Postdoctoral Fellowship in SP & CFDMS

**Job Offer**

**Topics:**
In the framework of the BCAM Severo Ochoa Joint Postdoctoral Fellowship Program, the research lines:
- Statistical Physics
- CFD Modelling and Simulation

offer this position in the following topic:

*Investigation of Anomalous Diffusion in Hydrodynamics Via the Smoothed Dissipative Particle Dynamics Method*

**PIs in charge:** Gianni Pagnini and Marco Ellero

**Salary and conditions:**
The gross annual salary of the Postdoctoral Fellowship will be 28,000 – 32,000€. It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency. There is a moving allowance for those researchers that come from a research institution outside the Basque Country up to EUR 2,000 gross.

*Free access to the Public Health System in Spain is provided to all employees.*

**No Positions offered:** #1

**Contract and offer:** 1 year

**Deadline:** 7th January 2021, 14:00 CET (UTC+1)

**How to apply:** Applications must be submitted on-line at:

**Scientific Profile Requested**

**Requirements:**
- Promising young researchers.
- Applicants must have their PhD completed before the contract starts.
- PhD degree in physics, or related area, with knowledge of diffusion processes and associated stochastic modelling and probability theory. Experience with DPD/SDPD methods is welcome.
## Skills and track-record:

- Ability to effectively communicate and present research ideas to researchers with different background.
- Ability to clearly present and publish research outcomes in spoken (talks) and written (papers) form.
- High level of spoken and written English.
- Good communication and interpersonal skills.
- Solid knowledge and control of classical and anomalous diffusion, e.g., Brownian motion, fractional diffusion, Lévy processes, …
- Knowledge in modelling and simulation experience with particle-based methods: Dissipative Particle Dynamics (DPD)
- Knowledge of fundamentals in fluid mechanics, e.g., Eulerian vs Lagrangian viewpoints, turbulence, …
- Experience in simulating stochastic processes, e.g., Langevin equation, CTRW, Lévy-driven SDE, …
- Excellent programming skills in Python, R, Fortran, C or C++, LAMMPS.

## Scientific Profile:

- The desired candidate is a young researcher with experiences in modelling diffusion processes by using numerical simulations based on stochastic differential equations and random walks, and knowledge of the related concepts required for the statistical analysis. This expertise is expected to be developed through applications including fluid mechanics, soft matter, porous media, …

## Application and Selection Process

### Formal Requirements:

The selected candidate must have applied before the application deadline online at the webpage [http://www.bcamath.org/en/research/job](http://www.bcamath.org/en/research/job)

The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile.

### Application:

Required documents:
- CV
- Letter of interest
- 2 recommendation letters
**Statement of past and proposed future research (2-3 pages)**

**Evaluation:**
Based on the provided application documents of each candidate, the evaluation committee will evaluate qualitatively: the adaption of the previous training and career to the profile offered, the recommendation letters, the main results achieved (papers, proceedings, etc.), the statement of past and proposed future research and other merits; taking in account the alignment of these items to the topic offered.

**Incorporation:**
Before June 2021

*The BCAM postdoctoral contract will start when the selected candidate has finished the PhD, i.e., after dissertation defence.*