

\*\*\*\*\*

A Postdoctoral Position in Physical Oceanography / Numerical Modelling  
is available at IFREMER (Brest, France):

**"Small scales dynamics during the major convection event of winter 2012-2013 in the north-western Mediterranean Sea"**

\*\*\*\*\*

**Scientific background and tasks:**

The north-western Mediterranean Sea is one of the places across the world ocean where deep convection regularly happens and is somehow an in situ and rather easy to access lab to investigate the mechanisms occurring during such events (chimneys, cascading...) and the favourable conditions that may leads to their outbreak (preconditioning, air-sea fluxes...). This led recently to an intensive experiment in the north-western Mediterranean basin during winter 2012 / 2013 that provides a well documented exceptional convection event.

The postdoctoral position is focused on that case to investigate the role of (sub)meso-scales structures in the preconditioning, the stratification breakdown and the re-stratification phases. More precisely, using numerical modelling, we will tackle the following questions :

- how finer scales trigger the deep convection?
- how finer scales contribute to limit the convection area?
- how finer scales participate to the vertical exchanges of mass?
- how finer scales contribute to the water masses redistribution after the convection event?

This will be done by taking advantage of two way refinement technics which are already implemented in a numerical model to reach very high resolution (400m) over the core of the north-western Mediterranean basin where most of the deep convection mostly occur. The model remains in the framework of the hydrostatic/Boussinesq assumption and thus the convection process himself will be not investigated.

Statistical, spectral, conceptual tools developed on sub-mesoscale analyses over the last 10 years in both academic works and in realistic numerical studies will be applied.

A short bibliography is available on:

[ftp://ftp.ifremer.fr/ifremer/dyneco/pgarreau/bibliography\\_postdoc\\_small\\_scales.pdf](ftp://ftp.ifremer.fr/ifremer/dyneco/pgarreau/bibliography_postdoc_small_scales.pdf)

**Requirements:**

We expect knowledge of English and skills to work in a team of scientists.

**How to apply:**

Send an application to [pierre.garreau@ifremer.fr](mailto:pierre.garreau@ifremer.fr) including:

- a detailed CV with a list of publications
- a cover letter
- a list of scientific personalities able to comment on the application.

<http://www.umr-lops.fr/en>

**The position remains open until a suitable candidate has been selected.**

**Contacts:**

For or additional information, please contact [pierre.garreau@ifremer.fr](mailto:pierre.garreau@ifremer.fr)