IO1203 Scientist, Scenarios and Control POP-018

General information

Job category	Standard
Status	Confirmed
Department	DIP/Directorate for Plasma Operation
Division	POP / Science
Section	POP / SD / Stability and Control

Job description

Main job	Science - Plasma physics
Title of the position	Scientist, Scenarios and Control POP-018
Job family	Scientist
Grade	P2
Direct employment	Not required
Purpose	To contribute to ITER design analysis and the preparations for ITER operation through analysis of ITER performance in the areas of plasma equilibrium, plasma scenario evolution, poloidal field (PF) control and kinetic control; To contribute to the development of plasma scenarios, specification of plasma control requirements, analysis of PF and kinetic control capability and of related aspects of ITER physics in order to support the achievement of the ITER operational and performance specifications; To advance the modelling capability for simulation of ITER plasma scenarios and plasma control and to contribute to the development of an integrated modelling and data analysis capability for ITER plasmas.
Main duties / Responsibilities	Explores the capabilities of the ITER device for supporting the range of plasma equilibria and plasma operational scenarios required to meet ITER's performance specifications using a range of computational tools available at ITER and within the Members' fusion communities; Develops PF and kinetic control scenarios for ITER operation in support of ITER plasma scenario development and the specification of PF and kinetic control requirements; Develops plasma control simulation capability to aid in the validation of plasma control algorithms; Provides plasma equilibrium and scenario analysis in a form which allows the implications for superconducting magnet, power supply and plasma control system performance to be evaluated; Contributes to the definition and co-ordination of a program of experimental and modelling R&D activities to advance the development of ITER plasma scenarios and control capability; Integrates R&D results and analysis from the ITER Members in the areas of plasma equilibrium and control, and the analysis of their implications for ITER plasma operation scenarios; Interacts with, and co-ordinates experts, in the ITER Members' fusion communities in the definition, implementation and monitoring of relevant activities in these areas; Contributes to the definition of ITER requirements for an integrated plasma modelling and data analysis capability for plasma simulation in the areas of equilibrium, stability and control; Contributes to the planning for ITER plasma commissioning and operation; Coordinates ITER staff and Visiting Researchers contributing to studies in these areas of ITER physics; Provides documentation defining aspects of operational performance requirements for ITER plasma scenarios and synthesizing simulations of ITER scenarios; Performs other duties in support of the project schedule as described in the Detailed Work Schedule and the Strategic Management Plan; Performs other duties linked to the above purpose upon management request, as necessary; Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, values and ethics. Implements analysis programs supporting studies of plasma scenario development and PF and kinetic control requirements in ITER; Implements improvements in the ITER Organization's capability for numerical simulation of plasma scenarios and plasma control;

Measures of effectiveness	Supports efficiently the planning for ITER operation; Contributes effectively to the team activity in these areas of ITER physics and maintains effective support for ITER construction activities in related areas; Contributes effectively to the development of R&D activities within the international fusion community in this area in support of ITER construction and the preparations for operation. Reports to the Stability & Control Section Leader; Interacts closely with relevant operating units of the ITER Organization and with the ITER Members in the specification, implementation and monitoring of relevant activities; Interacts with project divisions responsible for the procurement of components and sub-systems, in particular in the areas of superconducting magnets, power supplies, diagnostics and control; Liaises with experts in the international fusion community in the areas of plasma equilibrium and scenario development, and plasma control. In response to requests from the Director-General (DG) and/or Director for Plasma Operation Directorate, or proactively, informs the DG/ Director for Plasma Operation Directorate of any important and urgent issues that cannot be handled by the concerned line management and may jeopardize the achievement of the Project's objectives. SAP ID: 5-964 Project Construction Phase

Applicant criteria

Level of study	PhD or equivalent degree
Diploma	fusion plasma physics
Level of experience	At least 3 years
Technical experience	Expertise in modelling, experimental, or theoretical aspects of fusion physics, with several years' experience in the analysis of plasma equilibria, plasma scenarios and plasma control.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	Knowledge of computational methods for plasma simulation and analysis. Ability to work in a variety of software languages and familiarity with modem scientific data analysis and visualization tools would be an asset.
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)
Free criteria	Experience of a project-oriented working environment would be advantageous. Many publications in recognized scientific journals is considered as an advantage.