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FACULDADE DE CIÊNCIAS E TECNOLOGIA
UNIVERSIDADE NOVA DE LISBOA

Chemistry Department

Environmental Fate of Organic Micropollutants

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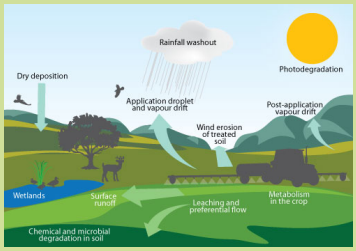
- PhD student - FCT-UNL under the supervision of João Paulo Noronha, Carlos Vale and Gerhard Sontag
- MSc. in European Environmental Analytical Chemistry

Skills & Expertise

Analytical Chemistry, Mass spectrometry, Chromatography

Objectives

- Identification of processes by which organic micropollutants move and are transformed in the environment based on three main factors:
  - Partitioning of organic micropollutants between environmental media
  - Characterization of the medium into which contaminants are released
  - Transformation processes – lifetime and mechanisms of degradation
- Evaluation of the impact of relevant organic micropollutants on aquatic organism.



Methodology

- Development and validation of multiresidue analytical methods involving green extraction procedures and chromatographic techniques (GC-MS, GC-ECD, LC-MS)
- Spacial and temporal water, sediments and biota sampling for multiresidue analysis.
- Photodegradation tests and identification of the corresponding metabolites.
- Accumulation and depuration tests using representative species. Ecotoxicological studies – determination of biomarkers.

Expected Results

To contribute to a better understand of the environmental fate of organic micropollutants and their impact, especially in coastal lagoons.

To identify possible sources of contamination and which contaminants are more relevant.

To provide elements and relevant data for monitoring programmes under the Water Framework Directive.

To define possible bioindicators has 'early warning' tools of water quality deterioration.

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