

FPU EoI CSIC-IDAEA-ENFOCHEM 2024-1

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TITLE: Non-targeted analysis and prioritization of contaminants of emerging concern in different environmental compartments (water, sediment, air, biota) from case studies of interest.

PROJECT DESCRIPTION: Climate change and human activity are two connected global challenges that have enormous consequences for the environment and human health, among them the release and increasing presence of the so-called contaminants of emerging concern (CECs). However, the occurrence and impact of CECs, and their transformation products (TPs), in most of the environmental compartments are largely unknown. In this context, our studies aim to contribute to fill this gap by developing and applying novel methods and tools for the identification, (semi) quantification, risk assessment and prioritization of CECs in different environmental compartments (water, sediment, air, biota) from case studies of interest (e.g. Antarctica, Spanish coast, Catalonia) where application of the proposed approaches and current knowledge on CECs and TPs is very scarce or nule, but extremely timely, groundbreaking and necessary.

ACTIVITIES TO BE PERFORMED BY THE CANDIDATE: The candidate will collaborate in various research projects and contracts currently underway that pursue the above objectives, learning the analytical techniques and tools needed for their accomplishment, with the support and supervision of the research group leader and her team.

TRAINING PLAN: At the host institution, the researcher will be integrated within the ENFOCHEM unit, which is at the forefront of environmental analytical chemistry. The candidate will gain experience in:

- The use of state-of-the-art HRMS instrumentation
- Analysis and prioritization of CECs in environmental matrices
- Environmental risk assessment

The candidate will receive additional training by attending courses organized throughout the year by CSIC about transferable skills in communication, leadership, scientific writing, European project proposals preparation, innovation & knowledge transfer activities, and others.

The candidate will develop other essential transferable skills, such as:

- scientific writing skills by writing peer-reviewed articles and deliverables,
- dissemination and presentation skills by participating in scientific events, and communicating with non-specialists through participation in outreach activities.

KEYWORDS: Contaminants of Emerging Concern, Environmental Analytical Chemistry, Untargeted Analysis, Environmental Monitoring, Climate Change and Adaptation, Environmental Risk Assessment, Human Health Risk, Circular Economy, Sewage-based Epidemiology.