, Asunción Navarro, Antoni Ginebreda¹ and Damià Barceló^{1,2,3}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Catalan Institute of Water Research (ICRA), Girona, Spain

³ King Saud University, Riyadh, Saudi Arabia

20.- Ecological and micropollutants response of a Mediterranean river to hydrological natural variations: the Llobregat case study

Victoria Osorio¹, Lorenzo Proia², Marta Ricart³, Sandra Pérez¹, Antoni Ginebreda¹, Sergi Sabater^{2,3} and Damià Barceló^{1,2,4}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Institute of Aquatic Ecology, University of Girona, Girona, Spain

³ Catalan Institute of Water Research (ICRA), Girona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

21.- Preliminary analysis of sediment fluxes at the Barasona Reservoir

José A. López-Tarazón^{1,2}, Pilar López³, Damià Vericat^{1,2,4,5}, Isabel Muñoz³ and Ramon J. Batalla^{1,2,4,6}

¹ Fluvial Dynamics Research Group

² Departament de Medi Ambient i Ciències del Sòl (DMACS), Universitat de Lleida, Lleida, Spain

³ Departament d'Ecologia, Universitat de Barcelona, Barcelona, Spain

⁴ Centre Tecnològic Forestal de Catalunya, Solsona, Spain

⁵ Institute of Geography and Earth Sciences, Aberystwyth University, Ceredigion, UK

⁶ Catalan Institute for Water Research (ICRA), Girona, Spain

22.- An integrated sampling design to study the combined effects of regulation and Mediterraneanity on fluvial dynamics

Gemma Lobera^{1,2}, José A. López-Tarazón^{1,2}, Álvaro Tena^{1,2}, Ignacio Andrés³, Francisco Martínez-Capel⁴, Rafael Muñoz-Mas⁴, Francisco Vallés³, Ibon Aristi⁵, José Ramón Díez⁶, Aruro Elosegui⁵, Lorea Flores⁵, Askoa Ibisate⁷, Damià Vericat^{1,2,8,9} and Ramon J. Batalla^{1,2,8,10}

¹ Fluvial Dynamics Research Group

² Department of Environment and Soil Sciences, University of Lleida, Lleida, Spain

³ Institute of Water Engineering and Environment, Universidad Politécnica de Valencia, Spain

⁴ Research Institute for Integrated Management of Coastal Areas, Universidad Politécnica de Valencia, Spain

⁵ Department of Plant Biology and Ecology, University of the Basque Country, Bilbao, Spain

⁶ Didactics of the Mathematics and the Experimental Sciences, University of the Basque Country, Vitoria-Gasteiz, Spain

⁷ Department of Geography, Prehistory and Archaeology, University of the Basque Country, Vitoria-Gasteiz, Spain

⁸ Forest Science Center of Catalonia, Solsona, Spain

⁹ Institute of Geography and Earth Sciences, Aberystwyth University, Ceredigion, UK

¹⁰ Catalan Institute for Water Research (ICRA), Girona, Spain

23.- Multi-residue trace level determination of endocrine disruptors and related compounds in rivers of the Iberian Peninsula

Marina Gorga^{1,2}, Mira Petrovic^{2,3} and Damià Barceló^{1,2,4}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Catalan Institute for Water Research (ICRA), Girona, Spain

³ Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

- 24.- Before and After Dams: Biofilm changes in Structure and Function.**
Lidia Ponsatí¹, Vicenç Acuña¹, Daniel von Schiller¹, Ibon Aristi², Maite Arroita², Arturo Elosegi² and Sergi Sabater^{1,3}
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² University of the Basque Country, Bilbao, Spain
³ Institute of Aquatic Ecology, University of Girona, Girona, Spain
- 25.- Halogenated flame retardants in sediment and biota from the Iberian river basins.**
Enrique Barón¹, Giselle Santin¹, Ethel Eljarrat¹ and Damià Barceló^{1,2,3}
¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
² Catalan Institute for Water Research (ICRA), Girona, Spain
³ King Saud University, Riyadh, Saudi Arabia
- 26.- Obtaining demographic projections with zero migratory balance. Nonparametric graduation: wavelets.**
Francisco G. Morillas Jurado¹ and Ismael Baeza Sempere¹
 Dpto. Economía Aplicada, Universitat de Valencia, Valencia, Spain
- 27.- Using Tandem mass spectrometry for the detection of Iodinated Contrast Media's (ICM's) Transformation Products (TPs) in the Environment**
Bozo Zonja¹, Sandra Pérez¹, Mira Petrovic^{2,3} and Damià Barceló^{1,2,4}
¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
² Catalan Institute of Water Research, ICRA, Girona, Spain
³ Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain
⁴ King Saud University, Riyadh, Saudi Arabia
- 28.- Occurrence of persistent organic pollutants in Iberian River Basins**
Daniel Guillén¹, Antoni Ginebreda¹, Mira Petrovic^{1,2}, Elena Martínez¹ and Damià Barceló^{1,3,4}
¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain
² Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain
³ Catalan Institute for Water Research (ICRA), Girona, Spain
⁴ King Saud University, Riyadh, Saudi Arabia
- 29.- Connectivity analysis between overland flow generation and erosion under Mediterranean semiarid conditions (Portacoeli experimental micro-basin, Valencia, Spain)**
Juan Antonio Pascual-Aguilar¹, Vicente Andreu¹ and José Luis Rubio¹
¹ Centro de Investigaciones sobre Desertificación, Moncada, Spain
- 30.- Variation in heavy metal muscle concentrations related to species and size of Llobregat River fish**
Roberto Merciai^{1,2}, Emili García-Berthou², Nàtalia Corcoll Cornet², Helena Guasch², Awadhesh Kumar², Tommaso Scanzio² and Sergi Sabater^{1,2}
¹ Catalan Institute for Water Research (ICRA), Girona, Spain
² Institute of Aquatic Ecology, University of Girona, Girona, Spain

31.- Changes in consumption rates and reproduction of invertebrates in Ebro, Júcar and Llobregat rivers

Núria de Castro¹, Bruno Campos², Julio C. López-Doval¹, Isabel Muñoz¹ and Carlos Barata²

¹ Department of Ecology, University of Barcelona, Barcelona, Spain

² Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

32.- Analysis of PDE-V and analogues in WWTP of Spain by LC-MS/MS

Jaume Aceña¹, Bianca Ferreira da Silva^{1,2}, Sandra Pérez¹ and Damià Barceló^{1,3,4}

¹ Department of Environmental Chemistry, IDAEA-CSIC, Barcelona, Spain

² Laboratório de Biogeoquímica Ambiental, Department of Chemistry, UFSCar, Sao Carlos, Brazil

³ Catalan Institute for Water Research (ICRA), Girona, Spain

⁴ King Saud University, Riyadh, Saudi Arabia

33.- Complex stressors in Mediterranean river ecosystems in the Iberian Peninsula: effects on biofilm communities

Marta Ricart^{1,2}, Helena Guasch², Awadesh Kumar², Lydia Ponsatí¹ and Sergi Sabater^{1,2}

¹ Catalan Institute for Water Research (ICRA), Girona, Spain

² Institute of aquatic ecology, University of Girona, Girona, Spain