

JOB VACANCY ANNOUNCEMENT

VAC-2024-41 – Research Engineer (DIGIT4WATER project)

Number of places: 1

Category: Innovation Trainee 2

Workplace: Madrid

Salary (gross): 22.997,69 €/year

Weekly working hours: 40h/week

Expected start date: October 1st 2024

Functions to be developed:

The main objective of the DIGIT4WATER project is to create digital tools to improve advanced tertiary treatments, by predicting removal levels of target pollutants. To this end, an Early-Warning System (EWS) and a Decision Support Tool (DST), based on Machine Learning (ML) models, will be developed. Such models will be fed by an open database on physicochemical characteristics of actual Municipal Wastewater Treatment Plants (MWWTP) influents and effluents, as well as advanced regeneration tertiary treatments tested at laboratory and pilot plant scale for compliance with the new European regulation (EU 2020/741) on water reuse.

The work will be carried out within the framework of a research project entitled “DIGIT4WATER - Development of digital tools based on Machine Learning models for the prediction of removal levels of different pollutants in advanced tertiary treatments”, whose principal investigators are Dr. David J. Vicente González and Dr. Fernando Salazar González, research and leader respectively of the “Machine Learning in Civil Engineering” research group. This contract is part of the project TED2021-129969B-C33 funded by MICIU/AEI /10.13039/501100011033 and by European Union NextGenerationEU/ PRTR. Project TED2021-129969B-C33 funded by:



The candidate is expected to develop digital tools to improve advanced tertiary treatments, by predicting removal levels of target pollutants. To this end, Python programming language will be used in order to carry out the following tasks: (i) develop algorithms to create an Early-Warning System (EWS) and a Decision Support Tool (DST), (ii) connect a set of pre-existing Machine Learning models with the above algorithms and (iii) elaborate Graphical User Interfaces (GUIs) that allow third-users to operate these digital tools.

More information about the Project available at: CIMNE RTD (Project: [DIGIT4WATER](#)).

A CONSORTIUM OF



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Required skills:

- Experience in the fields of “data science” and application of Machine Learning models
- Programming in “Python” language

Other valued skills (not mandatory):

- Development of decision support tools and graphical user interfaces
- Knowledge in the field of water quality treatment and online monitoring systems

Qualification system:

The requisites and merits will be evaluated with a maximum note of 100 points. Such maximal note will be obtained summing up the following points:

- **Previous research and academic experience in the field of the position:** 30%
- **Programming skills:** 35%
- **Language skills:** 5% (English)
- **Test and/or interview:** 30%

Candidates must complete the "Application Form" form on our website, indicating the reference of the vacancy and attaching the required documents.

The deadline for registration to the offer ends on September 9th, 2024 at 12 noon.

The preselected candidates may be requested to send the documentation required in the "Requirements" and "Merits" sections, duly scanned, and may be called to go through selection tests (which might be of eliminatory nature) and / or personal interviews.

Commitment to inclusivity:

At CIMNE, we champion workplace equity, diversity, and inclusion. We're committed to fostering a culture where everyone can thrive, leveraging diverse talents and backgrounds. We welcome all applicants regardless of color, religion, gender, origin, abilities, gender identity, sexual orientation, pregnancy or any other characteristic. Join us in building a community that values, celebrates, and respects every individual.

HR Excellence in Research:

CIMNE welcomes and supports the principles of European Commission's European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, embracing a transparent, attractive, and open labour market in research. The centre's Human Resources Strategy for Researchers (HRS4R) includes an action plan with actionable short and long-term actions to support a high-quality working environment for all. Further information can be found [here](#).