

PhD POSITION TO APPLY TO THE SPANISH FPU PROGRAM

Research Project - **Modeling marine biogenic sulfur emissions through empirical and mechanistic approaches**

PhD Supervisors: Martí Galí and Rafel Simó
Centre: Institut de Ciències del Mar (ICM-CSIC)

Project description

The oceans contribute one third of the global sulfur emissions, and two thirds of the natural emissions, to the atmosphere in the form of the reactive gases dimethylsulfide (DMS) and methanethiol (MeSH). These emissions result from the activity of marine microorganisms and, through their effects on aerosols and clouds, strongly influence the Earth's radiative balance over remote marine regions. Because this interaction occurs at the meteorological scale, the ability to map marine biogenic sulfur emissions at high resolution is key to understanding their effects on climate. The candidate will leverage remote sensing data, large databases of sea-surface DMS and MeSH concentrations, and data-driven models to (i) map volatile sulfur emissions in the Southern Ocean and other climate-sensitive regions, (ii) understand their environmental drivers and variability, and (iii) through collaboration with atmospheric scientists, unravel their impacts on aerosols, clouds and climate.

Hosting research team

Within the Marine Biogeochemistry, Atmosphere and Climate research group, the candidate to the FPU call will be co-supervised by Martí Galí and Rafel Simó, and will integrate a dynamic research group whose activities span from sea-going and laboratory studies to remote sensing and modeling.

Dr. Martí Galí is a recognised expert in the marine sulphur cycle and in the estimation of biogeochemical fluxes using remote sensing, and serves as co-chair of the SCOR Working Group DMS-PRO. Prof. Rafel Simó has made pioneering contributions to marine biogeochemistry, particularly to our understanding of the sulphur cycle and ocean-atmosphere interactions.



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

The candidate must meet the eligibility requirements to apply for the FPU fellowship.

Interested candidates, please contact the Principal Investigators:

mgali@icm.csic.es / rsimo@icm.csic.es



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