**SEARCH FOR EXPRESSIONS OF INTEREST FOR A JOINT POST-DOCTORAL FELLOWSHIP BETWEEN THE UNIVERSITY OF FERRARA (Italy) AND THE UNIVERSITY OF CADIZ (Spain)**

Under a joint collaboration between the COSTUF (<http://fst.unife.it/it/ricerca/aree-di-ricerca-1/costuf>) Research Group of the University of Ferrara (Prof. Paolo Ciavola), and the University of Cadiz (Dr Tomas Montblanc), we are looking for a Post-Doctoral Research Fellow to work on a new project financed by the European Union under the H2020 Research Framework. The ECFAS Project (a proof-of-concept for the implementation of a European Copernicus Coastal Flood Awareness System), coordinated by Dr Clara Armaroli of the IUSS-Pavia, will contribute to the evolution of the EU Copernicus Emergency Monitoring Service. The project is due to start on 1 January 2021 and will run for two years. It involves 9 partners from 5 countries and is financed with a budget of 1.5 million euros under the H2020 LC-SPACE-18-EO-2020 call (Copernicus evolution: research activities in support of the evolution of the Copernicus services).

The post-doc fellow will implement a pan-European database of extreme water levels, by integrating oceanographic models maintained by Mercator Ocean International within the Copernicus CMEMS (https://marine.copernicus.eu) with the EU-SSL model of Montblanc et al. (https://doi.org/10.1016/j.ocemod.2018.12.001). The analysis of the datasets will allow the identification of critical thresholds for waves and sea-levels able to trigger coastal flooding along European coastlines. The successful candidate is expected to develop a user-friendly interface to access the database, extract sub-sets through web-mapping services, and integrate oceanographic observation with satellite datasets from the Sentinel constellation.

The fellowship is financed by the CRUI-Go for IT scheme of the CRUI Foundation of Italian Universities. The scheme intends to support the promotion and strengthening of post-doctoral specialization, enhancing its consistency with the innovation needs of the production system, in disciplinary areas with a strong scientific, technological, and economic and business vocation, enhancing the role of universities in promoting innovation through excellent collaborations with foreign bodies and institutions. It is foreseen that the research fellow will cooperate with other partners of the ECFAS Project and in particular with Mercator Ocean International <https://www.mercator-ocean.fr> as well as with Collecte Localisation Satellites <https://www.cls.fr/en/> .

The fellowship has an initial duration of 12 months. Because of the nature of the funding scheme, the postdoctoral fellow will spend no less than 9 months at the University of Cadiz on detachment. The University of Ferrara will cover the travel expenses during the detachment. The appointed fellow should take up service no later than 1 March 2021. In addition to the detachment to Cadiz, occasional travel to the premises of Mercator Ocean International may be required. The fellowship attracts an annual gross salary of 30000 Euros, which corresponds to a net monthly salary in excess of 1800 euros.

The ideal candidate will have recently obtained a PhD in coastal engineering, oceanography or marine sciences or a closely related field. A strong programming capability (Matlab, Python) is required, ideally coupled with operational modelling experience, preferably using HPC. An excellent publication record is a must as well the capability to attend international meetings presenting project results. The candidate should have a perfect command of English, knowledge of Italian or Spanish is not compulsory but it will be beneficial for social reasons.

One or more following skills would be appreciated:

1) Use of Geographic Information Systems (GIS) for the development of WebGIS through VMS services.

2) Data assimilation techniques through integration between oceanographic models and satellite altimetry data.

3) Use of parallel computing methodologies through High Performance Computing (HPC).

4) Knowledge of the SCHISM Code (http://ccrm.vims.edu/schismweb) and of techniques for oceanographic data assimilation.

5) Knowledge of the LISFLOOD Code and flood modelling.

6) Front-end web site design.

This is an informal collection of expressions of interest to undertake a pre-selection of candidates. The official selection will be carried out following an official open competition based on CV evaluation by a selection committee and online interviews. The official selection will open no later than December 2020 and will be completed by January 2021. Candidates who are defending their PhD are required to have obtained the PhD before the call for applications closes. Because of the current pandemic, as well as immigration restrictions in Italy and Spain, EU nationals for the post-doctoral position are preferred or candidates from outside the EU with a valid work permit for Italy and Spain for a period of 12 months by the time applications close.

The starting of the period of detachment in Cadiz will be assessed at the beginning of appointment, according to Covid-19 mobility restrictions between Spain and Italy, as well as the participation to the meetings of the ECFAS project may initially be done online.

Any candidate who may be interested in the position should send an email to the Principal Investigator Prof. Paolo Ciavola (cvp@unife.it) enclosing a CV, a list of publications and the name of two referees.

Informal enquiries are welcome.

For issues regarding the position and selection method contact the supervisor in Ferrara:

Prof. Paolo Ciavola (cvp@unife.it)

Department of Physics and Earth Sciences

University of Ferrara, Ferrara, Italy

For issues regarding the detachment period and the workplan to be developed contact the supervisor in Cadiz:

Dr Tomas Fernandez Montblanc (tomas.fernandez@uca.es)

Earth Science Department

University of Cadiz, Puerto Real, Cadiz, Spain

For issues regarding the ECFAS Project aims and its scientific plan contact the Project Coordinator:

Dr Clara Armaroli (clara.armaroli@iusspavia.it)

University School for Advanced Studies(IUSS), Pavia, Italy