

FACULTY RECRUITMENT PROFILE

Assistant Professor

(Signals and Systems Laboratory/L2S and Control Department CentraleSupélec)

Title: Assistant Professor.

Position: Assistant Professor in Systems analysis and control, at Control Department at CentraleSupélec, Paris-Saclay Campus / Signal and System Laboratory (L2S) UMR CNRS 8506, « CDI de droit public », Assistant Professor.

CNU Section: 61.

Domain / Job profile: Within CentraleSupélec, involvement in teaching activities in control at engineer and master level, in academic research, in industry collaborations and in national and international projects.

Keywords: Control, modelling, control of uncertain systems, estimation-observers.

CentraleSupélec is a public scientific, cultural and professional institution (EPSCP in French) under the authority of the Ministry of Higher Education and Scientific Research and the Ministry of the Economy, Industry and Digital Technology. Its main missions are: the training of high-level scientific general engineers, research in engineering and systems sciences, and executive education.

The Control Department is an academic department at CentraleSupélec whose educational scope covers the fields of modeling, estimation, control and optimization for the 3-year CentraleSupélec Engineering Program. The department also manages “Engineering and Human Movement Sciences” (ISMH) master program and “Control and Signal and Image Processing” (ATSI) master program for Université Paris Saclay.

The Signals and Systems Laboratory is a joint CNRS-CentraleSupélec-UPSud unit. The main areas of research include signal theory and statistics, systems and control theory, networks and communication theory. These activities are organized around 3 groups, and more specifically the Systems and Control group concerned by this profile, with themes around state estimation and parameter identification, delay control, robust control, fault tolerant control, hybrid systems, control of robotic systems ...

Academic profile:

The candidate will be part of the Control Department. He/she will engage with courses on modeling of systems, signal processing, systems theory, control and optimization that form part of the

CentraleSupélec engineering program, as well as in other training programs, in particular at the master level. He / she will be particularly involved in:

Engineering program: active participation in practice sessions, lab sessions, projects (e.g. collaborative robotics) and industrial projects (so-called CEI convention d'études industrielles) depending on the level of experience and expertise, and on opportunities. These activities will be carried out across a broad spectrum covering modules of the 1st, 2nd and 3rd year of CentraleSupélec curriculum:

- First year: signal processing and systems theory;
- Second year: control theory, optimization, modelling and control of systems;
- Third year: identification and estimation, robust control.

Executive education: specific topics in the field of control and signal processing.

Considering the CEI framework, carried out in close collaboration with industry, the candidate will have to demonstrate a strong potential in industrial researches in relation to the industrial world. Under the CentraleSupélec curriculum, involvement will take place also in engineering challenge terms, either through lectures within specific courses or through challenge weeks for which relations with the industrial world will be of main importance.

As some of these courses are taught in English, the ability to teach in English is expected.

Research profile:

The candidate will join the Signals and Systems Laboratory, Systems and Control group. The candidate will develop/undertake research in the research themes of the group, such as control of robotic systems interacting with human; identification and observation of complex systems (hybrid or infinite dimensional); fault-tolerant connected systems. Strong skills in analytical and computational techniques are therefore required to address these issues.

The candidate must demonstrate the ability to collaborate and lead research activities in the control field, by participating in the supervision of student work, and should be able to establish academic and industrial partnerships on this activity, at the national and international level.

The research missions associated with this position are:

- carrying out academic and industrial research, in conjunction with the industrial community and dissemination of the results;
- contribution to the development of research contracts and projects in partnership with academics and companies, at regional, national and international levels;
- co-supervision of PhD students and internship supervision (engineering and master level);
- preparation of seminars, symposia, scientific conferences, etc.

In order to achieve these missions, the candidate will have demonstrated in his previous activities his ability to carry out highly innovative research activities. For this, a strong scientific culture, assessed by

publications in top international journals is required.

Candidate profile:

- The candidate must hold a thesis in the field of control.
- The candidate must be qualified in the CNU section 61 or have the elements which enable to assess its equivalence
- The candidate must be author or co-author of publications in international journals (the publication requirement will depend on the curriculum vitae and the number of years of experience).
- The candidate is expected to have a taste for teaching, research and teamwork, with significant experience in teaching at a level at least equivalent to the first year of engineering school or the third year of bachelor's degree.
- The candidate is expected to engage in the supervision of research work in line with the themes of the laboratory.

Recruitment interview:

For the candidates selected for the audition, the audition will take place in three stages:

- A presentation of the candidate's background and integration project;
- An illustration of a lesson, given in English, on a problem, whose subject is identical for all candidates, will be specified on the invitation;
- An exchange with the members of the committee.

The duration of the three parts of the audition will be specified in the invitation letter.

Candidatures:

File in pdf format, including:

- A cover letter
- A detailed CV (teaching experience, research, mobility, publications, etc.)
- An integration project
- A copy of an identity document
- A copy of the doctoral degree
- And any documents that attest previous experience

must be sent by email only to the two contacts below before April 2, 2020, at 12h00 (Paris-time) at the latest:

Lorraine Maret, human resources: lorraine.maret@centralesupelec.fr

Elodie Ledoux, human resources: elodie.ledoux@centralesupelec.fr

Scientific contacts:

Pascal Bondon, Director of Signals and Systems Laboratory: pascal.bondon@centralesupelec.fr

Didier Dumur, Director of Control Department: didier.dumur@centralesupelec.fr

William Pasillas-Lépine, in charge of the Control and System group of L2S:

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