Institut de Ciències del Mar

Pg. Marítim de la Barceloneta, 37-49
08003 Barcelona
+34 932 309 500
www.icm.csic.es

Job Offer

PhD Position Opportunity: Autonomous Vehicles and Advanced Control Strategies in Marine Robotics

The Institut de Ciències del Mar (ICM) of the Spanish National Research Council (CSIC) is the most multidisciplinary research institute on marine science in Spain, and the leading scientific organization in Southern Europe. It is also the first marine science centre to be accredited as a **Severo Ochoa Centre of Excellence**, a recognition to the institution's leadership in the field of marine research in Spain and to its commitment to create social impact.

Our goal is to develop **research of excellence** to inspire a society in harmony with the blue planet, in line with the values of the **United Nations Decade of Ocean Science for Sustainable Development (2021-2030)**.

For further information, please visit the our website.

The role and the team

The **Instituto de Ciencias del Mar (ICM-CSIC)** invites applications for a 4-years **fully-funded PhD position** as part of the innovative EU **project "Demonstration of long-endurance intelligent multi-purpose autonomous vehicles for marine applications" (MERLIN)**, focusing on the next generation of autonomous marine vehicles and bioinspired robots. Join a prestigious research team at ICM-CSIC, a leading institute in marine sciences, and contribute to cutting-edge developments in coastal and deep-sea exploration.

Position Overview

The successful PhD candidate will be central to the **generation of technical requirements** for the development of **Autonomous Underwater Vehicles (AUVs)** and **Unmanned Surface Vehicles (USVs)**. The candidate will also work on the creation of **advanced control strategies**, incorporating bioinspired design elements to enhance the autonomy and performance of these marine robots.

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES
CSIC Consejo Superior de Investigaciones Científicas
EXCELENCIA SEVERO OCHOA

Grant CEX2019-000928-S funded by MCIN/AEI /10.13039/501100011033. (2020-2023)

Pg. Marítim de la Barceloneta, 37-49
08032 Barcelona
+34 932 309 500
www.icm.csic.es

➢ Key Research Areas:

- **Autonomous Vehicle Design:** Define technical requirements for state-of-the-art autonomous systems, optimizing for minimal human intervention.
- **Control Systems Development:** Design advanced control strategies for USVs and bioinspired robots to improve their performance in diverse marine conditions.
- **Bioinspired Robotics:** Explore natural biological mechanisms to inspire innovative robotic systems that excel in complex underwater environments.
- **Mission Planning and Execution:** Collaborate with the MERLIN team on integrating AI-driven navigation, data acquisition, and mission control in real-world marine operations.

➢ About the MERLIN Project

MERLIN is a ground-breaking project aimed at revolutionizing ocean exploration through the development of autonomous marine systems. The project focuses on seabed mapping, marine habitat monitoring, and offshore infrastructure inspection, leveraging AI, renewable energy, and robotic advancements. MERLIN seeks to reduce operational costs while enhancing capabilities for sustainable Blue Economy solutions.

Requirements

- A highly motivated candidate with a background in **mechanical engineering, robotics, computer science**, or a related field.
- Experience in **control systems, AI, machine learning**, or marine robotics is a plus.
- Strong interest in **autonomous systems**, underwater technology, and bioinspired robotics.
- Excellent problem-solving skills, and the ability to work independently and collaboratively in a multidisciplinary environment.
- Fluent in English (both written and spoken), Spanish and Catalan are a plus

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES
CSIC Consejo Superior de Investigaciones Científicas
EXCELENCIA SEVERO OCHOA

Grant CEX2019-000928-S funded by MCIN/AEI /10.13039/501100011033. (2020-2023)

Pg. Marítim de la Barceloneta, 37-49
08032 Barcelona
+34 932 309 500
www.icm.csic.es

The offer

- A **fully-funded PhD position** at the **Instituto de Ciencias del Mar (ICM-CSIC; www.icm.csic.es)** during the 4 years of the project duration.
- An opportunity to contribute to **ground-breaking** research in autonomous marine exploration.
- Access to world-class research facilities, field trials, and academic mentorship.
- Collaboration with **leading experts** in marine robotics, AI, and marine science.
- A vibrant, collaborative academic environment located in Barcelona, Spain.

We are offering a contract with the following conditions:

- **Estimated annual gross salary**: Salary will range between €27.000 and €34.000 approx. commensurate with qualifications and experience, and consistent with CSIC pay scales.
- **Working time:** Full-time contract with flexible working hours and possibility of teleworking up to 3 days a week. Read more about work-life balance here.
- **Target starting date**: November 2024 (flexible)

The CSIC and all its research centers were awarded with the "HR Excellence in Research" seal in 2021. This recognition reflects our commitment to continuously improve our human resources policies in line with the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

Recruitment at ICM is open, transparent and merit-based, and all applicants compete on the same terms.

---

*Interested candidates should send a cover letter, CV, and a statement of research interest **before 30 October** to:*

vesna@icm.csic.es

Candidatures will be reviewed upon reception and a first round of interviews might take place before the deadline.

MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

CSIC Consejo Superior de Investigaciones Científicas

EXCELENCIA SEVERO OCHOA

Grant CEX2019-000928-S funded by MCIN/AEI /10.13039/501100011033. (2020-2023)