RESEARCH ENGINEER FOR THE *LOCOMOTION* PROJECT (ref. 20-021-17710)

CREAF offers a research engineer position, to support the development of an IAM for policy advice on the decarbonization of the economy.

We seek for a candidate interested on joining an active and interdisciplinary team involved in the investigation and modelling of pathways to a decarbonized socio-economy within the earth biophysical limits. The research to be conducted will be focused on analyzing the impacts of the climate change on resources exploitation/production and their feedbacks to the socio-economy. Knowledge on system dynamics and complex systems analysis will be a plus.

The researcher will contribute to the LOCOMOTION project ("Low-carbon society: an enhanced modeling tool for the transition to sustainability"), ref. LC-CLA-01-2018 (https://www.locomotion-h2020.eu/), which is a Horizon 2020 project funded by the European Commission, constructing a new IAM based on the MEDEAS model (https://www.medeas.eu/model/medeas-model). Following the approach used during the MEDEAS EU project (www.medeas.eu), the model is being built in Vensim software (https://vensim.com/) and will be later transpiled to Python using the *pysd* library (https://github.com/JamesPHoughton/pysd). The Python version of the code will be distributed for free and under an open source license.

The candidate will be based in Barcelona, although the possibility to work remotely will also be contemplated depending on the candidate profile and on the evolution of the pandemic. The candidate should be willing to travel to attend consortium meetings, conferences, etc.

One-year contract full-time is offered, with the possibility to a two years extension depending on performance/funding. The salary range offered is between 22.576,74 and 28.489,70 € gross per year, depending on the candidate's conditions.

TASKS

- Maintaining and improving our existing codebase (Python).
- Contributing to the *pysd* open source Python library by filling bug reports and contributing code.
- Translating Vensim code to Python using pysd.
- Code profiling/optimization (*cProfile, numba, cython, pypy, mypy*, others).
- Gathering and processing feature requests for the different apps to develop.
- Coordinating the development GUI and front-ends of the different apps between different teams.
- Participating/organizing work meetings with project partners.
- Writing/editing technical/scientific project deliverables.
- Results dissemination.

REQUIREMENTS

- Degree/MSc in computer science, engineering, physics, mathematics or similar.
- OOP in Python (proven experience).
- Mathematical modelling software (*Modelica, Julia* or similar).
- HPC (parallel/distributed computing).
- Git.
- Proficient in English, both written and oral.

ASSESSABLE CONDITIONS

- Familiarity with the challenges of the energy transition and familiar with renewable energy technologies.
- Electron, node.js, react/angular.
- Experience in international research projects.
- Scientific dissemination (articles, oral communications, etc.).
- Catalan/Spanish.

SELECTION PROCES AND CRITERIA

The selection process is led by the research project team, and will be overseen by the Management Office and the Human Resources Area of CREAF. This process consists of:

1. Admission of candidates: **applicants must submit a *curriculum vitae* in English, a cover letter (maximum 500 words), the questionnaire attached to the offer (filled), by e-mail to laboral@creaf.uab.cat, until 15 July 2020, indicating the reference code of the offer.** Applications referred to another portal, other than CREAF job openings section or EURAXESS, and the instructions included in these, will not be accepted.

   Recommendation letters are not required but will be valued.

2. Pre-selection: determination of compliance with the minimum requirements of the offer.
3. Selection: assessment of the preselected candidates by scoring based on objective criteria.
4. Final decision: in case of finding the suitable person, the election will be formally communicated to him/her, and the identification of the chosen person will be published on CREAF job openings section.