

# ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

## VAC-2023-47 – Research Engineer in Machine Learning for Multiphysics problems (DECIMA project)

**Number of places:** 1

**Category:** Research Engineer 5 - RENG5

**Workplace:** Barcelona

**Salary (gross):** 22.219,99

**Weekly working hours:** 40h per week

**Duration:** 34 months

### Functions to be developed:

The goal of DECIMA is to develop techniques for facilitating design-supporting numerical models for microfluidic-based manufacturing, such as inkjet printing. The main work to be done is to develop a Machine Learning framework that can use numerical simulations (carried out by the in-house HPC CFD code) and/or experimental data for predicting the characteristics of the microfluidic flow (jet, droplets) as a function of a series of input parameters (properties of the fluid, nozzle, operation parameters of printing device etc.). As a first step a machine learning algorithm will be implemented that shall be able to recognize different droplet/jet ejection modes using graphical data (snapshots of the simulation, photos of experiment).

### Required skills:

- Education: Master in mechanical/civil/aerospace engineering or physics
- Knowledge of scientific programming (C++/python)
- Good command of English

### Other valued skills (not mandatory):

- Knowledge of Machine Learning libraries and ability to program and train ML algorithms
- Knowledge of Physics of Fluids
- Experience in writing scientific texts (reports/articles)

### 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:

- Education: 25%
- Previous research and academic experience in the field of the position: 10%
- Programming skills: 20%
- Language and communication skills: 5%
- Test and/or interview: 40%

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 October the 13<sup>th</sup>, 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.

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