Open Position
– Assistant / Associate / Professor - in sustainable aerostructures computational design

Desired background and skills

- PhD holder in Aerospace Engineering, Mechanical Engineering or related fields.
- Some postdoctoral and teaching experience.
- Background complementing current skills at ISAE-SUPAERO DMSM & ICA MS2M, notably in Ecodesign and/or Multidisciplinary Design Optimization and/or Topology optimization and/or scientific computing for structural mechanics and interactions (Aeroelasticity, multiphysics simulation, material by design, digital fabrication).
- High, independent research potential.
- Critical thinking, and ability to cope with innovation and interdisciplinarity.

The Institute

The Institut Supérieur de l'Aéronautique et de l'Espace (ISAE-SUPAERO) is a French « grande école » of engineering, founded in 1909. It was the world's first dedicated aerospace engineering school and is considered to be one of the best in Europe in the field. The school delivers a wide range of science and engineering degree programs. ISAE-SUPAERO is part of University of Toulouse, and Aerospace Valley.
Since its founding in 1909, ISAE-SUPAERO has produced more than 21,500 graduates. Some of them have achieved fame in their field, including: Henri Coandă, the discoverer of the Coandă effect; Henri Ziegler, father of the Airbus program; Frédéric d'Allest, first chairman of Arianespace; and Jean-François Clervoy, Thomas Pesquet, astronauts.

ISAE-SUPAERO has the following missions:

- To educate engineers in the aeronautics and space fields and in related areas.
- To engage in scientific research and technological innovation.
- To deliver specialized graduate education and continuing education programs.
- To deliver doctoral programs and national degrees equivalent to the MsC.

The Institute delivers the following educational programs: The ingénieur ISAE-SUPAERO program (FISE), The FISA co-op program, An International Masters Program in Aerospace Engineering (MAE), 6 Research Masters Programs, 15 Advanced Masters Programs, 6 Doctoral schools. Within the various ISAE-SUPAERO training courses, the DMSM is in charge of teaching in the areas of: mechanics of non-deformable and deformable solids; thin structures; mechanics of materials for aerospace structures; computational solid mechanics, ecodesign and design/computation/manufacture of structural parts (aerostructures).

Teaching duties

- To teach about 50 hours/semester (in Mechanical Engineering), including lectures at BSc and MSc levels.
- To co-manage the third year ISAE-SUPAERO program in Aerospace Structures and Materials
- To create digital contents on Ecodesign/LCA/Sustainable Aerostructures (see https://adn.isae-supaero.fr)
- To participate to a new online Master's degree on clean energy transition for aviation

The Laboratory (CNRS)

ICA is a research laboratory of CNRS* that focuses on the study of structures, systems and mechanical processes. Our sectors of research activities are in the mechanical industries, with a particular focus on aerospace, space, transportation and energy. Our works usually focus on behavior modeling, instrumentation and the study of the durability of the considered structures or products. A large part of our research focuses on composite materials, which play today an important role in structures.
The laboratory is organized into four research groups: MSC Group : Composite Materials and Structures; SUMO Group : Surfaces, Machining, Materials and Tools; **MS2M Group : Modelling of Mechanical Systems and Microsystems;** MICS Group : Metrology, Identification, Control and Monitoring

Research duties

- To help consolidate a vigorous and competitive research program in sustainable aerostructures computational design in Ecodesign and/or Multidisciplinary Design Optimization and/or Topology optimization and/or scientific computing for structural mechanics and interactions -Aeroelasticity, multiphysics simulation, material by design, digital fabrication, etc…-
- To build competitive proposals for research funding (from regional/national to European level).
- To develop skills in Reproducible and Open Sciences (Github, Dataverse, Reproducible Papers)
- To publish regularly in high-ranked journals.
- To advise PhD/MsC Thesis with a full professor from the ICA and ISAE Research and laboratories/faculties around (ENAC, ONERA, IRT SE, LAAS, IMT, IRIT, LAPLACE …)

General contractual conditions:

- Base gross salary around 34-61 k€/year, depending on experience.
- Standard benefits, including Health care
- Permanent contract with a preferred start: September to december 2022

How to apply ?

Interested candidates must send their application online (in french):
https://recrutement.isae-supaero.fr/fr/annonce/1577251-enseignant-chercheur-en-mecanique-numerique-des-aerostructures-durables-hf-31400-toulouse

Applications will consist in a single pdf file including (could be in english):

- A motivation letter describing experience, interests, and future goals, indicating again the reference code of the preferred position (max. 1 page)
- An extended Curriculum Vitae describing teaching activities, research work and, possibly, relations with the economic and industrial world (max. 10 pages, Highlighting the 5 main research contributions papers, projects, patents,…).
- 2 professional or academic recommendation letters

Deadline

31th of march 2022.

Contacts

- Laurent MICHEL, Head of Department of Mechanics, Structures and Materials(DMSM), laurent.michel@isae-supaero.fr
- Christine ESPINOSA, MS2M, Institut Clément Ader, Innovation Leader at DMSM , christine.espinosa@isae-supaero.fr
- Joseph MORLIER, MS2M, Institut Clément Ader, Head of 3rd year program in Aerospace Structures and Materials at ISAE-SUPAERO, joseph.morlier@isae-supaero.fr
- Christophe BOUVET, assistant director of Institut Clément Ader (ICA), christophe.bouvet@isae-supaero.fr

*The French National Center for Scientific Research (CNRS) is a public-funded institution that covers all scientific disciplines, from the humanities and social sciences to biological sciences, nuclear and particle physics, information sciences, engineering and systems, physics, mathematical sciences, chemistry, Earth sciences and astronomy, and ecology and the environment.