Lecturer

Ecole/Institution/Société:
CentraleSupélec, **France / Gif-sur-Yvette**

Discipline:
Electrical Engineering

Type d'emploi::
Full-time

Date de publication:
2025-02-11

Personne à contacter:
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Full Professor / Assistant Professor in Analogue and integrated electronics.

About CentraleSupélec

CentraleSupélec is a public scientific, cultural, and professional institution (EPSCP in French) under the authority of the French Ministry of Higher Education and Industry. CentraleSupélec mainly focuses on training high-level scientific general engineers, conducting research in engineering and systems sciences, and executive education. CentraleSupélec is seeking an Assistant Professor to join the Electronics and Electromagnetism Department and conduct research in the GeePs laboratory.

The Department of Electronics and Electromagnetism comprises a team of 12 full-timeAssistant Professors and Full Professors who provide courses in analog, digital, and high-frequency electronics for the general curriculum of CentraleSupélec (power electronics courses are provided by the Energy Department). Faculty members from the Department of Electronics and Electromagnetism are actively involved as managers or co-managers of the project clusters: Cubesats, Internet of Things, and Intelligent Vehicles. The department is co-responsible for the second-year engineering challenge team «autonomous vehicle» and oversees the major “Connected Objects and Embedded Systems” (SCOC). It is fully responsible for managing the third-year concentration in ELectronics ENgineering (ELEN).

The GeePs laboratory is a collaborative unit involving CNRS, CentraleSupélec, Paris-Saclay University, and Sorbonne University. It was established in 2015 and is located on the CentraleSupélec campus of Paris-Saclay University in Gif-sur-Yvette and the Pierre and Marie Curie campus of Sorbonne University in Paris. As one of the leading research centers in the Île-de-France region, the laboratory hosts a team of 240 individuals, including 130 permanent staff members (consisting of researchers, teacherresearchers, engineers, and technicians) and approximately 80 PhD students. The laboratory is a prominent hub of expertise dedicated to advancing the field of electrical engineering.

Teaching Responsibilities

The teaching sessions will take place at CentraleSupélec within the Department of Electronics and Electromagnetism. The successful candidate will be responsible for teaching in the 3-year general engineering program, as well as in the last 2 years of the specialized program in electronics starting in September 2025. Teaching activities will primarily focus on analog electronics and microelectronics (design under Cadence environment). The candidate should also possess the skills

to conduct tutorials or laboratory sessions in digital or RF electronics in the first year of the engineering program.

The candidate will contribute to the concentration «Electronic Engineering» which is part of the «Communicating Systems and Connected Objects» major in the third year of the general engineering program.

The teaching responsibilities for this position include the following:

- Deliver lectures, tutorials and laboratory sessions in analog electronics and microelectronics;
- Design and deliver modules for the Challenge Weeks;
- Supervise student projects throughout the 3-year program;
- Participate in the development of courses for the new bachelor's degree programs.

Experience in microelectronics (design, simulation, and layout of custom integrated circuits) is expected for this position. The candidate must have either designed an integrated circuit as part of his PhD or research activities or have supervised hands-on microelectronics teaching (e.g. tutorials using Cadence).

The candidate will collaborate with various teaching teams to enhance the overall curriculum and the specialized degree in electronics. They will address challenges related to climate, energy, ecological transitions, and sovereignty issues under the guidance of the Office of Academic Affairs and the various Program Managers.

Courses must be given in both French and English

Research Responsibilities

The candidate will join the GeePs Laboratory, specifically the Components, Sensors, and Systems team in the Electronics division. This team focuses on designing circuit architectures and integrated systems to enable more efficient miniaturized sensors and optimize embedded processing. It studies photodetector transducers, MEMS, $BioMEMS, and their associated interface electronics. The team also works on analog and mixed-function architectures such as dispersive filters and analog-to-digital converters.

Furthermore, it explores the integration of digital processing for information extraction or datatransmission, as well as the optimization of computational distribution for heterogeneous targets (CPU, GPU, FPGA). With an interdisciplinary approach, the studies are carried out to achieve the energy efficiency of the systems. Among the architectures studied, some adopt a neuromorphic approach to enable more efficient integration of calculations or artificial intelligence techniques. The applications of these architectures span diverse fields, including biomedical technology, defense, space,communications, industry 4.0.

The candidate should possess strong expertise in integrated analog electronics and be capable of implementing and developing these skills in collaboration with the team. The candidate will contribute to developing integrated devices in connection with the technological platform of the cluster. They will develop research projects in collaboration with industrial and academic partners. The candidate will contribute to the dissemination of scientific results (journal articles, conferences, etc.) and their exploitation by promoting technology transfer to the industrial sector (TRL4 to 7). They will supervise students during internships and PhD programs.

Candidate Profile

The candidate must meet the following requirements:

- Hold a PhD in analog microelectronics and at least one internationally recognized publication (the publication requirement will depend on their curriculum and years of experience), and a real experience under CADENCE;
- Have an interest in the practical aspects and implementation of projects (such as prototyping, IC design, etc.);
- Demonstrate a passion for teaching, research, and teamwork;
- Possess a willingness to supervise research projects in synergy with the laboratory's themes, which may entail achieving a postdoctoral accreditation (HDR) for supervising research, if applicable;
- General knowledge of digital electronics or RF systems is a plus;
- Good command of written and oral English.

Selection Procedure

The application must include the following PDF files:

- A cover letter;
- A detailed CV (teaching experience, research, mobility, publications, etc.);
- A research and teaching project fitting within CentraleSupélec (5 to 10 pages);
- A copy of a valid identity card or passport;
- A copy of the doctoral degree and any document attesting to research supervision experience;
- And any documents that attest previous experience;
- Optional letters of recommendation;
- Thesis or HDR defense report

Recruitment Interview

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

- A presentation of the candidate's background and teaching and research project;
- An illustration of a lesson 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 presentations will be specified in the audit invitations.

Scientific Contacts

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