

CONVOCATORIA PARA LA PROVISIÓN DE PUESTO DE TRABAJO

VAC-2023-07 – PhD Position in the BIOMEDICAL Engineering Department

Number of places: 1

Category: PhD Student

Workplace: Barcelona-España

Weekly working hours: 40

Contract Type: Pre-Doctoral

Duration: 3 years

Job Description

CIMNE is looking for a motivated PhD researcher to be part of the Research and Technical Development (RTD) Group “CIMNE BIO”.

The Biomedical Engineering (BME) group of CIMNE (www.cimne.com) offers software solutions to automatically transform medical imaging to create a 3D digital twins of the patients to help diagnostics, to virtually try treatments, and to automatically design optimal braces and devices. One of the main areas of activity of the BME group is the field of personalized cardiovascular devices. For medical companies and physicians who need to improve their personalized designs, BME brings innovative tools based on our numerical simulation technology to better design cardiovascular medical devices during the pre-prototype stage. We aim at making patient care more personalized and secured. In the frame recently awarded projects “Computational models for treatment and evaluation aortic dissection”. The PhD researcher will be involved in an ambitious project aimed at creating a step change in the design and engineering of medical devices by using advanced production automated technologies and numerical techniques.

The selected candidate will develop his/her PhD thesis in the context of the above mentioned project. In particular, the objective of the PhD thesis is to apply the scientific knowledge of data sciences and

numerical techniques for the optimization of the processes involved in medical devices industry. The optimization will be specially focus on using machine learning techniques for the development digital twin tools required in the design phase, and on the improvement of the quality control procedures during the pre- prototyping phase.

Throughout the development of the PhD thesis, the candidate will collaborate with the different university/companies involved in several international projects/collaboration as well as various research groups within CIMNE and worldwide.

Education and training (required):

1. Formation: Master in Engineering, Mathematics or Physics.
2. Excellent academic record.
3. Background on numerical methods (FEM), partial differential equations and continuum mechanics.
4. Basic Knowledge of programming (Python)
5. Required Languages: English (written and spoken), other languages are appreciated.

Other valued skills (not mandatory):

1. Knowledge of Object Oriented programming. C++

The requisites and merits will be evaluated with a maximum note of 100 points (minimum at 60 points required). Such maximal note will be obtained summing up the following points:

1. Academic Titles: 20%
2. Additional Training: 20%
3. Professional Experience: 10%
4. Personal Interview: 50%

Candidates must complete the "Application Form" form on our website, indicating the reference of the vacancy and attaching the required documents (CV, Motivation letter).

The deadline for submitting applications is January 31st, 2023 at 12am.

The preselected candidates may be requested to send the documentation required in the "Requirements" and "Merits" sections, duly scanned, and may be called to go through selection tests (which might be of eliminatory nature) and / or personal interviews.

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