

ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

VAC-2023-49 – Postdoc position in data-driven modelling for endovascular thrombectomy

Number of places: 1

Category: PDOC 3

Workplace: Barcelona

Salary (gross): 27.774,98 €

Weekly working hours: 40

Functions to be developed:

We are looking for a postdoctoral researcher to work on the project MECA-ICTUS, a 3-year project funded under the *Generación de Conocimiento 2022* call of *Agencia Estatal de Investigación*. In MECA-ICTUS we will pursue the development of computational mechanics and machine learning tools for predicting the success of endovascular thrombectomy, an urgent intervention for the removal of thrombi in Acute Ischemic Stroke Patients.

The selected candidate will be responsible of 1) development of computational mechanics tools within an ongoing Finite Element framework in Julia language, in which the PI and collaborators have worked during the last 4 years, and 2) development of machine learning models to predict the success of the intervention.

The project is meant to ensure the professional growth of the selected candidate. He/she will work in CIMNE/LaCàN (UPC), an enriching environment with a strong expertise in computational mechanics, biomechanics and data-driven modelling. The project will also involve exchanges with international researchers in France, Italy and USA as well as continuous exchanges with clinicians to ensure the adequacy of the numerical developments.

For applications, please see details below. For any enquiries don't hesitate to reach Miquel Aguirre (miquel.aguirre@upc.edu). No application will be accepted by e-mail.

Required skills:

- A PhD in applied mathematics or engineering in the field of computational mechanics.
- Strong knowledge of nonlinear continuum mechanics.

- Programming experience in scientific computing.
- Experience in the development of finite element software.
- Writing and communication skills.

Other valued skills (not mandatory):

- Experience in the development of machine learning models.
- Experience in Julia programming.
- Experience in the development of nonlinear solid mechanics solvers, involving large deformations and/or contact and/or fracture.
- Experience in preprocessing medical imaging data for patient-specific simulations.

Qualification system:

The requisites and merits will be evaluated with a maximum note of 100 points. Such maximal note will be obtained summing up the following points:

- **Publication and career track:** 10%
- **Previous research and/or academic experience in the field of the position:** 20%
- **Programming skills:** 20%
- **Language and communication skills:** 20%
- **Interview:** 30%

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

The deadline for registration to the offer ends on September 30, 2023 at 12 noon.

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.

Proyecto PID2022-136668OA-I00 financiado por MCIN/AEI/10.13039/501100011033/ FEDER, UE

