

# ANNOUNCEMENT FOR PROVISION OF THE WORKPLACE

## VAC-2021-15 – Research Engineer in Fatigue of Steel Mechanical Components

**Number of places:** 1

**Category:** Research Engineer (RENG 5)

**Workplace:** Barcelona

**Salary (gross):** 19.149,39 €

**Weekly working hours:** 36 hours/week

**Contract type:** Temporal

**Duration:** Until 31/01/2024

**Functions to be developed:**

- Development and implementation of fatigue algorithms for the numerical analysis of steel mechanical components subjected to fatigue with special consideration of the effects of different manufacturing processes (welding, cutting, cold-forming, punching, trimming).
- Participation in the H2020 EU project Fatigue4Light: Fatigue modelling and fast testing methodologies to optimize part design and to boost lightweight materials deployment in chassis parts (101006844).
- Publish at least one scientific paper per year in a Q1 peer-reviewed journal related to the scope of the research.
- Conduct extensive fatigue numerical simulation campaigns on steel lab samples to validate the developed algorithms and compare to existing market solutions.
- Prepare technical reports in English with the results obtained. Presentation of results in front of technical committees and at international conferences.

**Required skills:**

- The candidate must hold (or be close to completion of) a Master degree (or equivalent) in Mechanical Engineering, Civil Engineering, Industrial Engineering, Computational Mechanics or closely related fields.

- Excellent written and oral communication skills in English.
- Prerequisites: knowledge of the Finite Element Method.

#### Other valued skills (not mandatory):

- MS degree (or equivalent) in the above mentioned disciplines (held or close to completion).
- Authorship or co-authorship of journal publications and/or contributions to international conferences will be positively evaluated.
- Training in recognized universities and research centers as well as participation to research projects will be positively evaluated. International experience will be a plus.
- Knowledge of programming languages (Python and/or FORTRAN and/or C/C++).
- Knowledge of concepts on fatigue of materials.
- Knowledge on nonlinear numerical simulation.

#### 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:

- **Academic education:** 20%
- **Previous research and academic experience in the field of the position:** 15%
- **Programming skills:** 15%
- **Language skills:** 15% (60% English, 30% Spanish, 10% Catalan)
- **Selective tests and interview:** 35%

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 the 9th of April, 2021 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.