

10/02/2020



ESR2: PhD Student Position at Universidad de Sevilla within EU MSCA-ITN-ETN NewFrac

Where to apply

Application Deadline: 30/06/2020 17:00 - Europe/Brussels

Contact Details

Where to send your application.

COMPANY

Universidad de Sevilla

WEBSITE

<https://www.newfrac.eu/phd-positions/esr2>

Hiring/Funding Organisation/Institute

ORGANISATION/COMPANY

Universidad de Sevilla

COUNTRY

Spain

DEPARTMENT

Departamento de Mecánica de Medios
Continuos y Teoría de Estructuras

CITY

Sevilla

ORGANISATION TYPE

Higher Education Institute

WEBSITE

<http://www.us.es>

ORGANISATION/COMPANY

Universidad de Sevilla

LOCATION

Spain › Sevilla

RESEARCH FIELD

Engineering › Materials engineering
Engineering › Mechanical engineering

TYPE OF CONTRACT

Temporary

RESEARCHER PROFILE

First Stage Researcher (R1)

JOB STATUS

Full-time

APPLICATION DEADLINE

30/06/2020 17:00 - Europe/Brussels

HOURS PER WEEK

37.5

OFFER STARTING DATE

01/11/2020

**EU RESEARCH FRAMEWORK
PROGRAMME**

H2020 / Marie Skłodowska-Curie
Actions

REFERENCE NUMBER

NEWFRAC

**MARIE CURIE GRANT AGREEMENT
NUMBER**

861061

The Marie Skłodowska-Curie Innovative Training Network "**NEWFRAC**" (www.newfrac.eu) is a high-level training of a new generation of creative, entrepreneurial and innovative early-stage researchers (ESRs) through the development and engineering applications of a new modeling

framework focused on the prediction and analysis of multi-field fracture phenomena in heterogeneous engineering systems at different scales. NEWFRAC in its mission of training students capable of solving the current problems of multi-field fracture phenomena in heterogeneous engineering systems, offers **13 PhD positions** for early stage researchers (**ESRs**) distributed in a network of 5 European countries (**France, Germany, Italy, Portugal and Spain**) and 2 countries associated (**Israel and Switzerland**), with the participation of prestigious academic and industrial institutions that will allow researchers to grow and develop their technical skills in a multisectoral environment.

Besides working on their project at their home institutions, the researchers will participate in network-wide training events like summer schools. Moreover, they will conduct secondments at other network partners combining academic and industrial experiences.

The following position and project is available at **Universidad de Sevilla** in **Sevilla, Spain**:

ESR 2: Toughening composites by micro and meso structural optimization

Objectives: *The aim of this ESR project is to investigate the reduction of the flaw sensitivity of engineering composites by the optimization of their micro and meso structures as well as the geometric definition of their interfaces. The complex microstructures in biomaterials have been known for decades but its replication at an industrial scale was anti-economic with the traditional fabrication procedures. However, the recent development of new fabrication techniques, with some similarities with the biological procedures, opens new opportunities. One of these fabrication techniques is Additive Layer Manufacturing (ALM) which is applied to an industrial scale. Thus, the specific objective of this ESR project is the development of new materials and joints with lower flaw sensitivity inspired by biological materials and compatible with the new fabrication techniques. The microstructural design will be addressed by the combination of the observation of biological materials and the development of an optimization strategy based on genetic and related algorithms. The genetic algorithm will be based on the use of FFM and PF to test flaw sensitivity in order to create a new generation of microstructures. For more information about this position please go to <https://www.newfrac.eu/phd-positions/esr2>*

Contract signing and incorporation dates are orientative and have yet to be defined. For **more information** about the call and application process visit www.newfrac.eu

The closing date of the call will be on June 30, after this date, the institution will make a first analysis of the candidates to determine that the candidates meet the requirements proposed by the call. The institution will publish within a maximum period of 15 working days the list of candidates admitted in the selection process.

Non-selected candidates can claim objections to the selection process during three next working days after the announcement of the list. Final list of the admitted candidates will be announced within a maximum period of 10 working days.

ADDITIONAL INFORMATION

Benefits

A full-time fixed-term contract is offered. Marie Curie ITNs provide competitive financial support to the ESR including: a competitive monthly living and mobility allowance and salary, coverage of the expenses related to the participation of the ESR in research and training activities (contribution to research-related costs, meetings, conference attendance, training actions, etc.). The recruited researchers will have a regular contract with the same rights and obligations as any other staff member of the institution.

Eligibility criteria

Applicants must at the time of recruitment: **1)** Be in the first four years (full-time equivalent) of their research careers. The four years start to count from the date when a researcher obtained the degree (e.g. Master's degree) which would formally entitle him/her to embark on a doctorate. **2)** Candidates could be of any nationality but have not resided in the host country for more than 12 months in the last 3 years **3)** Have NOT been awarded a doctoral degree.

