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Education

Ph.D. in Analytical Chemistry, Faculty of Chemistry (2013), University of Barcelona, Spain

M.Sc. in Advanced Chemistry, specialized in analytical chemistry (2010), University of Barcelona, Spain

B.Sc. in Analytical Chemistry (2008), Autonomous University of Barcelona, Spain

Research Topic:

Non Target Screening HRMS environmental analysis

Development, optimization and application of a non-target screening workflow using LC-QTOFMS and LC-Orbitrap FTMS and operation of open source data mining and post-acquisition data treatment software for the identification of TPs of emerging pollutants.

Research Interests

- a. Environmental and food analysis
- b. Emerging pollutants
- c. LC-HRMS
- d. Suspect and Non-target screening
- e. Water quality and water treatment
- f. Metabolomics

Publications in journals

1. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2011) Occurrence of multiclass UV filters in treated sewage sludge from wastewater treatment plants. *Chemosphere* 84: 1158-1165.
2. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2011) Fast pressurized liquid extraction with in-cell purification and analysis by liquid chromatography-tandem mass spectrometry for the determination of UV filters and their degradation products in sediments. *Analytical and Bioanalytical Chemistry* 400: 2195-2204.
3. Díaz-Cruz M.S., **Gago-Ferrero P.**, Llorca M., Barceló D. (2011) Occurrence of UV filters in tap water and other clean waters in Spain. *Analytical and Bioanalytical Chemistry* 402: 2325-2333.

4. **Gago-Ferrero P.**, Badia-Fabregat M., Olivares A., Piña B., Blánquez P., Vicent T., Caminal G., Díaz-Cruz M.S., Barceló D. (2012) Evaluation of fungal- and photo-degradation as potential treatments for the removal of sunscreens BP3 and BP1. *Science of the Total Environment* 427-428: 355-363.
5. Badiá-Fabregat M., Rodríguez-Rodríguez C.E., **Gago-Ferrero P.**, Olivares A., Piña B., Díaz-Cruz M.S., Vicent T., Barceló D., Caminal G. (2012) Degradation of UV filters in sewage sludge and 4-MBC in liquid medium by the ligninolytic fungus *Trametes versicolor*. *Journal of Environmental Management* 104: 114-120.
6. Rodríguez-Rodríguez C.E., Barón E., **Gago-Ferrero P.**, Jelic A., Llorca M., Farré M., Díaz-Cruz M.S., Eljarrat E., Petrovic M., Caminal G., Barceló B., Vicent T. (2012) Removal of pharmaceuticals, polybrominated flame retardants and UV-filters from sludge by the fungus *Trametes versicolor* in bioslurry reactor. *Journal of Hazardous Materials* 233-234: 235-243.
7. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2012) An overview of UV-absorbing compounds (organic UV filters) in aquatic biota. *Analytical and Bioanalytical Chemistry* 404:2597-2610.
8. **Gago-Ferrero P.**, Demeestere K., Díaz-Cruz M.S., Barceló D. (2013) Ozonation and peroxone oxidation process of BP3 in water: kinetics, parameter study and identification of intermediate products. *Science of the Total Environment* 443: 209-217.
9. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2013) Liquid chromatography-tandem mass spectrometry for the multi-residue analysis of organic UV filters and their transformation products in the aquatic environment. *Analytical Methods* 5:355-366.
10. Barón E., **Gago-Ferrero P.**, Gorga M., Rudolph I., Mendoza G., Zapata A.M., Díaz-Cruz M.S., Barra R., Ocampo W., Páez M., Darbra R.M., Eljarrat E., Barceló D. (2013) Occurrence of hydrophobic organic pollutants (BFRs and UV filters) in sediments from South America. *Chemosphere* 92 (3):309-316.
11. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2013) Multi-residue method for trace level determination of UV filters in fish based on pressurized liquid extraction and liquid chromatography-quadrupole-linear ion trap-mass spectrometry. *Journal of Chromatography A* 1286:93-101.
12. **Gago-Ferrero P.**, Mastroianni N., Díaz-Cruz M.S., Barceló D. (2013) Fully automated determination of nine UV filters and transformation products in natural waters and wastewaters by on-line solid phase extraction-liquid chromatography-tandem mass spectrometry. *Journal of Chromatography A* 1294:106-116.
13. **Gago-Ferrero P.**, Alonso M.B., Bertozzi C.P., Marigo J., Barbosa L., Cremer M., Secchi E.R., Azevedo A., Lailson-Brito J., Torres J.P.M., Malm O., Eljarrat E. Díaz-Cruz M.S., Barceló D. (2013) First determination of UV filters in marine mammals. Octocrylene levels in dolphins. *Environmental Science & Technology* 47 (11):5619-5625.
14. Jurado A., **Gago-Ferrero P.**, Vázquez-Suñé E., Carrera J., Pujades E., Díaz-Cruz M.S., Barceló D. (2014) Urban groundwater contamination by residues of UV filters. *Journal of Hazardous Materials* 271:141-149.
15. Rodríguez-Rodríguez C.E., Lucas D., Barón E., **Gago-Ferrero P.**, Molins-Delgado D., Rodríguez-Mozaz S., Eljarrat E., Díaz-Cruz M.S., Barceló D., Caminal G., Vicent T. (2014) Re-inoculation strategies enhance the degradation of emerging pollutants by fungal bioaugmentation in sewage sludge. *Bioresource Technology* 168:180-189.
16. Borova V., Maragou E., **Gago-Ferrero P.**, Pistos C., Thomaidis N.A. (2014) Highly sensitivity determination of 68 psychoactive pharmaceuticals, illicit drugs and related

