



ASSISTANT PROFESSOR (Maître de conférences) IN
MODELLING AND CONTROL OF DYNAMICAL SYSTEMS : APPLICATION TO SMART GRIDS

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Teaching

ENSE3 is an engineering school in Energy, Water and Environmental sciences that belongs to the Grenoble Institute of Technology. (<http://ense3.grenoble-inp.fr/>). Grenoble is ranked first by the French students for studying and ENSE3 belongs to the first twenty French engineering schools. The study syllabus includes post-graduate and graduate programs, where Automatic Control is needed for regulation and monitoring of complex systems. The assistant professor will be involved in Control and Information technology courses in the ENSE3 engineering program (<http://ense3.grenoble-inp.fr/>). More particularly, he will be part of the Control teaching team in Practical Laboratory Work, Tutorials in Matlab/Simulink, and courses at the various course levels of ENSE3. He will be involved in the student projects in Control.

Research

The Control Systems Department of Gipsa-lab (www.gipsa-lab.inpg.fr) develops theoretical and applied research concerning the analysis and the design of controlled dynamic systems. In particular, the *SLR* (Linear Systems & Robustness) team is involved in advancing the system theory related to distributed parameter systems, time delay systems and Linear Parameter Varying systems.

The *SLR* team is interested in applying such methods to the domain of green energy, in particular, in the nuclear, transport and building sectors. Among other examples, one may cite thermonuclear fusion, electric networks, electrical/hybrid propulsion systems, building ventilation and fuel cells to cite but a few examples.

The control systems department aims at enlarging its traditional topics by addressing novel ones that are viewed as crucial for the future economic and societal issues related to the energy sector. These novel topics include, among others, distributed control and optimization, model reduction, interconnected systems and dynamic consensus achievement.

The successful candidate must show solid scientific skills in some of the above-mentioned topics in order to propose innovative solutions in the future Institute for Green Energy (Institut de l'Energie Decarbone). More particularly, "Smart Grids" must be viewed as a privileged domain of Investigation, although not the unique one. Research work has to be jointly developed with the local partners of both research and teaching entities.

Finally, applications showing evident scientific open-mindedness and strong national and international collaborations would be highly appreciated.

The selected applicant will join the *SLR* team of GIPSA-lab and can develop joint work with the members of the SYSCO team (Nonlinear Systems and Complexity) since the energy-related work is commonly developed through close cooperation between these two teams.

This position is offered in the framework of an Excellence Research Chair held by the CNRS and Grenoble Institute of Technology. It then requires a high level candidate.