Selection process

Applicants are evaluated by a selection committee on the basis of past academic performance (grades) and background, scientific relevance and aptitude to research, and any other additional pertinent data submitted in the application (such as scientific publications, if any). The candidates that pass the initial assessment of the applications will be invited for an interview with the selection committee, either in person at the campus, or via standard internet videoconference. Equal opportunities are ensured to all candidates throughout the evaluation process.

Web site for additional job details

<https://www.newfrac.eu/phd-positions/overview>

REQUIREMENTS

Offer Requirements

REQUIRED EDUCATION LEVEL

Engineering: Master Degree or equivalent

REQUIRED LANGUAGES

ENGLISH: Excellent

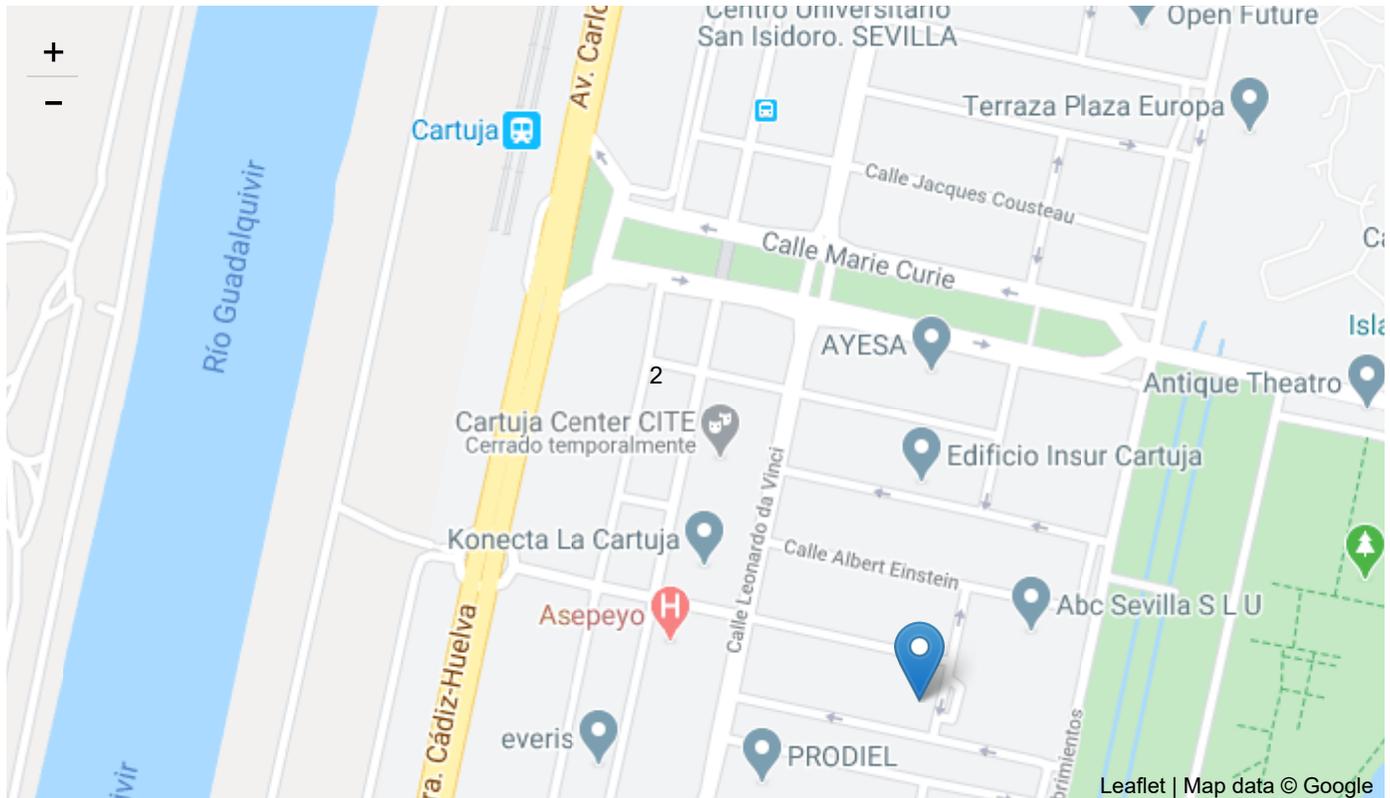
Skills/Qualifications

- Master's degree in Mechanical/Aeronautical/Civil Engineering/ Physics/ Applied Mathematics, **earned before October 31 2020**
- Excellent undergraduated and Master's degree grades
- High level of written and spoken English
- Teamwork ability

Specific Requirements

- Basic knowledge of theoretical, computational and experimental fracture mechanics
- Knowledge of scripting languages (e.g. Python, Julia) would be appreciated
- Basics of electronic prototyping

Map Information



Job Work Location



Personal Assistance locations

WORK LOCATION(S)

1 position(s) available at

Universidad de Sevilla

Spain

Sevilla

41092

Calle Américo Vespucio, s/n

EURAXESS offer ID: 491033

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