human metabolites in wastewater by liquid chromatography – tandem mass spectrometry. *Analytical and Bioanalytical Chemistry* 406:4273–4285.

17. Ajibola A., **Gago-Ferrero P.**, Borova V., Danesaki M., Bletsou A., Thomaidis N.A. (2014) Benzosulfonamides in wastewater: method development, occurrence and removal efficiencies. *Chemosphere* 119:S21-S27.
18. **Gago-Ferrero P.**, Borova V., Danesaki M., Thomaidis N.A. (2015) Simultaneous determination of 148 pharmaceuticals and illicit drugs in sewage sludge based on ultrasound assisted extraction and liquid chromatographic-tandem mass spectrometry. *Analytical and Bioanalytical Chemistry*. Accepted.
19. Alonso M.B., Feo M.L., Corcellas C., **Gago-Ferrero P.**, Bertozzi C.P., Marigo J., Flach L., Meirelles A.C., Carvalho V.L., Azevedo A., Torres J.P.M., Lailson-Brito J., Malm O., Eljarrat E. Díaz-Cruz M.S., Barceló D. (2015) A poisonous cocktail for my baby: Maternal transfer of pyrethroid insecticides and UV filters in dolphins from Brazil. *Environmental Science & Technology*. Submitted.
20. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2015) UV filters bioaccumulation in fish from Iberian river basins. *Science of the Total Environment*. Under revision.
21. Borova V., **Gago-Ferrero P.**, Pistos C., Thomaidis N.A. (2015) Multi-residue determination of new psychoactive substances in wastewater samples by liquid chromatographic-tandem mass spectrometry. *Talanta*. Submitted.
22. Thomaidis N.A. **Gago-Ferrero P.**, Borova V., Alygizakis N., Borova V., Danesaki M., Pistos C. Changes in the drug consumption patterns associated to strong socio-economic changes in Greece through the analysis of wastewater influents. *Environmental Science & Technology*. Submitted.
23. Alygizakis N., **Gago-Ferrero P.**, Borova V., Pavlidou A., Thomaidis N.A. Occurrence and spatial distribution of 158 pharmaceuticals, drugs of abuse and related metabolites in offshore seawater. *Science of the Total Environment*. Submitted.

