

Paris, le 23 septembre 2021

Job position : Assistant Professor (tenure track)

LIFSE
Arts et Métiers
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Contact:
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Research topics

Turbomachinery, Fluid Dynamics, Computational Physics

Job location

Arts et Métiers Institute of Technology, 151, boulevard de l'Hôpital 75013 Paris, France
– Laboratory of Fluid Engineering and Energy Systems

Research profile

The recruited person will be in support of the modeling and numerical simulation actions of the laboratory research activities, and those dedicated to turbomachines in particular. In fact, turbomachines are essential systems of energy production and energy conversion. In order to tackle today's challenges, these systems must be the subject of design and optimization studies, relying on both aero- hydrodynamical and aeroacoustical investigations. Research activities will focus on characterization, modeling and control of internal flows in turbomachinery. They will also be developed and conducted in collaboration with industries from mobility, aeronautics and aerospace sectors, and within the development plan relative to low carbon and renewable energy. The successful candidate must have a strong background and experience in numerical methods of complex flows and multi-physics problems in turbomachinery, and eventually in aeroacoustics and aeroelasticity. Significant experience in scientific computing and programming, in particular HPC, would be a major asset.

Key words Turbomachines, Computational Fluid Dynamics, AeroElasticity, Aeroacoustics

Teaching profile

The recruited candidate will participate in the teaching activities of the engineering diploma of Arts et Métiers Institute of Technology, which is equivalent to the 1st and 2nd years of a Master Degree. The recruited person will be expected to give lectures, labs and demonstrations in the general fields of fluid mechanics and energetics, as well as turbomachinery. Candidates eager to supervise student projects and to suggest and implement innovative teaching methods is a plus.

Key words : Turbomachines / Fluid Mechanics / Energy

About the organization

Created in 2020, Laboratory of Fluid Engineering and Energy Systems (LIFSE), is a joint research unit of École Nationale Supérieures d'Arts et Métiers and Conservatoire National des Arts et Métiers. Its investigation extends from fundamental to applied research to address the many scientific and technological challenges increasingly complex. LIFSE also delivers answers to the socio-economic demands through national and European research programs or industrial partnership projects.

Specialness of the LIFSE relies on investigations combining several fields and approaches to design, analyze and improve the efficiency of fluid and energy systems. The innovations looked for are environmentally friendly, while maintaining optimal performance and reduced levels of nuisance.

The LIFSE's main research areas revolve around hydrodynamics, aerodynamics, acoustics, thermics and thermodynamics, implemented for the turbomachines development as well. These research areas are a part of the renewable energy fields, sustainable mobility, aerospace, processes and health. The complementary of the approaches : theoretical, numerical and experimental of the laboratory allows developing knowledge and a high level of expertise on fluid engineering to confront the challenges related to the energy transition.

LIFSE relies on CONFLUENCE engineering platform providing high-tech equipment and simulation tools, with some having an advanced Technology Readiness Level (TRL higher than five). The laboratory has about 50 members including lecturer-researchers, engineers and technicians, postdoctoral and PhD students. The laboratory also hosts many foreign researchers every year.

Other activities

The recruited person must be able to provide and lead courses in the disciplines of fluid mechanics, energy and physics, and to develop research activity in the field of turbo-machines. He will be involved in collective activities to develop and structure LIFSE's research activities and its technological platform CONFLUENCE, in particular code's and software's development platform.

Complementary information

3-year contract

Application procedures

Documents to be provided :

- PhD diploma
- French "CNU" 60th and/or 62nd sections qualification would be a plus