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21th May 1969
Analytical and Environmental Chemist
Laboratory of Environmental Chemistry
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Current situation

- ◆ Full Professor at Aix-Marseille University.
- ◆ Manager of the team “Transfer, Reactivity and Analysis of Micropollutants in the environment” in the Laboratory of Environmental Chemistry.
- ◆ Assistant-director of the Department “Environment” from Aix-Marseille University.
- ◆ Member of the Expert Committee “Waters” at ANSES (French National Agency for Environmental and Occupational Health Safety).

University Course

- ◆ 2005: Habilitation à Diriger des Recherches
“Sustainable management of water quality: alternative procedures for analysis and treatment”
- ◆ 1996: Ph.D. Environmental Chemistry and Health (University of Provence)
“Electrochemical oxidation of aqueous phenol solutions on platinized titanium electrodes in presence of carbon black”.
- ◆ 1992: D.E.A. “Environmental Chemistry” (University of Provence)
- ◆ 1991: Master of Physical Chemistry (University of Lille I)

Research fields

Reactivity of chemical and physical disinfectants with anthropogenic organic matter in swimming pools.
Development of analytical methods for the determination of Disinfection By-Products in seawater.
Impact of UV treatment on disinfection by-products
Development of alternative analytical methods for on-site and/or real-time determination of water quality based on flow analysis systems (MSFIA, SIA, MPFS, ...).
Development of sample pre-treatment procedures: preconcentration of targeted analytes onto modified supports; photo-oxidation of non-absorbing compounds; derivative methods for metallic ion or functional group determination.
Study of trace metallic element migration in soils and sediments (chemical speciation, interaction with natural organic matter).

Recent papers

1. T. Manasfi, V. Storck, S. Ravier, C. Demelas, B. Coulomb, J.-L. Boudenne. **Degradation products of benzophenone-3 in chlorinated seawater swimming pools.** *Environmental Science and Technology*, 49(15), 9308-9316, 2015.
2. O. R. Mouloubou, P. Prudent, S. Mounier, J.-L. Boudenne, M. G. Abaker, F. Théraulaz*. **An adapted sequential chemical fractionation coupled with UV and fluorescence spectroscopy for calcareous soil organic matter study after compost amendment.** *Microchemical Journal*, 124, 139-148, 2016.
3. D. Boudjellaba, J. Dron, G. Revenko, C. Demelas, J.-L. Boudenne. **Chlorination by-product concentration levels in seawater and fish of an industrialized bay (Gulf of Fos, France) exposed to multiple chlorinated effluents.** *Science of the Total Environment*, 541, 391-399, 2016.
4. T. Manasfi, M. De Méo, B. Coulomb, C. Di Giorgio, J.-L. Boudenne. **Identification of disinfection by-products in freshwater and seawater swimming pools and evaluation of genotoxicity.** *Environment International*, 88, 94-102, 2016.
5. T. Manasfi, M. De Méo, C. Di Giorgio, B. Coulomb, J.-L. Boudenne. **Assessing the genotoxicity of two commonly occurring byproducts of water disinfection: chloral hydrate and bromal hydrate.** *Mutation Research/Genetic Toxicology and Environmental Mutagenesis*, 813, 37-44, 2017.
6. T. Manasfi, B. Coulomb, J.-L. Boudenne. **Occurrence, origin and toxicity of disinfection byproducts in chlorinated swimming pools: An overview.** *International Journal of Hygiene and Environmental Health*, 220(3), 591-603, 2017.
7. T. Manasfi, B. Temime-Roussel, B. Coulomb, L. Vassalo, J.-L. Boudenne. **Occurrence of brominated disinfection byproducts in the air and water of chlorinated seawater swimming pools.** *International Journal of Hygiene and Environmental Health*, 220(3), 583-590, 2017.