Conferences Presentations

Oral presentations

1. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. “Multiclass determination of UV absorbing chemicals in sediments along the Ebro River basin”. 1st. Annual Conference SCARCE, Girona (Spain), December 2010.
2. Badia-Fabregat M., **Gago-Ferrero P.**, Olivares A., Piña B., Díaz-Cruz M.S., Blánquez P., Caminal G., Barceló D., Vicent T. “Comparison of fungal biodegradation and photodegradation treatments for the elimination of UV filter benzophenone-3”. Water and Industry 2011. IWA Specialist International Conference, Valladolid (Spain), May 2011.
3. Páez M. I., Zapata A. M., Ocampo W.A., Eljarrat E., Barra R., Barón E., **Gago-Ferrero P.**, Gorga M., Rudolph I., Mendoza G., Díaz-Cruz M.S., Darbra R.M., Barceló D. “Modelo basado en lógica difusa para evaluar el riesgo en humanos por consumo de pescado procedente de los ríos Magdalena y Biobío y sus desembocaduras”. SETAC Latin America X Annual Meeting, Cumana (Venezuela), October 2011.
4. **Gago-Ferrero P.**, Badia-Fabregat M., Olivares A., Piña B., Blánquez P., Vicent T, Caminal G., Díaz-Cruz M.S., Barceló D. “Expanding the knowledge on organic UV filters in the environment: occurrence, removal and toxicity”. SETAC North America 32th Annual Meeting, Boston (USA), November 2011.
5. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. “Presencia y eliminació de filtres solars orgànics en l’ecosistema aquàtic”. Joves Investigadors, Mallorca (Spain), February 2012

6. [Navarro A.](#), [Mastroianni N.](#), **[Gago-Ferrero P.](#)**, [Osório V.](#), [Gorga M.](#), [Aceña J.](#), [López de Alda M.](#), [Díaz-Cruz M.S.](#), [Pérez S.](#), [Ginebreda A.](#), [Petrovic M.](#), [Barceló D.](#) “The Scarce Consolider Project on Iberian River Basins: surface water quality and effect of WWTPs”. [International congress on Water, waste and Energy Management](#), Salamanca (Spain) 2012.
7. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Occurrence, distribution and bioaccumulation of UV filters in water, sediment and fish from four Iberian river basins”. [SETAC EUROPE 2013](#), Glasgow (Scotland), May 2013.
8. **[Gago-Ferrero P.](#)**, [Demeestere K.](#), [Díaz-Cruz M.S.](#), [Barceló D.](#) “Ozonation and peroxone oxidation of benzophenone-3 in water: parameter study and identification of intermediate products”. [13th International Conference on Environmental Science and Technology CEST 2013](#), Athens (Greece), September 2013.
9. [Molins-Delgado D.](#), **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Determination of toxicity data of ultraviolet filters toward selected aquatic organisms for a preliminary environmental risk assessment”. [SETAC EUROPE 2014](#), Basel (Switzerland), May 2014.
10. [Thomaidis N.S.](#), **[Gago-Ferrero P.](#)**, [Bletsou A.A.](#), [Aalizadeh R.](#) “Wide-scope mass spectrometric screening determination of emerging contaminants in wastewater samples”. [10th Annual LC/MS/MS Workshop on Environmental Applications and Food Safety](#), Barcelona (Spain) July 2014.
11. **[Gago-Ferrero P.](#)**, [Bletsou A.A.](#), [Aalizadeh R.](#), [Thomaidis N.S.](#) “Suspect and non-target screening of organic micropollutants in wastewater through the development of a LC-HRMS based workflow”. [5th European Chemistry Congress EuCheMS, Istanbul](#) (Turkey) September 2014

