

## Two Postdoctoral positions at CMUP

The Centre for Mathematics of the University of Porto (CMUP) invites applications for **two postdoctoral position in Mathematics**, under the Project UID/MAT/00144/2013/UID/MAT/00144/2013.

Applicants must hold a Ph.D. in Mathematics or in a related field, relevant to the research interests of the Centre, completed at the time of application.

The positions are for **3 months** and should start between September 1st and October 1st, 2017. The monthly salary is **1495 euros (free of tax)**. There are no compulsory teaching duties associated with the position.

**Applications can be submitted from June 30, 2017 and the deadline is July 13, 2017.**

Applications should be sent by e-mail to [recrutamento@fc.up.pt](mailto:recrutamento@fc.up.pt) with copy to [cmup@fc.up.pt](mailto:cmup@fc.up.pt). They should contain the reference UID/MAT/00144/2013 - FCT/MCTES in the subject field and include the following:

- Letter of motivation;
- Proposed work plan (research statement); One page description of how one of the problems from the work plan could be addressed, and an explanation of their expertise in the area.
- CV (including list of publications);
- Certificate of academic degrees;
- Any other documents considered relevant by the applicant.

Any letters of recommendation to be sent directly by the referees to the above e-mail addresses.

For further information please consult the official page of the announcement [here](#).

Questions can be addressed to the e-mail address [cmup@fc.up.pt](mailto:cmup@fc.up.pt).

### Work Plan

The recipients of the grant will be part of teams addressing each one of the following problems:

- 1) Study of stability and switching properties of heteroclinic networks, in particular:
  - Estimates of the stability index for specific networks in  $\mathbb{R}^6$ , in order to obtain conditions for asymptotic stability and for weaker forms of stability.
  - Description of dynamics around heteroclinic networks and conditions for chaotic switching.
- 2) Work on weakly nonlinear stability of steady hydromagnetic convective states, especially:
  - Effects of large-scale perturbations that are not essentially one-dimensional in the slow variables, as they involve two linearly independent wave vectors.
  - Possible patterns of behaviour of large-scale perturbations of convective magnetohydrodynamic states symmetric about a vertical axis that are linked to the evolution of amplitudes in the slow time.
  - Simulations of poorly scale-separated perturbations to small-scale dynamo regimes; comparison with the predictions of the multiscale analysis.

### Link:

<http://www.eracareers.pt/opportunities/index.aspx?task=global&jobId=91638>

### Institution:

- [Faculdade de Ciências da Universidade do Porto](#)