Open full academic position:

Professor in System Architecture, Modeling, Validation & Verification

Context

As a world leader in higher education in aerospace engineering, ISAE-SUPAERO offers complete and unique range of advanced academic programs including the ISAE-SUPAERO engineering program, the CNAM-ISAE apprenticeship program, the Master of Science in Aerospace Engineering, 16 advanced masters and 6 Doctoral schools. ISAE-SUPAERO has developed a research policy resolutely focused on answering the future needs of the aerospace industry and other high technology sectors.

At the international level, ISAE-SUPAERO is a membership of T.I.M.E and PEGASUS and cooperates with premier European universities (TU Munich, TU Delft, ETSIA Madrid, Politecnico Torino and Milano, KTH Stockholm, Imperial College, Cranfield), North American institutions (Caltech, Stanford, Georgia Tech, UC Berkeley, EP Montreal...), Latin American and Asian universities. The ISAE-SUPAERO learning community includes 101 professors and researchers, 1800 lecturers from industry, and nearly 1700 undergraduate students. Every year, over 30% of the Institute's graduates are international students, and the alumni network includes over 20000 former students.

The scientific activity for Education and Research at ISAE-SUPAERO is organized in departments, including the Complex Systems Engineering Department (DISC). DISC develops skills on mathematics and informatics for aerospace engineering, it focuses on the models, methods and tools required for complex systems.

In this context, ISAE-SUPAERO is recruiting an Associate Professor or a Full Professor in the field of the modeling, validation and verification of system architectures to contribute to ISAE application areas, and contributes to the research roadmap of ISAE, specifically on the topic of autonomy functions for aerospace.

Missions

This position has two main missions, teaching and research.

Teaching requirements:

The position holder teaches for the benefit of all the trainings of the Institute. He/she actively contributes to the development of teaching and programs in the field of artificial intelligence, control of autonomous systems and aerospace vehicles, as well as to the global and transversal reflection on the on-going trainings. His/her missions include:

- The design and development of teachings in the field of computer science at large, from basics programming classes, software engineering to advanced classes including Model-Based Design or formal methods, with a strong connection to qualification of critical software.
- The integration into the teaching team, the contribution to all ISAE-SUPAERO teaching programs update,
- The promotion of ISAE-SUPAERO trainings at the national and international levels,
- The mentoring of student projects in the different stages of their training (Bachelor, Master, final end-of-study projects...), both inside ISAE-SUPAERO and externally, in the framework of cooperative industrial or research agreements.
- The investment in responsibilities of coordination of the Institute training programs.

Research requirements:

The position holder develops a line of research on modeling and/or validation and verification of system architectures in connection with ISAE-SUPAERO research roadmap, both regular aerospace systems and new autonomy functions to be integrated in these systems. He/she works jointly with the scientific teams of the different departments of ISAE-SUPAERO. To carry out this mission, he/she develops his/her activity within the DISC IpSC "Engineering for Critical Systems" team. His/her research records are in line with the following activities being conducted: system modeling (SysML, Capella, AADL), validation and verification (CPS simulation, model-checking, theorem proving) applied to Systems Engineering and the engineering of embedded systems. His/her mission statement includes:

- Directly contributing, on his/her scientific domain, to the research activities of the IpSC team and formulating a personal research project in line with the existing activity. Cooperation with the other teams within the DISC will also be appreciated.
- Contributing to the visibility and dissemination of ISAE-SUPAERO's research by the publication in top-ranked journals, participation in conferences, international scientific societies, and more generally by participating in the local, national and international research ecosystem.
- Participating to the animation of the department's scientific life and projects, in particular by taking part in relevant collaborations, by maintaining a scientific watch on his/her field, in order to insure the relevance of the Institute's scientific policy.
- Tutoring interns and PhD students.
- Participating in the development of the general set of ISAE-SUPAERO scientific tools and toolboxes, within his/her field of expertise, through collaborative internal projects.
- Contributing to the general resources and funding of the Institute, through private or academic partnerships, and valorization of research results.

Profile

The position holder has a PhD degree and potentially the Accreditation to Supervise Research (French HDR Diploma), or a first experience allowing him/her to obtain it by equivalence in the short term.

He/she has the skills required for teaching in the fields of computer science in one of the topics of the position: formal methods, simulation, model-based systems engineering, with application to aerospace, or similar experience. Acquaintance with engineering trainings or an engineering diploma would be appreciated. He/she proves the relevance of his scientific project, especially with his research publication record. He/she has a taste for teaching, innovative pedagogy and wishes to join an ambitious training project.

Candidates are strongly encouraged to contact the department's research teams to define their academic project and learn more about current topics of interest.

Contacts

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Send CV and cover letter (reference: fiche de poste ISAE-587) to:

https://recrutement.isae-supaero.fr/fr/s/Z2rg3PDZ

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Deadline for applications**: 17 March 2019**

Validation of DG: