IO1388 Scientist, computational plasma physics POP-032

General information

Job category	Standard
Status	Confirmed
Department	DIP/Directorate for Plasma Operation
Division	POP / Science Division
Section	POP/ SD/ Tungsten Divertor & Plasma-Wall Interactions Section

Job description

Main job	Science - Physics
Title of the position	Scientist, computational plasma physics POP-032
Job family	Scientist
Grade	P3
Direct employment	Not required
Purpose	To develop, apply and support modelling tools for the prediction of divertor and scrape-off layer processes and plasma-wall interactions in ITER; the further development of the ITER versions of the plasma boundary modelling code suite SOLPS, the main workhorse for divertor and scrape-off layer simulation of ITER plasmas, will be a particular focus of this activity; To develop and support integrated modelling tools associated with plasma edge and divertor physics for applications within the Integrated Modelling Programme of the Plasma Operation Directorate; To participate and assist in the development of modelling R&D in the Member's fusion programmes aimed at improving confidence in and enhancing ITER's plasma boundary modelling capability. Develops modelling tools to improve the predictive capability for divertor, scrape-off layer and plasma-wall interaction processes in ITER plasmas; Establishes and supports collaborations with the communities responsible for the development of numerical codes for modelling of divertor plasma and plasma-wall interactions within the Members' fusion programmes; Continuously applies modelling tools for divertor, scrape-off layer and plasma-wall interaction physics processes in support of ITER plasma scenario and operation development; Incorporates into the ITER divertor/PWI modelling codes improvements developed with the Member's fusion programmes;
Main duties / Responsibilities	Develops ITER's in-house version of the plasma boundary modelling code SOLPS (B2.5-Eirene) to include new features extending the code capability; Is responsible for the hosting of the ITER SOLPS version and for the provision of assistance to users of the code within the Members' fusion programmes, both in simulating ITER plasmas and those of current tokamaks; Contributes to the definition and development of divertor and edge physics models and modelling within the Plasma Operation Directorate Integrated Modelling programme; Contributes to the specification and analysis of ITER plasma operational regimes; Contributes to the planning for ITER commissioning and operation; Supports design activities in areas directly concerned with plasma boundary and PWI simulation, including in the areas of plasma-facing component development and diagnostics; Contributes to the supervision of visiting researchers participating in studies of divertor physics, plasma edge physics and plasma-wall interaction; Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Programme, values and ethics; 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. Reports to the Tungsten Divertor and Plasma-Wall Interactions 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 subsystems,

Measures of effectiveness	in particular in the areas of in-vessel components, fuel cycle and diagnostics; Liaises with computational plasma physics experts in the international fusion community in the areas of divertor physics, plasma edge physics and plasma-wall interactions to develop the ITER plasma boundary modelling capability; In response to requests from the Director-General 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. Makes contributions to the development of improved understanding of and predictive capability in plasma edge physics and divertor physics in ITER; Expands and encourages the use of ITER's divertor/SOL./PWI modelling capability throughout the Member's fusion programmes; Supports effectively the development of the ITER Integrated Modelling Application Suite; Successfully supports the planning for ITER commissioning and operation; Successfully contributes to the team activity in these ITER physics areas and maintains effective support of the ITER construction activities in related areas. ID SAP 5-082 Project Construction Phase

Applicant criteria

Level of study	PhD or equivalent degree
Diploma	Physics or engineering
Level of experience	At least 6 years
Technical experience	- At least 6 years' experience in fusion research; - Expertise in development and application of divertor and edge plasma modelling codes; in particular, extensive expertise in both the development and application of the SOLPS code required; - Several publications in recognized scientific journals; - Experience of a project-oriented working environment would be advantageous. - Familiarity with modern scientific data analysis and visualization tools.
Social skills	Ability to work effectively in a multi-cultural environment , Ability to work in a team and to promote team spirit
General skills	Demonstrable experience with plasma boundary modelling tools other than SOLPS would be an asset
Languages	English (Working)
Specific skills	MS Office standard (Word, Excel, PowerPoint, Outlook)