

Assistant-professor Job Posting on fixed-term contracts

CENTRALE LILLE	Implementation of the requested job : Centrale Lille
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Title:

Automation and Distributed Real-time Systems

Recruitment context and strategic elements of the institution

Centrale Lille is a member of the Groupe des Ecoles Centrale, of which Centrale-Supelec, Centrale Lyon, Centrale Nantes and Centrale Marseille are also members. Centrale Lille offers three engineering courses (Ecole Centrale de Lille, IG2I and ITEEM), two of which (IG2I and ITEEM) train students in five years (recruitment at baccalaureate level). In addition to the engineering degree, the institution also awards masters degrees (including three international masters' degrees) and a doctoral degree based on internationally recognized research activity in six laboratories, including three joint research units (UMRs) with the CNRS, and several joint teams with INRIA. Centrale Lille is also a member of the ComUE Lille nord de France and is significantly involved in the I-SITE ULNE project.

Building on this environment, Centrale Lille's strategy aims to strengthen its position as a major player in engineering training and research through the development of its training programs, particularly its engineering training programs, and its research, development and innovation activities. The result is a desire to increase both its attractiveness and its recognition, particularly internationally and in the economic world.

The school is thus committed to a major evolution and diversification of its teaching methods with the desire to develop the autonomy of its engineering students and to strengthen the skills of the graduates of each of its courses.

Significantly committed to the I-SITE ULNE project, Centrale Lille contributes to positioning the research and development carried out on the Lille site and the recognition of the latter at the highest international level. The institution has thus specified its action in this field in a science policy document approved by its Scientific Council.

It makes a priority the development of relations with companies, particularly through the creation of chairs, collaborative projects, innovation projects and privileged partnerships.

Its positioning, as well as its activity, in terms of training and research should lead it to strengthen the development of institutional collaborations with the largest international universities for the benefit of all its students and the actors of its research activity.

Centrale Lille's recruitments are aimed at supporting its strategy to enable it to achieve its objectives.

General profile of the position:

The recruited person will be integrated:

- On the one hand, to the teaching team of two teaching departments "**Electronics, Electrotechnics and Automatics (EEA)**" and "**Mathematics-Informatics (MIN)**", in order to consolidate Centrale Lille's teaching in industrial computing and in the development of time-critical embedded systems (for example embedded control applications in autonomous transport systems). Consequently, the main required skills are:

o in system architectures, from the microcontroller to system architectures communicating in real time through time-determined networks,

o in telecommunications protocols for the development of distributed architectures,

o in real-time application development.

Skills in distributed and supervised automation will be appreciated as well as knowledge in ambient intelligence and even in the Internet of things.

The recruited person will participate in the implementation of new courses. It must be dynamic and have a strong interest in active pedagogies, the latter being resolutely promoted in order to help students to learn better and develop their autonomy.

- On the other hand, at the **CI2S group of CRISTAL laboratory**,

The person recruited will have to bring to the CI2S (Integrated System Design and Supervision) group a good scientific expertise in the modelling and formal verification of Discrete Event Systems (DES) and Hybrid Systems (HS). The candidate will have to master the usual formalisms in this field such as Petri Nets or finite state automata.

The fields of application targeted are intelligent transport and autonomous robotics. The person recruited will need to have skills in simulation and real-time validation in this context. An opening towards the production systems of industry 4.0 would be a plus. It will also be involved in strengthening existing partnerships but also in setting up new projects.

Condition of service:

128 hours of lectures equivalent to 192 hours of tutorials

Recruitment:

One-year fixed-term contract to be filled by 1 September 2019, renewable.

A trial period of 2 years before recruitment as an official.

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