Job Title: Computational Fluid Dynamics Analyst IO0563

Requisition ID **7630** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Safety and Security** - **New Posting**

Fusion, the nuclear reaction that powers the sun and the stars, is a promising long-term option for a sustainable, non-carbon emitting global energy supply.

The ITER Organization (IO), based in the southern France, welcomes best talents who can together prepare the way to this new energy in a truly multi-cultural work environment.

We offer challenging assignments in a wide range of areas and encourage applications from candidates will all levels of experience. Applications from under-represented ITER Members' nations and women candidates are strongly encouraged, as IO strongly believes that a diversified, equitable, and inclusive workplace is crucial in solving one of the most complex scientific and engineering projects in the world today.

As the IO attracts and retains people coming from a vast array of different backgrounds and cultures, discrimination and exclusion cannot be tolerated. The IO believes it is our diverse perspectives and background that gives unique strength and value to the ITER mission, regardless of race, member nation, gender, religion, status, sexual orientation, or disability - all are welcome and respected at ITER.

ITER CARE Values (Collaboration / Accountability / Respect / Excellence):
We perform our work with care, we care for the well-being of colleagues, our families and ourselves, and we care about the health of the planet for generations to come. CARE drives our work and our behaviors at ITER.

To see why ITER is a great place to work, please look at this video

Application Deadline: 05/01/2025
Department: Engineering Services Department
Job Family: Engineering
Job Role: Engineer – 3
Job Grade: P3
Language Requirements: Fluent in English (written & spoken)
Contract Duration: Initial Employment Contract up to five years with possibility for extension

*The selection process will be conducted with the objective of filling **the below vacant position** with also the purpose of drawing up a reserve list of rostered candidates for future vacant positions. The reserve list initially remains valid for two years, with the possibility of extension at the Director General's discretion.*

Overview

Are you looking for an exciting opportunity at the heart of an ambitious fusion energy project? Join us as a **Computational Fluid Dynamics Analyst** within the Engineering Service Department (ESD).
Your goals will include:

- Performing and verifying Computational Fluid Dynamics (CFD) analyses in support of the ITER Organization (IO) and Domestic Agencies' (DAs) engineering and safety activities during design, construction, commissioning and operational phases of the ITER Project.
- Managing contracts related to CFD analyses and guiding other engineers on CFD topics.
- Developing, under the leadership of your discipline manager in ESD, your skills and experience for the benefit of the Project.

Our multidisciplinary team has expertise in structural, seismic, electromagnetic, CFD and systems analyses, and is focused both on performing global simulations of ITER and supporting the project teams on engineering analysis topics. The Engineering Services Department provides the required skilled engineering resources or services, which are necessary for the successful completion of the ITER Project.

Key Duties and Responsibilities

Primary Responsibilities:

- Defines and develops methodologies and procedures for CFD analyses, provides training on the processes, and controls their implementation in IO, DAs and suppliers.
- Leads and develops CFD analysis models or tools for common use by different IO teams and DAs, and follows-up usage and adequacy as the project evolves.
- Coordinates, performs, and/or controls CFD analyses in support to the definition of loads, and assessments against design criteria.
- Manages contracts and follows the work of other CFD analysts to ensure that related deliverables meet the required quality, cost and schedule criteria.

Additional Responsibilities:

- Controls the use and definition of accepted CFD analysis software for the ITER project.
- Ensures that CFD analysis models have been properly archived in the ITER analysis model database.
- Verifies consistency of load data for and between different systems and components.
- Proposes solutions to maximize the quality and reliability of CFD analysis calculations and reports provided by IO, DAs and their suppliers.
- Reviews and performs nuclear safety analyses in support of the engineering and safety departments, including in support of responses to questions from the French regulator.

Please note that job descriptions cannot be exhaustive, and the staff member may be required to undertake other duties, which are broadly in line with the above primary responsibilities.

Experience & Competencies

Essential:

- Extensive experience in performing, reviewing, and coordinating CFD analyses.
- **Computational Fluid Dynamics (CFD):**
  - Analysis methodologies and procedures for CFD and thermal analyses.
  - Fluid mechanics: principles, numerical algorithms, and software tools for solving complex fluid flow problems.
  - Modeling various fluid flow scenarios, such as turbulent flows, multiphase flows, heat transfer, and combustion, in diverse engineering applications.
  - Preprocessing tasks, such as geometry preparation and mesh generation, as well as postprocessing tasks, such as visualization and interpretation of simulation results.
- **Continuous Improvement:** Proposing changes to processes and systems to enhance efficiency, quality, and productivity over time.
- **Quality Management Systems (QMS):** Apply the applicable procedures related to your field of activity.

Desirable:

- Knowledge of ANSYS Fluent, CFD analysis software (e.g. OpenFOAM, CFX, STAR-CCM+, etc.).
- **Organizational Savvy:** Maneuvering comfortably through complex policy, process, and people related organizational dynamics.
- **Optimizes Work Processes:** knowing or identifying the most effective and efficient processes to get things done, with a focus on continuous improvement.
- CFD analysis in nuclear projects.
- Knowledge of nuclear safety and regulatory requirements.
- Analysis of multiphase and cryogenic systems.

Qualifications

Essential:

- Master's degree or equivalent in fluid mechanics or other relevant discipline;
- *The required education degree(s) may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.*

The following items apply to all jobs and job holders for the duration of tenure at ITER Organization:

- **The CARE Values are a framework of principles that guide our actions and define the culture and spirit of the ITER Project:**

Collaboration: We collaborate with commitment and flexibility using the power of teamwork, building partnerships, and working with others to reach shared objectives;

Accountability: We are accountable for the whole project - we take responsibility for our specific actions and are transparent in our daily work, holding self (ourselves) and others accountable to meet commitments;

Respect: We treat each other with respect and dignity at all times, knowing that all of us belong here. We appreciate the value that our multicultural and diverse community brings to the ITER Project;

Excellence: We are driven by excellence; we are agile and innovative while maintaining the highest standards of safety, quality and integrity;

- **ITER Core Technical Competencies**:
  1) **Nuclear Safety, Environment, Radioprotection and Pressured Equipment**
  2) **Occupational Health, Safety & Security**
  3) **Quality Control & Quality Assurance Processes**
- **Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members;**
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- May be requested to perform other duties in support of the project as defined by your line manager, and when relevant upon the request of the matrix manager;
- May be requested to work outside the ITER Organization reference working hours, including nights, weekends and public holidays, due to business needs - this may include on-call, shift work, etc.
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- For staff expected to perform on-call, shift hours, or other work outside ITER Organization reference working hours, including nights, weekends, and public holidays, **the possession of a driving license valid in France is required. no commuting vehicle will be provided by the ITER Organization.**
- Informs management of any important and urgent issues that cannot be handled by line or matrix management and that may jeopardize the achievement of the Project's objectives;

The ITER Organization (IO) is an Equal Opportunity organization committed to diversity and inclusive in the workplace.