Poster presentations

1. [Llorca M.](#), **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Presence of hormonally active UV filters in drinking water”. [IX Reunión Científica de la Sociedad Española de Cromatografía y Técnicas Afines \(SECyTA\)](#), Donosti (Spain), May 2009.
2. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Multiresidue analytical method for trace level determination of UV filters in sewage sludge”. [SETAC Europe 20th Annual Meeting](#), Sevilla (Spain) May 2010.
3. **[Gago-Ferrero P.](#)**, [Badia-Fabregat M.](#), [Blánquez P.](#), [Vicent T.](#), [Caminal G.](#), [Díaz-Cruz M.S.](#), [Barceló D.](#) “Identification and structural elucidation of the main metabolites of the sunscreens BP3 and BP1 formed in the degradation process by the fungus *Trametes versicolor*”. [13^{as} Jornadas de Análisis Instrumental \(JAI\)](#), Barcelona (Spain), November 2011.
4. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Presence of UV filters in sediments and surface waters in the Guadalquivir river basin”. [2nd. Annual Conference SCARCE](#), Madrid (Spain) November 2011.
5. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Degradation of UV filters in sewage sludge by the ligninolytic fungus *Trametes versicolor* and study of the 4MBC degradation process in liquid medium”. [SETAC EUROPE 2012](#), Berlin (Germany), May 2012.
6. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Multiresidue trace determination of UV-absorbing compounds in fish using HPLC-(ESI)-QqLIT-MS²”. [8th Annual LC/MS/MS Workshop on Environmental Applications and Food Safety](#), Barcelona (Spain) July 2012.
7. **[Gago-Ferrero P.](#)**, [Díaz-Cruz M.S.](#), [Barceló D.](#) “Bioaccumulation of UV filters in fish from four Iberian river basins”. [3rd. Annual Conference SCARCE](#), Valencia (Spain) November 2012.

8. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. “Trace analysis of UV filters in fish: method development and bioaccumulation assessment in fish species from four Iberian river basins”. 12th International UFZ-Deltares Conference on Groundwater-Soil-Systems and Water Resource Managementnd. AquaConSoil, Barcelona (Spain) April 2013.
9. Jurado A., **Gago-Ferrero P.**, Vázquez-Suñé E., Carrera J., Pujades E., Díaz-Cruz M.S., Barceló D. “Occurrence and removal of UV filters in urban groundwater of Barcelona (Spain)”. SETAC EUROPE 2014, Basel (Switzerland), May 2014.
10. **Gago-Ferrero P.**, Bletsou A.A., Aalizadeh R., Thomaidis N.S. “Non-target approach for the determination of novel micropollutants in wastewater using liquid chromatography quadrupole-time of flight mass spectrometry (LC-QTOF-MS)”. 10th Annual LC/MS/MS Workshop on Environmental Applications and Food Safety, Barcelona (Spain) July 2014.

Book Chapters

1. Badia-Fabregat M., Caminal G., Vicent T., Blanquez P., **Gago-Ferrero P.**, Olivares A., Piña B., Díaz-Cruz M.S., Barceló D. (2013). UV Filters Biodegradation by fungi, metabolites identification and estrogenic activity assessment. The Handbook of Environmental Chemistry. Volum 24: Emerging organic contaminants in sludges: analysis, fate and biological treatment. *Springer-Verlag (Germany)*, 215-240.
2. **Gago-Ferrero P.**, Díaz-Cruz M.S., Barceló D. (2015). Analysis and occurrence of PCPs in biota samples. The Handbook of Environmental Chemistry. Volum XX: Personal care products in the aquatic environment. *Springer-Verlag (Germany)*, *Accepted*.
3. Demeestere K., **Gago-Ferrero P.**, Van Lagenhove H., Barceló D., Díaz-Cruz M.S. (2015). Ozonation as an advanced treatment technique for the degradation of personal care products in water. The Handbook of Environmental Chemistry. Volum XX: Personal care products in the aquatic environment. *Springer-Verlag (Germany)*, *Accepted*.
4. Díaz-Cruz M.S., **Gago-Ferrero P.**, Badia-Fabregat M., Caminal G., Vicent T., Barceló D. (2015). Fungal-mediated biodegradation of ingredients in personal care products. The Handbook of Environmental Chemistry. Volum XX: Personal care products in the aquatic environment. *Springer-Verlag (Germany)*, *Accepted*.

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