



CentraleSupélec

FACULTY RECRUITMENT PROFILE
Assistant Professor
Chemical Engineering and Materials Laboratory (LGPM)
CentraleSupélec / Université Paris Saclay
Reference : GMCFCDILGPM2103

Title: Assistant Professor

Position: Assistant Professor in Chemical Engineering, at Faculty at CentraleSupélec, Paris-Saclay Campus / Chemical Engineering and Materials Laboratory (LGPM), « CDI de droit public »

CNU Section: 62 (Chemical Engineering)

Domain / Job profile: *(short description of domain)*

Assistant professor in Chemical Engineering. Teaching activities in thermodynamics, transport phenomena (heat/mass), chemical engineering with applications to sustainable production, environment and pharmaceuticals. Research activities: interfacial phenomena and dispersed media in chemical and biochemical engineering, multi-scale experiments and modeling.

Keywords: Chemical engineering, biotechnology, environment, transport phenomena, interfaces and dispersed systems, experimentation.

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. It is the faculty of Engineering of Université Paris Saclay (14th in 2020 ARWU ranking).

The MEP department is a faculty at CentraleSupélec whose educational scope covers the fields of Mechanics, Energy and Chemical Engineering for the 3-year CentraleSupélec Engineering Curriculum. The department also manages Masters in the same fields for the University of Paris Saclay.

The Chemical Engineering and Material (LGPM) Laboratory is a CentraleSupélec research department (<http://lgpm.centralesupelec.fr>). Modelling, simulation and experimentation are the common pillars of the different research themes addressed. The objective of the LGPM laboratory is to promote sustainable production at CentraleSupélec, by designing new processes or revisiting current processes. This translates into the promotion of sobriety and intensification of processes, and the use of raw materials from renewable resources and/or waste.

Academic profile:

The candidate will be part of the MEP Department. He/she will be involved with courses on (i) teaching the foundations of Chemical Engineering (thermodynamics, heat transfer, material transfer, chemical/biochemical reaction engineering, modeling and sizing of industrial operations) in lectures, practice and lab sessions (ii) developing multidisciplinary teaching during a challenge week in connection with the sectors of materials and biomaterials production, bioprocesses, treatment of renewable resources (biomass) and waste, the environment and sustainable development. He/she will participate (i) in the supervision of student projects, (ii) in the teaching and organization of engineering challenge term and 3rd year tracks (Environment and Sustainable Production, Energy Resources, Healthcare and Service in Biomedical) and in the Master's degrees offered by the department in the fields of sustainable production, energy and the environment, (iii) in the development of new pedagogical forms and in the continuous improvement of the pedagogical offer.

As some of these courses are taught in English, the ability to teach in English is expected. Skills in the field of numerical simulation applied to chemical/biochemical processes would be appreciated. Initial education in chemical/biochemical engineering is desired.



Research profile:

The candidate will join the LGPM laboratory. The LGPM is structured in three teams (Materials and Biomaterials, Chemistry and Separative Processes, Bioprocesses).

The candidate will be expected to develop/undertake research in the interactions and transfers of matter (possibly reactive) that take place at the interface between phases, in the case of dispersed systems consisting of entities of millimeter or micrometer size: drops, bubbles, solid particles or biological cells/communities. Dedicated devices will be developed to examine these phenomena at the local scale. The results of the laboratory experiments will allow the establishment of physical/chemical/biological models that will be used in multi-scale simulations of multiphase processes.

The attachment of the candidate to a team will depend on his/her projects (depending on the scale of investigation, the type of process and/or the field of application). He/she (i) will be integrated in projects located on the two LGPM research sites (laboratory in Saclay campus (Gif-sur-Yvette 91190) and Biotechnology Chair in Pomacle-Bazancourt (51110)), (ii) will collaborate in ongoing collaborations and should be able to establish academic and industrial partnerships on this activity, at the national and international level.

Postdoctoral and/or international experience is desired. An experimental profile is sought, but experience in modeling-simulation is welcome. It will also be necessary to ensure the missions (i) of valorization of research results by publishing in international journals and participating in conferences, (ii) of training through and for research by supervising students, (iii) of participating and then carrying out research projects.

Candidate profile:

- The candidate must hold a thesis in the field of chemical/biochemical 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 and the ability to work in a multidisciplinary team with academic and industrial actors.
- 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.

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 september, 20/2021 midnight (Paris time) at the latest with the reference **GMCFCDILGPM2103**:

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

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



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Scientific contacts:

François PUEL, directeur du laboratoire LGPM : francois.puel@centralesupelec.fr

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Site web LGPM : <http://lgpm.centralesupelec.fr/>

Site de Gif : <http://www.centralesupelec.fr/fr/laboratoire-genie-des-procedes-et-materiaux-lgpm-ea-4038>

Site de Pomacle : <http://www.chaire-biotechnologie.centralesupelec.fr/>