



CentraleSupélec

FACULTY RECRUITMENT PROFILE

Assistant Professor

Laboratory of Industrial Engineering (LGI) and *Faculty of Industrial Engineering and Operations*

Référence : GMCFCDILGI2101

Assistant Professor:

***Faculty of Industrial Engineering and Operations*

Title: Assistant Professor

Position: Assistant Professor in Operations research for Industrial Engineering, Department of Industrial Engineering and Operations / Industrial Engineering Laboratory, CentraleSupélec Paris-Saclay Campus, « CDI de droit public ».

CNU Section: 60, 61, 27

Domain / Job profile:

The candidate will do his/her research at the *Laboratory of Industrial Engineering* of CentraleSupélec in the Operations Management team and will teach in the Industrial Engineering and Operations faculty.

Keywords:

Operations research, Optimization, Supply chain, Operation management, Data analytics, Industrial Systems, Industrial engineering

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 *Industrial Engineering and Operations* Faculty is an academic faculty at CentraleSupélec whose educational scope covers the fields of *Systems Design, Supply Chain, Risk and Reliability* for the 3-year CentraleSupélec Engineering Program. The faculty also manages *Complex Systems Engineering* Master for Université Paris Saclay.

The *Laboratory of Industrial Engineering* is a joint CNRS-CentraleSupélec unit. The main areas of research are related to industrial engineering and the study of production, activity or socio-technical systems along their life cycles. These activities are organized around 4 targeted themes: *Design Engineering, Supply Chain, Sustainable Economy, Safety and Risk Analysis*.

Academic profile:

The candidate will join CentraleSupélec Industrial Engineering and Operations faculty, where he/she will engage with courses that form part of the CentraleSupélec Engineering Program. He/she will have strong skills in Operations Research (deterministic or stochastic mathematical programming, heuristics/metaheuristics, game theory, graph theory, dynamic programming, multicriteria optimization, etc.) and if possible be able to link them to data analytics methods (machine learning, applied statistics). He/she will be expected to take charge of or contribute to applied courses using all or part of the above methods, such as production planning, scheduling, inventory management, product and product family optimization, industrial system optimization, maintenance, and resilience optimization, etc.

The candidate should be able to take responsibility for and integrate into some existing courses in the



first and second years, but also mainly in the third year (3A), in the SCOM concentration (Supply Chain and Operations Management) and in the DS concentration (Design and System Sciences) of the LIS (Large Interacting Systems) major. He/she will also be able to collaborate with CentraleSupélec's partner companies to co-construct and co-lead case studies and challenge weeks.

In addition to the CentraleSupélec engineering curriculum, the candidate may also be involved in the MACLO (*Management de la Chaîne Logistique et Opérations*) and SCS (*Sciences de la Conception et des Systèmes*) specializations of the CSE (Complex Systems Engineering) Master's program at the University of Paris-Saclay, including the proposal and supervision of bibliographic studies and research internships.

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

Research profile:

The candidate will mainly work in the "Operations Management" team of the Industrial Engineering Laboratory, while collaborating with the three other teams of the LGI: "Safety and Risks", "Design Engineering" and "Sustainable Economy".

He/she will develop industrial engineering models using Operations Research (OR) methods such as deterministic or stochastic mathematical programming, decomposition methods, heuristics/metaheuristics and game theory. These methods will be applied to problems of production planning, scheduling, product or system architecture optimization, complex project management, maintenance and resilience optimization, industrial and logistic networks and flows optimization (supply chain), transportation optimization, mobility infrastructure design and optimization, and industrial ecology. An interest in learning and data analysis methods would be particularly appreciated, especially with a view to conducting research combining optimization and data science.

The candidate must have both methodological skills for the development of quantitative models, and the ability to understand problems arising from applied contexts. He/she will have to convince of his/her motivation and ability to conduct research in connection with companies (Cifre contracts, industrial chair...). Experience of collaboration with industrialists will be particularly appreciated.

The candidate will have to demonstrate his/her capacity to conduct academic research at the best international level by publishing his/her research results in the best journals in his/her field. Finally, he/she will have to take initiatives to participate in the elaboration and realization of federative projects (ANR projects, research projects with industrials, European projects).

Candidate profile:

- The candidate must hold a thesis in the field of *Operation Research applied to Industrial Engineering*.
- 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.
- 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 5-minute 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.



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Candidatures:

File in pdf format, including:

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

must be sent by email only to the two contacts below may, 09 2021 midnight (Paris time) at the latest with the reference **GMCFCDILGI2101**:

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

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

Scientific contacts:

Bernard Yannou, Director of *LG* Laboratory: bernard.yannou@centralesupelec.fr

Anne Barros, Director of *GIO* Faculty: anne.barros@centralesupelec.fr

Jakob Puchinger, Director of Operations Management team : jakob.puchinger@centralesupelec.fr