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norwater

EMERGING POLLUTANTS IN THE HYDROGRAPHIC BASINS OF NORTHERN PORTUGAL AND GALICIA

NEW TOOLS FOR RISK MANAGEMENT

What are EPs?

Emerging pollutants (EPs) are compounds of diverse origin and chemical nature which are present in the environment. Since they were not considered in the past, they have not been studied in depth at a scientific level. For this reason, they are more accurately referred to as contaminants of emerging concern. In many cases, it is still not known whether they pose an ecological risk or present potential adverse health effects (Dulio et al., 2018; Water JPI, 2018). They include a wide range of chemical, pharmaceutical, personal care and flame-retardant compounds, as well as surfactant, plasticizers and industrial additives. Most of these compounds are still unregulated. However, they may be candidates for future regulation depending on the research conducted on their occurrence and impact on the environment, as well as on their possible harmful effects on health. In 2015 the European Union launched a "Watch List" (Decision 2015/495) to monitor, within the scope of the Water Framework Directive (WFD), these and other pollutants with a view to their possible future regulation.

The norwater project

NOR-WATER is aimed at identifying the main emerging pollutants (EPs) and their sources in the hydrographic basins of northern Portugal and Galicia. In addition, it is focused on developing, implementing and harmonizing a set of innovative multidisciplinary tools to minimize the impact of emerging pollutants on these water bodies. The project will also contribute to the improvement of water quality and will enhance the implementation of the Water Framework Directive (WFD) in this cross-border area.

The project has been co-funded by the European Regional Development Fund (ERDF) through the Program INTERREG V-A Spain-Portugal (POCTEP) 2014-2020 with a total budget of 579.475,41 € (ERDF Contribution: 434.606,56 €). Duration: 04/2019 - 12/2021.

The four main objectives

1 Identifying the main emerging pollutants (EPs), including fire-related runoff compounds in rivers, as well as their sources and transformation products (TPs), in the hydrographic basins of northern Portugal and Galicia.

3 Assessing the efficiency of wastewater treatment plants (WWTPs) in removing EPs, as well as developing tools to improve treatment systems and increase their efficiency in EP removal.

2 Developing new analytical methods and ecotoxicological tools, as well as prediction and modeling tools, for those EPs which pose the highest potential risk to ecosystems.

4 Transferring the results to the entities that are responsible for the implementation of the WFD in the management of inland and coastal water bodies, as well as to the technology companies in charge of water treatment. In parallel, cross-border activities focused on environmental education are intended to be carried out, thus contributing to a behavioral change in civil society.

