



► Ruben Gil-Solsona

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Education

B.Sc. in Chemistry (2008-2013), University Jaume I (Castellon, Spain)

M.Sc. in Chromatographic Techniques (2013-2014), University Jaume I (Castellon, Spain), University Rovira I Virgili (Tarragona, Spain) & University of Girona (Girona, Spain)

Ph.D. in Analytical Chemistry (2015-2018), University Jaume I (Castellón, Spain)

Research Topics

PhD Thesis: “Untargeted metabolomics methodologies development based on ultra high performance liquid chromatography coupled to high resolution mass spectrometry in food safety, healthcare and nutrition fields”

Research Interests

General research interests: Reversed Phase-Liquid Chromatography (RP-LC), Food Authenticity, Food contaminants, High Resolution Mass Spectrometry (HRMS), Mass Spectrometric Detection, Separation Techniques and Mass Spectrometry, Environmental Analysis, Exposomics, Human Biomonitoring, Wastewater-based Epidemiology, Semiquantification strategies.

Projects:

AS PI:

The chemical exposome in pregnant women and metabolic dysregulations analysis towards the prioritization of hazardous chemicals (Expo-IS-omics). Funded by Marie Curie, European Comision, 12/2023-12/2025. Principal investigator.

New Directions in Wastewater-based Epidemiology. Identification of small and large biomolecules as Biomarkers of public health and industrial activities. (ND-WEB). Funded by Severo-Ochoa project. 01/09/2022-31/08/2023. Principal investigator.

AS TEAM MEMBER:

Mixing and dispersion in the transport of energy and solutes (MEDISTRAES). Funded by: I+D+i Retos Investigación (Plan Nacional, Spain), 01/01-2020 -31/12/2022.

Microplastics and microcontaminantes in the Mediterranean coast: Toxicity and environmental and human health impacts (PLAS-MED). Spanish Ministry of Science and Innovation. From 01/09-2021

Integrating human biomonitoring and wastewater-based epidemiology to assess exposure to harmful chemicals and biological agents (EXPOWASTE Spanish Ministry of Science and Innovation From 09-2020).

Publications in journals and books (Selection of 10 most relevant)

- Gil-Solsona, R., Raro, M., Sales, C., Lacalle, L., Díaz, R., Ibáñez, M., Beltrán, J., Sancho, J.V., Hernández, F., Metabolomic approach for Extra virgin olive oil origin discrimination making use of ultra-high performance liquid chromatography - Quadrupole time-of-flight mass spectrometry, *Food Control* (2016) 70, 350-359.
- Gil-Solsona, R., Hoyos-Ossa, D.E., Peñuela, G., Sancho, J.V., Hernández, J.V., Assessment of protected designation of origin for Colombian coffees based on HRMS-based metabolomics, *Food Chemistry* (2018) 250, 89-97.
- Gil-Solsona, R., Caldach-Giner, J.A., Nacher-Mestre, J., Lacalle-Bergeron, L., Sancho, J.V., Hernández, F., Pérez-Sánchez J., Contributions of MS metabolomics to gilthead sea bream (*Sparus aurata*) nutrition. Serum fingerprinting of fish fed low fish meal and fish oil diets, *Aquaculture* (2019) 498, 503-512. Open Access
- Gil-Solsona, R., Sancho, J.V., Gassner, A.L., Weyermann, C., Hernández, F., Delémont, O., Bijlsma, L., Use of ion mobility-high resolution mass spectrometry in metabolomics studies to provide near MS/MS quality data in a single injection, *Journal of Mass Spectrometry* (2021) 56 (5), e4718. Open Access
- Gil-Solsona, R., Álvarez-Muñoz, D., Serra-Compte, A., Rodríguez-Mozaz, S., (Xeno)metabolomics for the evaluation of aquatic organism's exposure to field contaminated water, *Trends in Environmental Analytical Chemistry* (2021) 31, 120310. Open Access
- Gil-Solsona, R., Castaño-Ortiz, J.M., Muñoz-Mas, R., Insa, S., Farré, M., Ospina-Alvarez, N., Santos, L.H.M.L.M., García-Pimentel, M., Barceló, D., Rodríguez-Mozaz, S., A holistic assessment of the sources, prevalence, and distribution of bisphenol A and analogues in water, sediments, biota and plastic litter of the Ebro Delta (Spain), *Environmental Pollution* (2022) 314, 120310. Open Access
- Gil-Solsona, R., Nika, M., Bustamante, M., Villanueva, C., Foraster, M., Alygizakis, N., Gomez-Roig, M.D., Llurba-Olive, E., Sunyer, J., Thomaidis, N., Dadvand, P., Gago-Ferrero P*. The potential of sewage sludge to predict and evaluate the human's chemical exposome. *Environmental Science & Technology Letters* (2022). 6, 12, 1077-84. Open Access. National press release associated.
- Gutiérrez-Martín, D., Gil-Solsona, R.*, Saaltink, M.W., Rodellas, V., López-Serna, R., Folch, A., Carrera, J., Gago-Ferrero, P., Chemicals of emerging concern in coastal aquifers: Assessment along the land-ocean interface, *Journal of Hazardous Materials* (2023) 448, 130876, Open Access, National press release associated.
- Gutiérrez-Martín, D., Restrepo-Montes, E., Golovko, O., López-Serna, R., Aalizadeh, R., Thomaidis, N.S., Marques, M., Gago-Ferrero, P., Gil-Solsona, R.*, Comprehensive profiling and semi-quantification of exogenous chemicals in human urine using HRMS-based strategies. *Analytical and Bioanalytical Chemistry* (2024) 415 (29-30), 7297-7313, Open Access

- Castaño-Ortiz, J.M., Gago-Ferrero, P., Barceló, D., Rodríguez-Mozaz, S., Gil-Solsona, R.*, HRMS-based suspect screening of pharmaceuticals and their transformation products in multiple environmental compartments: An alternative to target analysis?, *Journal of Hazardous Materials* (2024), 132974, Open Access

Conference Presentations (Selection of 5 last oral presentations)

- Combination of proteins, small-molecule and microbiological characterization for a holistic understanding of wastewater based epidemiological studies. 4th International conference on risk assessment of pharmaceuticals in the environment (ICRAPHE), Barcelona (Spain), 2023. (Best oral presentation in the conference)
- Development and application of a LC-HRMS method for the identification and quantification of CECs concern in urine. 18th International Conference on Environmental Science & Technology (CEST) Athens, (Greece), 2023.
- Evaluation of the human exposure to a broad spectrum of organic chemicals and the potential use of sewage sludge to prioritize hazardous substances. Nontarget Analysis for Environmental Risk Assessment. Durham (USA, NC), 2022.
- The chemical exposome in brain cancer: an exploratory study, 20th Annual Workshop On Emerging High-Resolution Mass Spectrometry (HRMS) And Lc-Ms/Ms Applications In Environmental Analysis And Food Safety (LC-MSMS) Barcelona, (Spain), 2022.
- Wide-scope human biomonitoring in serum in a large cohort and the potential use of sewage sludge as a proxy to contaminants prioritization 17th International Conference on Environmental Science & Technology (CEST) Athens, (Greece), 2021.