

# Life Clean Up

LIFE16 ENV/ES/000169



# PRESENTATION

Life Clean Up is a European project approved under the Life Program. This program was developed in order to be an instrument of financing for the environment and climate action

## AIMS

LIFE CLEAN UP aims to improve the management of wastewater depuration by an efficient and environmentally friendly technology that allows to obtain treated water free of emerging pollutants.

The main objective is to validate an elimination system of emerging pollutants and other pathogens that are not the targets of current water management systems, causing great impacts over ecosystems and human health.

## IMPLEMENTATION

The specific objectives are:

- 1 To optimize the adsorption capacity of the materials used against different families of emerging pollutants.
- 2 To adapt the methodology for producing at industrial scale polymers and biomaterials.
- 3 To validate economically and environmentally the AOPs applied (light pulses, photocatalysis and photosensitizers).
- 4 To validate and demonstrate a semi-industrial prototype in a WWTP that integrates the proposed technologies (retention by adsorbent materials and destruction by AOPs).
- 5 To validate the process by comparing laboratory results and plant results.
- 6 To propose a solution based in the use of renewable energies to implement the system at semiindustrial and industrial scale.

- 7 To raise awareness on emerging pollutants, their causes, consequences and options to minimize the appearance in wastewater.
- 8 To develop a commercial product for its launch to market once the project is finalized

## Expected results

The main technical result is the validation of a depuration system that retains more than 90% of EPs by means of adsorbent materials. For this, the features of different cyclodextrins, and two types of biomaterials (hydrogels and agricultural residues) will be assessed to reach a elimination rate as high as possible. At the end of the whole process, degradation by AOPs of adsorbed EPs and those still present in treated wastewater will be up to 98%.

Other project results:

- 1 Guidelines for the production of different adsorbent materials of EPs with several applications in the field of water treatment.
- 2 Working protocols and operational criteria about light pulses, photocatalysis and photosensitizers to eliminate organic pollutants.
- 3 Prototype and setting default values of the treatment equipment at semi-industrial and industrial scales.
- 4 Technical and economic feasibility of a wastewater treatment plant based on a system of adsorption and advanced oxidation.
- 5 Cost-benefit analysis, market study, business plan and exploitation plan of the proposed system.
- 6 Socio-economic and business benefits for the participating companies that, at the midterm, will have a new product whose characteristics will make it unique in the global market.
- 7 Industrial uses in the treatment and recuperation or destruction of diverse organic compounds: pharmaceutical, health and care, cosmetics and chemical industries, etc.

# PARTNERSHIP



**UCAM**

UNIVERSIDAD CATÓLICA  
DE MURCIA

Fundación Universitaria  
San Antonio (ES)



Hidrogea



Hidrotec Tratamiento de Aguas



**REGENERA**  
*energy&environment*

Regenera Levante



**Centro  
Tecnológico  
Nacional de la  
Conserva y  
Alimentación**

Centro Tecnológico  
Nacional de la Conserva y  
Alimentación



**UNIVERSITÀ  
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ALDO MORO**

Università Degli Studi di  
Bari Aldo Moro



Consiglio Nazionale  
delle Ricerche  
Consiglio Nazionale Delle  
Ricerche

# RESEACHERS



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Researcher



David Heiser  
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María Isabel Fortea  
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Ángel Pablo Cano Gómez  
Dissemination coordinator

## BUDGET

Overall Budget: 1.492.512€

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# WHAT IS THE OPRI

The International Project Office (OPRI) is an office linked to the Vice-rectorate of Research, responsible for the management of international research projects at UCAM. The OPRI was founded to strengthen the collaboration between our partners all around the world in the field of research. The unit was established in 2012 and has built strong alliances in 36 countries in which the university has to date participated in 57 projects. The internationalization of the Catholic University of Saint Anthony, through the OPRI, is directed towards all of the university community, researchers as well as students. A total of 192 students have participated already in projects in a variety of countries all over the continent.

Currently we are leading international projects like LIFE Clean Up, and LIVERUR. UCAM also has been awarded a postdoctoral Marie Curie with the project "POCBIOPEP" related to the study of cellular markers in blood from the intake of Pork Cured BIOactive PEPTides. Likewise, the UCAM, recognized by European institutions for its work in research and management of sports projects, such as dual career (education + sport) is coordinating the projects "ESLP" inside the call Erasmus+ Sport.

# OBJECTIVES

- 1 Increase international presence UCAM in the European Union through participation in networks of knowledge, technological and scientific platforms, dissemination seminars, technical conferences and other events promoting R&D organized by the EU, with the presence of renowned professionals.
- 2 Increase the participation rate of UCAM in European R&D, either as leaders or as partners.
- 3 Increase the success rate of proposals presented by researchers at the UCAM to European and international R&D.
- 4 Improve the rate of return derived from the participation of the UCAM in European R&D.
- 5 To promote European values.
- 6 Establish a commitment for university students towards European

# OPRI DATA

<b>Approved projects</b>	<b>57</b>
<b>Important active projects</b>	<b>16</b>
<b>Number of researchers involved in projects</b>	<b>71</b>
<b>Number of project partner countries</b>	<b>36</b>
<b>Number of students involved in projects</b>	<b>160</b>
<b>Total budget of approved projects</b>	<b>€11.877.492,70</b>





UCAM considers the international communication as the key for its growth and in achieving great results together with the advancing contribution in all scientific areas.

With the OPRI, UCAM is aligned with the R&D policies of the European Union and the Ministry of Science and Innovation.



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**OPRI** International Project Office



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