

PhD position in Impact of Structure on Mixing and Dispersion Dynamics in Heterogeneous Porous Media

The role

We are offering a PhD scholarship on convective mixing in heterogeneous porous media. The position is funded by the European Union Marie Skłodowska-Curie Innovative Training Network CoPerMix (grant number 956457) on Control, Prediction and Learning in Mixing Processes within the Horizon 2020 Programme of the European Commission. CoPerMix is a consortium of high profile universities, research institutions and companies located in France, Spain, Germany, Switzerland, Belgium, Italy and the UK, and will train 15 PhD students in total (Early Stage Researcher, ESR). The objective of the network is to develop a unified vision, numerical tools, and experimental techniques allowing the description and the quantification of mixing processes in complex flows, such as turbulent atmospheric or oceanic flows and those encountered in geological, granular and biological media. The PhD student will be based at Barcelona at the Institute of Environmental Assessment and Water Research (IDAEA-CSIC).

What do we look for?

- **Qualifications**
Master degree in physics, hydrogeology, geophysics, civil engineering, environmental physics, soil physics, engineering sciences, or a related discipline.
- **Professional experience**
Experience in theory driven research with a clear view for applications.
- **Competences**
 - High level of English
 - Knowledge and skills in quantitative research.
 - Skills in programming and scientific software.
 - Interest in collaborative multi-disciplinary research.

Working conditions

- **Contract duration: 24 months**
- Estimated annual gross salary: The successful candidate will receive an attractive salary in accordance with the MSCA regulations for early stage researchers. The exact salary will be confirmed upon appointment and is dependent on the country correction factor (to allow for the difference in cost of living in different EU Member States). The salary includes a living allowance, a mobility allowance and a family allowance (if married).
- Target start date: **1st October 2022**

Eligibility Criteria

- **Mobility:** At the time of recruitment, the applicant must not have resided or carried out his/her main activity (work, studies, etc.) in the country of the host organization for more than 12 months in the 3 years immediately prior to his/her recruitment. Compulsory national service and/or short stays such as holidays are not taken into account.
- **Qualifications and research experience:** The applicant must fulfill the requirements defined for Early Stage Researchers (ESRs): ESRs are researchers who, at the time of recruitment, have NOT yet been awarded the doctorate degree and are in the first 4 years (full-time equivalent) of his/her research career.

The group

The [Groundwater and Hydrogeochemistry](#) group studies the hydraulic, chemical, thermal and mechanical processes that take place in porous media from pore to regional scale. The group employs mathematical and numerical approaches as well as laboratory and field scale experiments and sampling methods (using hydraulic, hydro-geochemical and environmental isotope data sampled directly or through specifically designed tests).

The institute

The **Institute of Environmental Assessment and Water Research (IDAEA)** is an environmental science institute devoted to the study of the human footprint on the biosphere. Much of the research work at this institute is centred on two of the great environmental challenges of our time: cleanliness and availability of water and quality of air.

Founded in 2008 as a member of the **Spanish National Research Council (CSIC)**, the Institute brings together a wide range of expertise in environmental science. It is organized under two Departments (Environmental Chemistry and Geosciences), established with a strong record of publication in top scientific journals, leading international projects, membership on international committees, and adopting a high-profile contribution to the identification and remediation of environmental problems.

IDÆA has demonstrated strengths in the analysis of organic pollutants and their impact on ecosystems, the study and management of water resources, the development of multivariate resolution algorithms in chemometrics, and in the study of inhalable particulate matter and toxic gases.

IDÆA has been recently awarded with the distinctive **Centre of Excellence “Severo Ochoa”** (2020-2023), distinction that indicates the high-quality scientific leadership and global impact of the work developed at the centre.

We offer a diverse and inclusive environment where no discrimination against disability, gender, nationality, religion or sexual orientation will occur during the selection process.

How to apply?

Those interested may email their **CV**, a **motivation letter**, your **diploma and transcripts of records** (BSc and MSc) and **contact information of two academic reference** to **Dr Marco Dentz** at marco.dentz@csic.es adding **PhD position ITN CoPerMix** to the email subject.

Deadline: 29th October 2022