Working streams and expected results

1 DEFINITION OF STUDY AREAS FOR EMERGING POLLUTANTS (EPs)

2 DESTINATION AND TRANSFORMATION OF EPs AND MODELING OF THEIR BEHAVIOR: MONITORING TOOLS

3 DEVELOPMENT OF NANOTECHNOLOGIES FOR WASTEWATER TREATMENT

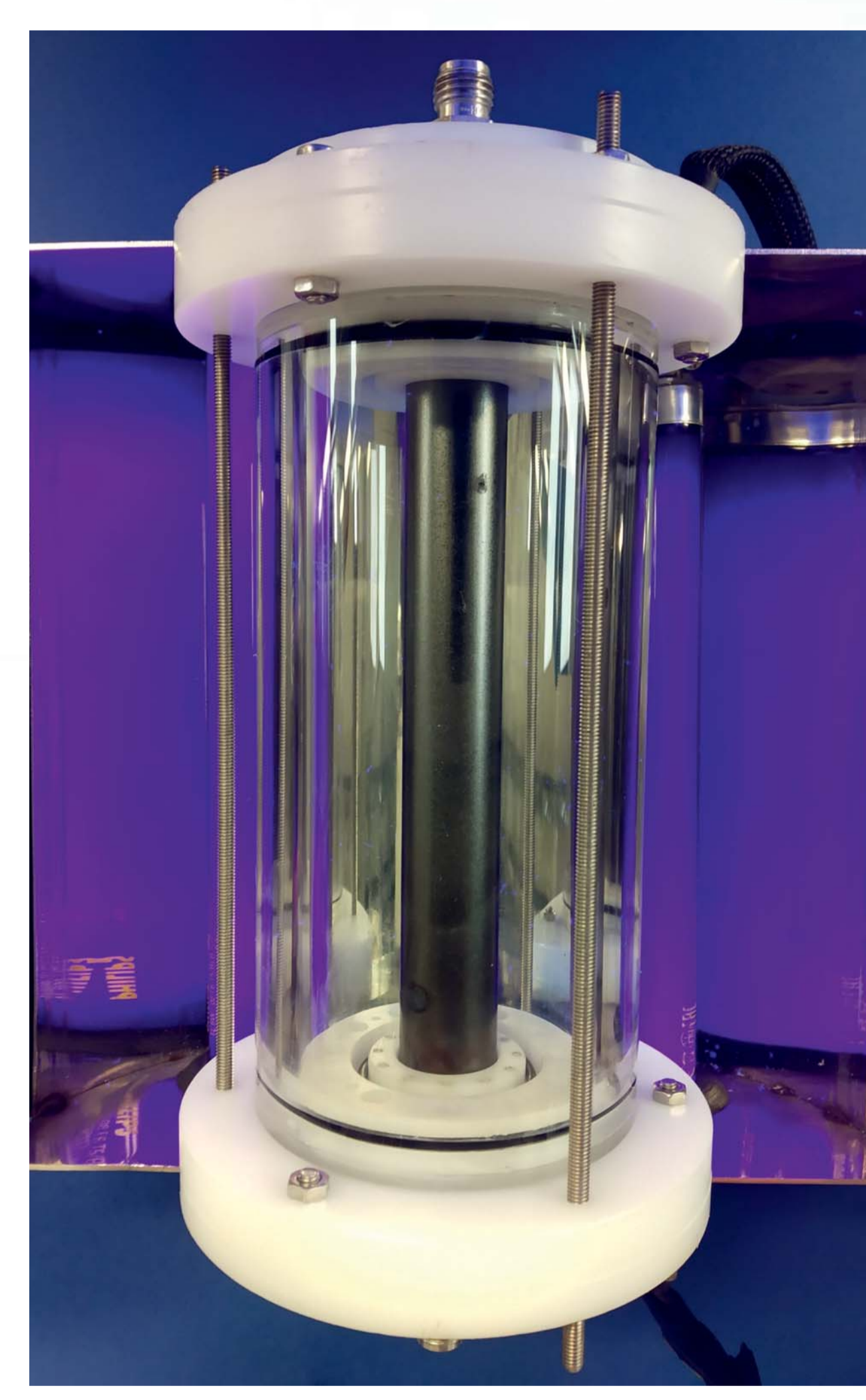


4 DEVELOPMENT OF NEW MODELING AND ECOTOXICOLOGICAL TOOLS TO ASSESS THE ENVIRONMENTAL RISK OF EPs

5 ENVIRONMENTAL TRAINING AND AWARENESS ACTIVITIES AND TRANSFERENCE OF KNOWLEDGE AND TECHNOLOGY



6 ORGANIZING CROSS-BORDER ENVIRONMENTAL EDUCATION ACTIVITIES TO RAISE AWARENESS AMONG SOCIETY



Partners



CIIMAR (Centro Interdisciplinar de Investigação Marinha e Ambiental), Univ. do Porto (Coordinador)



USC Universidade de Santiago de Compostela



Laboratório Associado LSRE - LCM (Laboratório de Processos de Separação e Reação - Laboratório de Catálise e Materiais), Univ. do Porto



FEUP FACULDADE DE ENGENHARIA UNIVERSIDADE DO PORTO



INTECMAR Instituto Tecnológico para o Control do Medio Mariño de Galicia



CETMAR Centro Tecnológico del Mar Fundación CETMAR



APA, IP - ARH do Norte (Agência Portuguesa do Ambiente, IP - Administração da Região Hidrográfica do Norte)



CM - Viana do Castelo - CMIA Câmara Municipal de Viana do Castelo - Centro de Monitorização e Interpretação Ambiental



CMVNC-Aquamuseu Câmara Municipal de Vila Nova de Cerveira - Aquamuseu do Rio Minho



With the collaboration of



ANABAM Associação Naturalista "Baixo Miño"

Advisory board



EFACEC



Águas do Norte



Augas de Galicia



Confederación Hidrográfica del Miño-Sil, CHMS



XUNTA DE GALICIA CONSELLERÍA DE SANIDADE Dirección Xeral de Saúde Pública

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