

## Job Offer

### Fully-funded PhD thesis opportunity in eco-evo modelling

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 [our website](#).

#### The role and the team

Do you dream of reconstructing the history of life on Earth and understanding the forces that shaped the biodiversity we see today? If so, the INDICiOS project team invites you to embark on an exciting journey through deep time. We seek a highly motivated candidate to learn about eco-evolutionary modelling and the fascinating history of animal evolution.

The successful candidate will join the project team led by project PIs Pedro Cermeno (ICM-CSIC) and Sergio Vallina (Spanish Institute of Oceanography), alongside model developer Carmen Garcia-Comas (ICM-CSIC), and our team of world-renowned external collaborators: Michael Benton (University of Bristol), Lewis Jones (University College London), and Alexandre Pohl (Université de Bourgogne).

#### Job description

INDICiOS will revolutionize our understanding of marine biodiversity by building upon our previous [INDITEK model](#), a groundbreaking spatially explicit eco-evolutionary model. We will

use state-of-the-art reconstructions of Earth's paleogeography, along with simulations of ocean environmental conditions to track the evolution of marine invertebrate diversity through hundreds of millions of years of Earth's history.

By integrating high-resolution paleogeographic reconstructions, detailed simulations of ocean environmental conditions, and sophisticated eco-evolutionary modelling, INDICiOS will generate a Phanerozoic history of the marine latitudinal biodiversity gradient and biodiversity hotspots. This unprecedented view of the past will reveal how the forces of geology and evolution have shaped the diversity of life in the oceans, providing a deeper understanding of where, when, and how animal life flourished, and crucial insights for conservation efforts.

As a pre-doctoral researcher on the INDICiOS project, the successful candidate will be involved in:

- Refining existing eco-evolutionary models by incorporating speciation and extinction rates and implementing Bayesian calibration techniques.
- Reconstructing the history of the diversification of marine invertebrates, mapping the emergence, evolution, and demise of biodiversity hotspots.
- Testing hypotheses about the mechanisms underlying the origins and dynamics of the latitudinal biodiversity gradient and biodiversity hotspots.
- Contributing to scientific publications, presentations, and the development of a web application to visualize and share the project's findings.

## Requirements

### Professional experience

- Master's degree (completed or in progress) in mathematics, physics, biology, marine sciences, or related disciplines.
- Programming skills (e.g., R, Matlab, Python) will be an asset.

### Languages

- Fluent in English (both written and spoken)



## The offer

We are offering a contract with the following conditions:

- **Contract:** Four-year contract to carry out a PhD thesis
- **Estimated annual gross salary:** €20.000€ - €25.000€, depending on the year of contract, and consistent with CSIC pay scales.
- **Working time:** Full-time contract with flexible working hours and the possibility of teleworking up to 3 days a week. Read more about work-life balance [here](#).
- **Target starting date:** Between October and November

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.

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*Interested candidates should send a cover letter and a CV **before 20 September** to:*

***[pedrocermeno@icm.csic.es](mailto:pedrocermeno@icm.csic.es)***

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

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