



1 & 4 avenue de Bois-Préau
92500 – Rueil-Malmaison
10/04/2018

IFP Energies nouvelles is a public-sector research, innovation and training center active in the fields of energy, transport and the environment.

PERMANENT POSITION

RESEARCH ENGINEER IN 3D CFD SIMULATION OF PROPULSION SYSTEMS

Reference : 293049

Company/Location : IFP Energies nouvelles, Rueil Malmaison, France

Division : Engine & Vehicle Systems Division

Principal Missions

Technology innovation is at the heart of R&D activities at IFPEN and in particular within the Engine & Vehicle Systems Division. Numerical simulation has become an important tool in the design and optimization of innovative combustion engine concepts. The research division at IFPEN develops and applies 3D CFD simulation (RANS & LES) in a wide range of applications focused on developing new internal combustion engine technologies for the automotive sector.

Within the Engine & Vehicle Systems Division, you will :

- Participate in R&D projects using 3D CFD simulation (CONVERGE) for internal and external clients focusing on internal combustion chamber design and optimisation.
- Participate in the development of CFD numerical methods.
- Perform 0D simulations with system simulation tools to complement 3D combustion simulations.
- Contribute to the development of pre and post-processing tools in order to aid analysis of results.
- Report your R&D results (written technical reports, presentations) internally and externally.

Education / Experience

- Master's degree (or PhD) in Mechanical Engineering degree (or equivalent relevant discipline). Prior experience in 3D CFD (RANS or LES) applied to combustion systems would be appreciated although not obligatory.

Required Technical Skills

- Proven experience in 3D CFD simulation of turbulent, reactive flows.
- Knowledge of IC engines : engine design and architecture (injection systems, combustion chamber design...)
- Proven ability with CAD/CAO software including mesh generation specifically for 3D CFD simulations.
- Proven ability with pre and post-processing software for 3D CFD simulation.
- Excellent programming skills including Fortran 90 or C.
- Prior experience with simulation/numerical tools such as CONVERGE, AVBP, Matlab, LMS Imagine-Lab AMESim, Centaur, Paraview, Ensignt, Xmgrace, Python...

Other requirements

- Flexible, capable of working independently and within a team environment
- Efficient, results-oriented
- Open-minded, curious
- Excellent communication skills (written and oral)

Please apply online on our website with the job listing reference 293049:

<https://emploi.ifpen.fr/recrutement/acces.html>