10/02/2020

Marie Skłodowska-Curie Actions

ESR5: PhD Student Position at Sorbonne Université within EU MSCA-ITN-ETN NewFrac

Where to apply

Application Deadline: 31/05/2020 00:00 - Europe/Brussels

Contact Details

Where to send your application.

COMPANY
Sorbonne Université

WEBSITE
https://www.newfrac.eu/application-form

Hiring/Funding Organisation/Institute

ORGANISATION/COMPANY
Sorbonne Université

DEPARTMENT
Institut Jean Le Rond d'Alembert – CNRS Paris UMR 7190

ORGANISATION TYPE
Higher Education Institute

WEBSITE
https://www.sorbonne-universite.fr/

COUNTRY
France

CITY
Paris

POSTAL CODE
75005

ORGANISATION/COMPANY
Sorbonne Université

RESEARCH FIELD
Engineering › Materials engineering
Engineering › Mechanical engineering

RESEARCHER PROFILE
First Stage Researcher (R1)

APPLICATION DEADLINE
31/05/2020 00:00 - Europe/Brussels

LOCATION
France › Paris

TYPE OF CONTRACT
Temporary

JOB STATUS
Full-time

HOURS PER WEEK
35

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 combinig academic and indstrial experiences.

The following position and project is available at Sorbone Université in **Paris, France**:

ESR 5: ***Nucleation and propagation of compressive cracks***

Objectives: *Recent results have proved that PF approaches can quantitatively predict crack nucleation for mode-I loading. However, current models do not allow for a faithful prediction of the crack nucleation event in more complex loading conditions and materials. A further important limitation of PF models is their difficulty in reproducing fracture propagation under compressive loadings, despite the important amount of work on the subject. The principal aim of the ESR-5 project will be to investigate crack nucleation and propagation under compressive loadings and to propose novel extension of the PF approach to overcome the current limitations. The project will include theoretical and numerical developments. The new methodologies for PF applied to fracture in compression will imply the development of coupled damage-plasticity and multi-field models. The numerical procedures, based on the FEniCS framework, will be released into the NEWFRAC collaborative computational platform to benefit other ESRs. These procedures will be applied to compressive crack onset and propagation in LFRP laminates in aeronautical applications, layered ceramics with residual compressions, and bones.* **For more information about this position please go to https://www.newfrac.eu/phd-positions/esr5**

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

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.

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 December 2020**
- Excellent undergraduated and Master’s degree grades
- High level of written and spoken English
- Teamwork ability

Specific Requirements

- Knowledge of continuum mechanics and applied mathematics
- Previous knowledge of fracture mechanics, damage, plasticity, finite element method, and programming skills will be appreciated.

Map Information

Job Work Location Personal Assistance locations

WORK LOCATION(S)

1 position(s) available at
Sorbonne Université
France
Paris
4150
4, Place Jussieu

EURAXESS offer ID: 491127

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