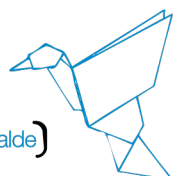


Postdoctoral fellowship in CFD Modelling and Simulation

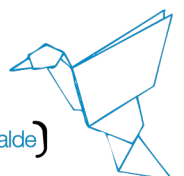
Job Offer	
Topics:	<p>Applications are invited for a postdoctoral position in the mesoscopic modelling of marine snow formation at the CFD group (BCAM).</p> <p>The so-called marine snow is a complex and diverse collection of organic particles that sediment towards the sea floor. The formation of marine snow in the oceans is a complex multiscale phenomenon with deep implications in the cycle of carbon. During this project we will focus on how small colloidal particles collide and stick together to form larger aggregates. This phenomenon is affected by several physical effects, like Brownian motion, shear flows and differential settling that can enhance the rate of collisions between particles.</p> <p>The goal of this project is to use realistic numerical models of particle aggregation to study how particle shape, Brownian motion and the activity of microswimmers (i.e. algae and bacteria) affect the aggregation rate. We will approach this problem from a fluid mechanics perspective and we will use the Rigid Multiblob framework to build our models (DOI:10.2140/camcos.2016.11.217).</p> <p>The candidate will work to improve our numerical methods to simulate active Brownian particles with hydrodynamic interactions as well as our models of particle aggregation. In this project we will have access to the computational resources at the BCAM and, if necessary, there will be opportunities to apply for computational time at the Spanish Supercomputing Network (RES) and at the Partnership for Advanced Computing in Europe (PRACE). The candidate will work in the CFD group under the supervision of Florencio Balboa Usabiaga and Marco Ellero.</p>
PI in charge:	Florencio Balboa (Junior leader "la Caixa")





Salary and conditions:	<p>The gross annual salary of the Fellowship will be 28.000 - 32.000€.</p> <p>It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency.</p> <p>There is a moving allowance for those researchers that come from a research institution outside the Basque Country up to EUR 2.000 gross.</p> <p><i>Free access to the Public Health System in Spain is provided to all employees.</i></p> <p><i>This contract will be funded by the project led by Florencio Balboa funded by La Caixa Foundation grant No. 100010434 by the program Junior Leader 2020.</i></p>
No Positions offered	#1
Contract and offer:	2-years contract
Deadline:	26 July 2021 at 14:00 CET (UTC+1)
How to apply:	Applications must be submitted on-line at: http://www.bcamath.org/en/research/job

Scientific Profile Requested	
Requirements:	<ul style="list-style-type: none"> Promising young researchers. Applicants must have their PhD completed before the contract starts.
Skills and track-record:	<ul style="list-style-type: none"> A proven track record in quality research, as evidenced by research publications in top scientific journals and conferences. Ability to present and publish research outcomes in spoken (talks) and written (papers) form. Fluency in spoken and written English.
Scientific Profile:	<p>The preferred candidate will have:</p> <ul style="list-style-type: none"> Background in fluid mechanics at low Reynolds numbers. Knowledge of Python, Fortran or C++ programming. Experience in modelling and simulation of soft matter systems or microswimmers.



Application and Selection Process	
Formal Requirements:	<p>The selected candidate must have applied before the application deadline online at the webpage http://www.bcamath.org/en/research/job</p> <p>The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile. Additional documents could be requested during the evaluation process so as to check this fulfilment.</p>
Application:	<p>Required documents:</p> <ul style="list-style-type: none"> ▪ CV ▪ Letter of interest ▪ 2 recommendation letters ▪ Statement of past and proposed future research (2-3 pages)
Evaluation:	<p>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.</p>

Incorporation:	<p>September 2021 or as soon as possible thereafter.</p> <p><i>The BCAM postdoctoral contract will start when the selected candidate has finished the PhD, i.e. after dissertation defence.</i></p>
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