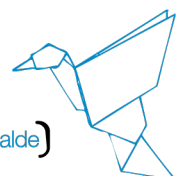


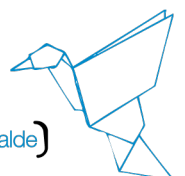
Postdoctoral position in Pedestrian Flow Modelling and Simulation

Job Offer	
Topics:	<p>The Basque Center for Applied Mathematics is launching one Postdoctoral position of 1 year, to work in the area of Computational Math in the group of Dr. Marco Ellero at BCAM.</p> <p>The researcher will work on particle-based modelling of crowd flow in urban environments, on pedestrian flow modelling in the CFD group (BCAM).</p> <p>The accurate prediction of the flow dynamics and properties of a crowd of pedestrians in complex environments is critical for strategic urban planning, i.e. access to buildings, infrastructures etc. Pedestrian models rely on a stochastic particle-based description of human interaction, where individuals are regarded as “particles” interacting via different competing forces (i.e. short-range contact repulsion and friction, long-range social distancing) and a target desired velocity which is environment-specific. The target of this project is to create a tool for managing large-scale events focused on pedestrian dynamics using the Social Force Model. This tool will simulate real-time pedestrian flow in highly crowded areas in the province of Biscay and allow the user to intervene in the pedestrian flow during the simulation.</p> <p>The postdoctoral candidate will work under the supervision of Ikerbasque Prof. Marco Ellero (CFD group, BCAM) and in collaboration with Dr. Dae-Jin Lee (IE University) on the developments and use of discrete particle-simulation methods to better understand the dynamics of pedestrian flows.</p>
PIs in charge:	Dr. Marco Ellero



Salary and conditions:	<p>The gross annual salary of the Fellowship will be: 29.994€ - 36.420€ according to experience.</p> <p><i>It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency.</i></p> <p>Additionally, we offer a moving allowance up to 2.000€.</p> <p>Should the researcher have a family at the time of recruitment:</p> <ol style="list-style-type: none"> 1. 2.000€ gross in a single payment will be offered (you must be married-official register or with children and the certificate to prove it must be sent). 2. 1.200€ gross per year/per child (up to 2 children) will be offered (the certificate to prove it must be sent). <p><i>Free access to the Public Health System in Spain is provided to all employees.</i></p>
Nº Positions offered:	1
Contract and offer:	1
Deadline:	August 5th, 2024, 14:00 CET (UTC+1)
How to apply:	Applications must be submitted on-line at: https://joboffers.bcamath.org

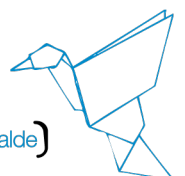
Scientific Profile Requested	
Requirements:	<p>Requirements:</p> <ul style="list-style-type: none"> • Promising researcher. • Applicants must have their PhD completed before the contract starts. • PhD degree in engineering, physics, mathematics or related area.



<p>Skills and track-record:</p>	<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 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
<p>Scientific Profile:</p>	<p>In the selection procedure we will appreciate:</p> <ul style="list-style-type: none"> • Strong background in Scientific Computing. • Strong research background in general particle- based techniques (e.g., Discrete Element Methods, Dissipative Particle Dynamics etc.) is required. • Previous experience in “pedestrian dynamics” and agent-based models is desirable. • Demonstrated knowledge in CFD tools for the solution of PDEs, such as OpenFoam, is desirable. • Excellent programming skills in Python, Fortran, C or C++.

Application and Selection Process

<p>Formal Requirements:</p>	<p>The selected candidate must have applied before the application deadline online at the webpage: https://joboffers.bcamath.org</p> <p>The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile.</p>
<p>Application:</p>	<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:

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:

September 2024



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Este proyecto ha sido financiado por la Diputación Foral de Bizkaia dentro del Programa Transferencia Tecnológica 2023

This project has been financed by the Provincial Council of Bizkaia within the Technology Transfer Program 2023.

