

DEMO Systems Codes Responsible Officer

Job Description

One of the first stages in the development of a DEMO plant concept is the generation of a whole-plant “operating point”, using simplified models of plant plasma and engineering systems integrated together into a systems code, to try to ensure that all technology limitations and requirements are met without irreconcilable conflicts between systems. The Systems Code Responsible Officer in the DEMO Central Team (DCT)¹ will play an important role in the development and improvement of systems codes in Europe, generate and analyze suitable DEMO design points and manage the associate development work in the laboratories. Appropriate feedback loops between the 0/1-D systems codes and higher order calculations performed in the reactor design frameworks must be implemented to ensure consistency.

Main Duties and Responsibilities

- Contribute to the improvement/development of systems codes in the EU, in close collaboration with E-TASC TSVV14. Contribute to the definition of robust DEMO design points by using systems codes, using the lesson learned from the pre-Conceptual Design Phase
- Studies of impacts of changes of assumptions regarding basic machine architecture and technologies on plant operation and design
- Maintenance of an up to date conceptual power plant model, with accompanying sensitivity and uncertainty analyses
- Overview of DEMO systems integration issues and modelling to support decisions on resolution of conflict between system requirements
- Provide modelling to support the DEMO Central Team and inform decisions resolving conflicts between system requirements, by conducting trade-off and sensitivity studies.
- Define and coordinate all the tasks in the work package WPDES with European laboratories relating to the development and use of systems codes and reactor design frameworks.

Required / desired qualifications and competencies

- PhD degree in Engineering or Physics
- At least 5 years of relevant work experience
- Good knowledge on disciplines of relevance for the post (i.e., systems codes, reactor design frameworks, CAD, neutronics, reduced modelling, etc.)
- Good knowledge of reactor systems in terms of materials, loads, design and technology.
- Experience in monitoring and managing research tasks is required.
- Ability to work effectively both independently and as part of a team.
- Good interpersonal skills and excellent written and verbal communication skills in English

The post holder will work in Garching, Germany and will report to the head of the plasma system division. In the initial phase before the head of that division is installed, reporting will be directly to the FTD Head.

¹ In FP9, the DCT is foreseen to advance the design basis (physics and technology) of a DEMO fusion power plant, by implementing and agile architectural design capability, impartial analysis of options, and quick access to the expertise distributed in the EU fusion laboratories, universities and industry. This is needed to ensure the rapid convergence towards a feasible DEMO plant architecture (see G. Federici, C. Baylard, DEMO Project Charter Proposal, IDM reference: 2P3ZEP. April 2020).

Date of Job Vacancy: January 1st, 2021

Application Deadline: September 15th, 2020

The applicant will ideally already have a work contract with a EUROfusion Beneficiary and will be seconded to the EUROfusion Programme Management Unit (PMU) in Garching. Otherwise, she/he will have to secure a work contract with one of the Beneficiaries, to be seconded to the PMU in Garching.

The EUROfusion secondment will ideally run until the end of the Horizon Europe framework period (31 December 2027), but the actual labour contract might be subject to the rules, regulations and conditions of the Beneficiary that employs the applicant.

EUROfusion strives for diversity and inclusion, and explicitly encourages members of minority groups, and females, to apply for this position.

In case the candidate is shortlisted, the interviews will take place by the mid of October. Please send your completed application including CV, cover letter and examples of your past-related work experience to: anne.graebner@euro-fusion.org.

CONTACT: Gianfranco Federici

Tel: + 49 (0)89 3299 4228

E-mail: gianfranco.federici@euro-fusion.org