8. B. Coulomb, F. Robert-Peillard, E. Palacio, R. Di Rocco, J.-L. Boudenne. **Fast microplate assay for simultaneous determination of thiols and dissolved sulfides in wastewaters.** *Microchemical Journal*, 132, 205-210, 2017.
9. E. Mattio, F. Robert-Peillard, C. Branger, K. Puzio, A. Margaillan, C. Brach-Papa, J. Knoery, J.-L. Boudenne, B. Coulomb. **3D-printed flow system for determination of lead in natural waters.** *Talanta*, 168, 298-302, 2017.
10. F. Robert-Peillard, E. Palacio Barco, M. Ciulu, C. Demelas, F. Théraulaz, J.-L. Boudenne, B. Coulomb. **High throughput determination of ammonium and primary amine compounds in environmental and food samples.** *Microchemical Journal*, 133, 216-221, 2017.
11. W.A. Cheema, T. Manasfi, K.M.S. Kaarsholm, H.R. Andersen, J.-L. Boudenne. **Effect of medium-pressure UV-lamp treatment on disinfection by-products in chlorinated seawater swimming pool.** *Science of the Total Environment*, 599-600, 910-917, 2017.
12. J.-L. Boudenne, J. Parinet, C. Demelas, T. Manasfi, B. Coulomb. **Monitoring and factors affecting levels of airborne and water bromoform in chlorinated seawater swimming pools.** *Journal of Environmental Sciences*, 58, 262-270, 2017.
13. T. Manasfi, B. Coulomb, S. Ravier, J.-L. Boudenne. **Degradation of Organic UV filters in Chlorinated Seawater Swimming Pools: Transformation Pathways and Bromoform Formation.** *Environmental Science and Technology*, 51(23), 13580-13591, 2017.
14. M. Ciulu, N. Ollivier, C. Demelas, J.-L. Boudenne, B. Coulomb, F. Théraulaz, F. Robert-Peillard. **A highly-sensitive microplate fluorimetric method for the high-throughput determination of nitrate ion in aqueous compost extracts.** *Microchemical Journal*, 138, 424-429, 2018.
15. E. Mattio, F. Robert-Peillard, L. Vassalo, C. Branger, A. Margaillan, C. Brach-Papa, J. Knoery, J.-L. Boudenne, B. Coulomb. **3D-printed lab-on-valve for fluorescent determination of cadmium and lead in water.** *Talanta*, 183, 201-208, 2018.
16. T. Manasfi, K. Lebaron, M. Verlande, J. Dron, C. Demelas, L. Vassalo, G. Revenko, J.-L. Boudenne. **Characterization of chlorination byproducts in marine waters and sediments in a semi-enclosed bay exposed to multiple industrial chlorinated effluents.** *International Journal of Hygiene and Environmental Health*, 222, 1-8, 2019.
17. T. Manasfi, M. De Méo, B. Coulomb, C. di Giorgio, S. Ravier, J.-L. Boudenne. **Development of transient mutagenic activity following the chlorination of the sunscreen UV filter dioxybenzone (benzophenone-8) in bromide-rich water.** *International Journal of Hygiene and Environmental Health*, 222(4), 663-669, 2019
18. K. Lebaron, L. Mechiri, S. Richard, A. Austruy, J.-L. Boudenne, S. Coupé. **Assessment of individual and mixed toxicity of bromoform, tribromoacetic-acid and 2,4,6 tribromophenol, on the embryo-larval development of *Paracentrotus lividus* sea urchin.** *Environmental Science and Pollution Research*, 26(20), 20573-20580, 2019.
19. E. Mattio, N. Ollivier, F. Robert-Peillard, R. Di Rocco, C. Branger, A. Margaillan, C. Brach-Papa, J. Knoery, D. Bonne, J.-L. Boudenne, B. Coulomb. **Modified 3D-printed device for mercury determination in waters.** *Analytica Chimica Acta*, 1082, 78-85, 2019
20. R. Chehab, B. Coulomb, J.-L. Boudenne, F. Robert-Peillard. **Development of an automated system for the analysis of inorganic chloramines in swimming pools via multi-syringe chromatography and photometric detection with ABTS.** *Talanta*, 207, 2020

Diffusion of research

Articles : 70
 Book chapters : 9
 Oral Communications : 42
 Poster presentations : 51

Commercialization of research

International Patents : 7 (5 exploited)