Institut de Ciències del Mar

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PhD POSITION TO APPLY TO THE SPANISH FPU PROGRAM

Research Project – **Connecting the Eastern Tropical Pacific Pelagic Seascape: Structure, Functioning, and Resilience under Global Change**

PhD Supervisors: Francisco Ramírez, Marta Coll

Centre: Institut de Ciències del Mar (ICM-CSIC)

Project description

Pelagic ecosystems are highly dynamic and interconnected systems where organisms, energy, nutrients, and ecological interactions link distant habitats and regions. Yet, physical connections across the seascape do not necessarily translate into effective ecological connectivity, because realized connectivity also depends on how organisms move, feed, interact, and respond to environmental and human pressures. Understanding there processes is particularly important in the Eastern Tropical Pacific, a biodiversity hotspot exposed to intense cumulative stressors, including climate change, pollution, fisheries, habitat alteration, and changes in prey availability.

This PhD thesis will investigate how structural and functional connectivity shape the organization, functioning, and resilience of Eastern Tropical Pacific pelagic ecosystems. The project will focus on key pelagic species, including small, medium, and large pelagics, and will integrate data on environmental and human-related drivers, species distributions, trophic ecology, and movement patterns to identify ecologically relevant areas and the realized connections among them.

The thesis will provide an ecosystem-based framework to identify present and future ecological networks in pelagic seascapes and generate science-based knowledge to support marine spatial planning and the design of connected conservation strategies within the Eastern Tropical Pacific Marine Corridor.

Hosting research team

The successful candidate will join the iMARES research group, a dynamic team of senior scientists, postdoctoral researchers, and PhD students based at the ICM-CSIC, a leading marine research centre awarded the prestigious Severo Ochoa Centre of Excellence distinction. The group provides an excellent training environment through participation in

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specialized courses, conferences, research stays, seminars, and collaborative activities, while fostering an inclusive and supportive research culture.

This PhD project will be embedded within ongoing research initiatives led by Francisco Ramírez and Marta Coll, particularly the OCEANIC project (Ocean Connectivity and Ecological Assessment within a Novel Integrated Context, PID2024-162762OB-I00), funded by the Spanish Government. OCEANIC will provide the resources, infrastructure, and collaborative network needed to develop the proposed research, including partnerships with national institutions such as IEO and EII, and international partners including IRD-France, STRI-Panama, CIMAR-Costa Rica, EcoPacific+-Costa Rica, Coiba AIP-Panama, and the Charles Darwin Foundation-Ecuador.

Interested candidates, please contact the Principal Investigators:
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