Arts et Métiers Institute of Technology is currently advertising this position:

Assistant Professor in Fluid Mechanics for three years

Title : *Fluid Dynamics – Numerical Simulations and Flows modeling*

Description :

Teaching profile: teaching at both undergraduate and graduate levels

Description :
The industry has recurring difficulties in recruiting engineer profiles for the development of simulation codes in engineering (mechanical, aerospace or aeronautics). This requires very interdisciplinary skills (mastery of the underlying physical models, good knowledge of numerical methods). Arts et Métiers students, who are well trained in disciplinary aspects, need to acquire more skills in scientific computing currently required by the job market, given the boom in digital technology and simulation at all levels of industrial production. We especially stress the importance of interdisciplinarity (physical aspects / data science / science computing). The candidate will integrate into the various fields of the Arts et Métiers campus in Paris and develop his teaching activities in this perspective. He (she) will participate in particular in the teaching of numerical methods, fluid mechanics and energy at the Arts & Métiers campus in Paris. The candidate will be able to teach in theoretical and numerical fluid mechanics, in numerical methods and optimization, in acoustics, in mathematics in particular in the engineering course, in the research master or the first year in international master (taught entirely in English) or within the Partnership Engineer Training by apprenticeship. He will also have to develop project-based pedagogy around these same themes. In particular, he will have to develop the use of digital technology in education to promote interactivity, personal work and the pleasure of learning.

Key words for teaching : Fluid Mechanics, Science for Engineers, Machine learning, Optimisation

Job location : Campus Arts et Métiers Paris – 151 Bd. de l'Hôpital – 75013 Paris

Research profile:

Description :

The DynFluid Laboratory has recognized skills in the numerical simulation of transitional and turbulent flows in both compressible and incompressible regimes applied to a wide class of flows ranging from academic flows (channel, cavity, boundary layer, wake, mixing layer, ...) To industrial flows (nozzle, turbomachine, airplane wing, 3-D body,...). The fluids considered can also have complex properties either in their rheological or thermodynamic properties or be multi-species. The result of these simulations is then used for a detailed analysis of the physical mechanisms in order to improve the understanding of the dynamics of the flows (reduction of the dimension, modal decomposition, ...) with a view to their modeling and their control. The candidate will develop his / her research within DynFluid in at least one of the four themes carried by the laboratory.

MET: Complex Thermodynamic Multi-Species,
CAT: Compressibles, Turbulence & Acoustics,
MLQ: Machine Learning & Uncertainty Quantification,
ITC: Instabilities, Transition & Control.
The institution expects the candidate to quickly fit into the laboratory and participate in increasing its influence, both academically and internationally, and in terms of industrial

contacts in the sectoral areas associated with the different themes of the laboratory. A strong motivation for international collaborations is also required.

Key words for research : Fluid Mechanics, Machine learning, Optimisation, Instability, Transition to turbulence, Turbulence, Complex gas, multi-species.

Laboratory name: DynFluid Laboratory

Description of the laboratory and its activities:
See : http://dynfluid.ensam.eu/

Further Informations:

Position for three years (starting :01/09/2021). At the end of these three years, possibility of having a permanent position of Assistant Professor.

Teaching :

Teaching Department: Mechanical Engineering
Philippe Rouch, Director of Arts et Métiers Paris Campus
Email : philippe.rouch@ensam.eu

Research :

Head of the laboratory : Jean-Christophe Robinet,
Email : jean-christophe.robinet@ensam.eu
Tel. +33 144 246 277

Application procedures:

Constitution of the application file (documents to be provided):
Applicants must have an earned doctorate in Fluid mechanical engineering or physics or Applied Math.

- Detailed CV with list of exhaustive publications.
- Rapporteurs' reports
- Defense report
- Master's degree
- Doctoral degree
- main publications (3 max)
- Cover letter

How to apply:

By postal address:
Jean-Christophe ROBINET
Laboratoire DynFluid Arts et Métiers Paris 151 Bd. de L'Hôpital 75013 PARIS
Or
Send to the following email address:
jean-christophe.robinet@ensam.eu

Contacts :

Head of the laboratory : Jean-Christophe Robinet,
Email : jean-christophe.robinet@ensam.eu
Tel. +33 1 44 24 62 77

Deadline to apply: May 16th 2021