

PhD fellowship on decadal variability and predictability of carbon uptake in the Southern Ocean at the Barcelona Supercomputing Center - Earth Sciences Department

The [Climate Prediction Group](#) at the Barcelona Supercomputing Center is looking for motivated candidates to fill a PhD position to work on **decadal variability and predictability of carbon uptake in the Southern Ocean**.

The research themes proposed to the student will build upon and expanding the knowledge and results generated in the National Project [DeCUSO](#). Possible subjects are:

- Exploration of existing and new initialization techniques for the decadal prediction of ocean carbon uptake.
- The role of the biological carbon pump in the preconditioning of the ocean surface pCO₂ in regions of intense carbon uptake in the Southern Ocean.
- The importance of the relative timing between primary production and water masses subduction in determining the net CO₂ uptake of the Southern Ocean.

The student will have the opportunity to design, execute and analyze numerical experiments with the [EC-Earth](#) Earth System Model taking advantage of the expertise of researchers within the Climate Prediction Group at BSC-ES. The student will be supervised by [Dr. R. Bernardello](#) (BSC) and co-supervised by [Dr. A. Martin](#) (National Oceanography Centre, Southampton, UK) and [Prof. T. Frolicher](#) (University of Bern, Switzerland). The position will be based at BSC and the student will be offered the opportunity to develop part of her/his research at both NOC and U. Bern.

For more information on the project, please contact : raffaele.bernardello@bsc.es

IMPORTANT

Deadline for applications is 29th of October 2018 (see below for details). Please contact predoctoral@bsc.es **before October 18th 2018** with your academic record to check if you meet the eligibility criteria and to receive help throughout the application process. **We will provide assistance to non-Spanish speakers for the application.**

About BSC-ES

The [Earth Sciences department at BSC \(BSC-ES\)](#) conducts multi-facet research in Earth system modelling. Under the direction of [Prof Francisco J. Doblas-Reyes](#) BSC-ES has become in a short time a main European actor in the development of climate predictions and climate services. The department is structured around four groups with more than 70 employees, including technical and support staff. It is a highly productive scientific entity that has published more than 150 research articles in peer reviewed journals over the last 5 years, including 5 in prestigious high-impact journals and with a very dense international collaborative network counting at least 50 institutes worldwide. BSC has been awarded with the Severo Ochoa's Centre of Excellence project of the Spanish government since its first call (2011). BSC-ES international activity includes the coordination of the two World Meteorological Organisation (WMO) regional centres specialised in sand and dust warning and forecasting, as well as the participation in climate services initiatives like the Climate Services Partnership (CSP). Members of BSC-ES participate in committees of the World Climate Research Programme (WCRP), such as the CLIVAR Scientific Steering Group or the Working Group on Subseasonal to Interdecadal Prediction (WGSIP).

Formative context:

The selected candidate will enroll in one of two doctoral programs of the Technical University of Catalonia (UPC):

- 1) [Environmental Engineering](#)
- 2) [Marine Sciences](#)

Throughout the duration of the PhD, the student will have the opportunity to share the results of her/his research in different national and international scientific forums and will be encouraged to author scientific research articles of high impact, as well as to contribute to outreach activities. BSC offers multiple training activities in complementary skills required for efficient research execution and communication through its [Education and Training Unit](#).

How to apply:

The new predoctoral 4 years fellowships call from Ministerio de Ciencia, Innovación y Universidades ([FPI 2018](#)) will be open **from the 9th to the 29th of October 2018**

Only one application may be submitted by each candidate (see Reference below for this project).

The application is through the [Ministry Participant Portal](#) and they must include:

- Passport (for non Spanish and non Spain residence people)
- CV (Spanish or English)
- BSc title (240 ECTS)
- MSc title (minimum 60 ECTS)

We encourage potential candidates to please contact predoctoral@bsc.es with your academic record in order to check your eligibility. The deadline for internal preliminary eligibility check will be the next **18th of October**. **After this date, assistance for the application can not be guaranteed but contact us anyway if you are interested.**

Project reference

PREDICCIONES DECENALES DE LA ABSORCION DE CARBONO EN EL OCEANO DEL SUR
E IMPACTO DE LA INCERTIDUMBRE EN LA BOMBA BIOLOGICA DE CARBONO (PI: Raffaele Bernardello)

Ref.: CGL2017-84493-R