

DEMO Senior Materials and Codes & Standards Engineer

Job Description

The Senior Materials and Codes & Standards Engineer works in close collaboration with the DEMO Central Team (DCT)¹. He/she is responsible for the development of materials, structural integrity criteria and design guidelines to be applied in the design of the DEMO reactor.

Main Responsibilities

- Ensure that coherency and best practices are applied for the design of in-vessel components.
- Ensure that (nuclear) regulation requirements are integrated in the design of in-vessel components.
- Coordinate all the activities (development, fabrication and qualification) related to the development of nuclear fusion resistant materials for DEMO, taking into account the evolution of design requirements.
- Support the development of appropriate design rules for in-vessel fusion components, in particular the breeding blanket and the divertor.
- Support the development of reference Material Properties Handbooks (MPHs) to be used in design activities.
- Advise on the choice of Codes and Standards (C&S), materials and material properties to be used by the design teams.
- Liaise with the Work Package Materials (WPMAT) to ensure that the R&D programme is aligned with the main design needs and that results of the program are timely incorporated in the design process.
- Coordinate the R&D for the qualification of EUROFER97 for the ITER Test Blanket Module in collaboration with F4E.
- Plan, coordinate and harmonize materials design and R&D activities executed in international cooperation, as for example the Broader Approach Phase II with Japan.

Required / desired qualifications and competencies

- PhD. in Materials physics, Engineering or equivalent discipline.
- At least 5 years of relevant work experience including material research for Fusion applications and management/coordination of programmes at international level.
- Knowledge in different aspects of the R&D on materials: from mathematical modelling and simulation of materials to analysis of physical, mechanical and microstructural properties of materials before and after irradiation.
- Knowledge of design issues connected to high-heat flux and structural materials performance especially for breeding blanket and divertor applications in a fusion power plant.
- Familiar with nuclear regulation such as nuclear pressure equipment directive and nuclear qualification methods.
- Ability to work effectively both independently and as part of a team.
- Good interpersonal skills.
- Excellent written and verbal communication skills in English.

The post holder will work in Garching, Germany and will report 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.

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