## ITER Scientist Fellow (divertor and SOL simulations including drifts, currents and 3D fields)

### Purpose

The aim of this fellowship is to support the ITER Project and, in particular, the ITER Organization Central Team (IO-CT) through contributions to plasma boundary modeling and simulation. In particular, the IO seeks to extend the baseline 2D divertor simulations which constitute the present physics basis for power handling and pumping to increasing levels of sophistication, including drifts and currents and 3D effects due to the use of magnetic perturbations. The work will involve close collaboration with the IO-CT and with experimental efforts performed within the ITER Members' fusion community and with the relevant ITPA activities.

### Major Activities

- Performs simulations with the IO-CT hosted plasma boundary code suite SOLPS-ITER with emphasis on the use of fluid drifts and in the presence of seeded impurities; benchmarking activities with alternative code packages including the necessary physics are also encouraged.
- Participate in the further development of the SOLPS-ITER package including the deployment of extended computational grids
- Performs simulations of the divertor plasma response to applied 3D magnetic perturbations for ELM control, with emphasis on the dissipative divertor regime
- Contributes to the interpretation and the understanding of dedicated dissipative divertor experiments on the ITER Member States' facilities;
- Contributes to the development of methodologies for divertor detachment control.

### Qualifications and Experience

- ***Education/ Know-How:***
  – Extensive experience in the theory and simulation of the tokamak scrape-off layer and divertor plasma.
- ***Technical experience:***
  – Experience with use/development of 3D plasma boundary modelling tools essential
  – Familiarity with the use/development of the SOLPS suite of codes an advantage
- ***Social skills:***
  – Ability to communicate effectively;
  – Ability to work effectively in a multi-cultural environment;
  – Ability to work in a team and to promote team work.
- ***Language requirements:***
  – Fluent in English (written and spoken).
- ***Computer and IT skills:***
  – Expertise in numerical techniques for the implementation of sophisticated plasma simulation and analysis tools.

chi china

eu eu

inc india

jap japan

ko korea

ru: russia

us; usa