

Postdoctoral position: 4 projects on Mediterranean, oceanic, coastal, and island ecosystems

Applications are invited for a highly motivated and independent scientist to join the the Mediterranean Institute for Advanced Studies, IMEDEA (CSIC/UIB), in Mallorca.

This is an exceptional opportunity for candidates with interest in interdisciplinary research and innovative approaches to enhance their knowledge and skills while interacting with a multidisciplinary group of researchers working at the frontline of marine, coastal and island ecosystems research.

Role Purpose and Responsibilities: The post-holder should address a gap in the ongoing research carried out at the Institute, contributing expertise in novel techniques or innovative ideas for the examination of Mediterranean, oceanic, coastal, and island ecosystems. We have designed a portfolio of interdisciplinary projects that bring together diverse research groups to facilitate seamless collaboration. Applicants are required to specify, at the time of application, the project for which they wish to be considered. Each applicant is allowed to choose only one project:

Project 1: Groundwater-Energy-Seawater Dynamics in Coastal Regions under Future Climate Change.

Project 2: Application of AI techniques for the analysis of extreme climatic episodes in the ocean.

Project 3: Bioinformatics and genomic analyses for biodiversity research in coastal environments.

Project 4: Socio-ecological dynamics and connectivity in highly complex ecosystems.

More information about the projects can be accessed [here](#).

ESSENTIAL KNOWLEDGE/SKILLS

Project 1:

- A PhD in Engineering, Physics, Geology, or Earth Sciences.
- Knowledge and proved experience in hydrogeology.
- Strong numerical modelling skills.

Project 2:

- A PhD degree in Physics, Mathematics, Computer Sciences, Engineering, or related fields.
- Advanced proficiency in machine learning and AI algorithm, particularly applied to oceanographic data analysis, climate modelling, and autonomous marine systems.

Project 3:

- A PhD degree in Bioinformatics, Genetics, Biology, or Computer Sciences.
- Knowledge and proved experience in laboratory genomic analyses.
- Strong computational and data analysis skills (python, R).

Project 4:

- A PhD degree in a relevant field such as Ecology, Environmental Science, Marine or Terrestrial biology, or a related discipline.
- Expertise in network analysis, preferably applied to ecological systems, social systems or supply chains.
- Strong quantitative and computational skills (Python and R are necessary).

All Projects:

- Proven ability to publish research in peer-reviewed journals.
- Excellent communication and collaboration skills
- Excellent knowledge of written and oral English.
- Creative, solution-oriented and open to challenges.

DESIRABLE KNOWLEDGE/SKILLS

Project 1:

- Knowledge on shallow geothermal energy.
- Knowledge on variable density flow and seawater intrusion.
- Capacity to build hydrogeological conceptual models from geological data.

Project 2:

- A deep understanding of oceanographic processes
- A commitment to contributing to sustainable practices and conservation efforts.

Project 3:

- Proficiency in the use of genomic computing tools developed in Linux environments, particularly on computer clusters (e.g. genome assembly and annotation pipelines).
- Scripting proficiency for automate tasks using Bash or other scripting languages (e.g. scripting bulk transcriptomic and epigenetic experiments).

Project 4:

- Experience in assessing the role of biodiversity, habitat connectivity, and ecosystem functions.
- Expertise in analysing socio-economic consequences of the globalization of natural resources.
- Knowledge of Mediterranean natural resources and their economic dependencies.
- Knowledge of spatial planning principles and methodologies.
- Experience in data collection, analysis, and interpretation within the context of ecosystem dynamics and socio-economic factors.

- Willingness to explore innovative approaches in studying intricate connections within ecosystems.
- Proficiency in geospatial analysis tools and Geographic Information System (GIS) software.

All Projects:

- Ability to work in an interdisciplinary team.
- Experience in overseeing multiple aspects of a research initiative, from data collection to analysis and reporting.

OTHER INFORMATION

The Mediterranean Institute for Advanced Studies, is a joint research centre between the Spanish National Research Council (CSIC) and the University of the Balearic Islands (UIB). IMEDEA specialises in the study of marine, coastal and island ecosystems, their characteristics, functioning and evolution. We consider physical, geochemical, and biological aspects of the natural environment and analyse the processes that occur from molecular scales to planetary dimensions. We understand that scientific knowledge is a value in itself. However, our research also seeks to address certain social challenges such as adapting / mitigating the effects of climate change, biodiversity loss, ecosystem protection and restoration, and sustainable management of natural resources. The different lines of research of IMEDEA can be integrated into three general areas of action: 1) Climate, ocean dynamics and the effects of global change; 2) Structure and functioning of ecosystems; and 3) Biodiversity and evolution.

Due to its natural resources and climate, Mallorca is an exceptional place to live and work.

Salary: Approximately 42K € annual gross salary.

Contract and funding: The contract will extend to the end of 2026. This position is funded within the framework of the “Maria de Maeztu Excellence Unit” accreditation of IMEDEA, Grant CEX2021-001198 (2023-2026) funded by MCIN/AEI/10.13039/501100011033.

Closing date: 31 January 2024

Starting date: 01 May 2024

How to apply: To apply, please send your CV and a cover letter to the Strategic Development Office at sdo@imedea.uib-csic.es. For informal inquiries, you may use the same email address. The formal application process will be finalized later through the dedicated CSIC platform.