

DEMO Plasma Scenario Integration Responsible Officer

Job Description

The DEMO Plasma Scenario Integration Responsible Officer will work in the DEMO Central Team (DCT)¹ and manage several activities. These include: (i) participation in the development and application of systems codes, focusing in particular on the definition of realistic assumptions for the DEMO plasma scenario to identify optimised DEMO design points, (ii) identification of integrated end-to-end operation scenarios, and the underlying Physics Basis, defining the required physics input to advance the design iterations as well as the requirements on sensors and actuators, as well as (iii) coordination of the activities aiming at validating the plasma scenario – i.e. gaining the necessary confidence about its extrapolability to DEMO. This position requires building up strong ties with engineers and designers in the DCT and distributed Project teams. In addition, strong links to the work Fusion Science Department (FSD) packages have to be maintained.

Main Duties and Responsibilities

- Support the DCT to conduct analysis of options, with quick access to the expertise distributed in the EU fusion laboratories, universities and industry to ensure the rapid convergence towards a feasible DEMO plant architecture.
- Define and coordinate physics design tasks related to scenario integration with European Fusion Laboratories in WPDES.
- Identify physics uncertainties and areas where gaps exist that have significant impact on the feasibility or performance of DEMO. Define the required experiments or theory/modelling activities to close the gaps.
- Provide required technical physics input to be used from the early stage of the design and organise all required studies to reduce uncertainties.
- Define, in iteration with WPDC, WPHCD and WPTFV, the requirements for sensors and actuators arising from the integrated plasma scenario.
- Contribute to the preparation of all the relevant technical documentations, including a DEMO physics basis document and a detailed strategy document to identify and validate the DEMO plasma scenario in the present and in the next project phases.
- Interact frequently with the designers and engineers of the DCT and of the Project Teams.
- Liaise with other groups working on physics related DEMO activities outside Europe.

Required qualifications and competencies

- PhD degree in Physics or equivalent
- At least 5 years of relevant work experience
- Good knowledge is especially required on key drivers of the DEMO design, plasma scenario modelling, transport, MHD and plasma power exhaust.
- Experience in monitoring and managing research tasks is required.
- Ability to run simulations with plasma modelling codes would be an advantage
- Ability to work effectively both independently and as part of a team.
- Good interpersonal skills to help resolve difficult issues when they arise.
- 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