Short profile	Supervision of complex systems		
Category	Professor (PR)	Job number	484
Posted	*46-3*		
Field of expertise	**Section 1 : 61**		
	Section 2 : *(eventually)*		
Position available	September 1, 2012		
School to which the position is attached	Ense³		
Associated Research lab	G-SCOP		
Location	Site of Grenoble		
Contact *(mail – tel)*	Teaching: Jean-Luc Schanen (jean-luc.schanen@grenoble-inp.fr, tel. 04 76 82 62 21) Research : Yannick Frein (yannick.frein@grenoble-inp.fr, tel. 04 76 57 45 16)		

Grenoble INP, Grenoble Institute of Technology has been training engineers, and PhDs, and developing outstanding international research for the past hundred years. As a public Higher Education Institution and a leader in innovation, it is one of the preferred partners of the industrial world. As a cofounder of MINATEC, and an active member of Grenoble Innovation University, it is involved in international projects. Grenoble INP, Grenoble Institute of Technology is made up of approximately 1100 staff (administrative and academic), 6 engineering schools, 5400 students and 32 Research labs.

http://www.grenoble-inp.fr

School to which the position is attached

Ense3 - National School of Energy, Water and Environment - is one the six engineering school belonging to Grenoble INP. It trains engineers to meet the challenges of tomorrow and respond to major societal challenges of the 21st century in Energy and Environment.

Over 1000 students (engineers and masters) for a total of 100 faculty members hold - 350 temporary teachers - 50 administrative staff.

The school offers a comprehensive and multidisciplinary training based on a strong interaction with industry and research, particularly through technological platforms PREDIS and IEE. The number of partnerships with large groups provide a good fit with the training needs of industry. The strong link with the research laboratories of Grenoble internationally recognized allows to adapt teaching in line with the latest technological developments. Ense3 also works for an opening to the world and its main issues, including the promotion of international mobility of students and by diversifying the public (foreign students, learning).

Teaching experience

The complexity and interoperability of industrial systems, applied to either energy or building for example, strongly require the development of real-time control and supervision, capable of handling a large amount of data, displaying and storing the system states, while assisting human operators (with fault detection tools, ...) or performing real-time optimization of flows.

The recruited professor will be in charge of developing and coordinating teaching related to these topics, not only through traditional teaching (courses, application case studies), but also through those associated to the platform "supervision" of PREDIS.

4 engineer curricula are impacted by these disciplines (ASI, IEE, SEM, IEN), an elective module in first year, and a work-and study learning program. The pedagogy of the work-and study learning program being inductive (ie starting from the objects to achieve knowledge), an open mind will be a strong asset.

The recruited professor will be required to take early responsibility within the school Ense3 and participate in its international influence.

Associated research lab

The G-SCOP Laboratory is a multidisciplinary laboratory seeking answers to current and future scientific challenges raised by the mutations of the industrial world. The scale of the themes ranges from the design of products to the management of production systems, based on strong capabilities in optimization. The laboratory consists of approximately 170 persons including 55 researchers and academics. The successful candidate will join the pole "Optimization and Production Systems" and more specifically the team "Management and Control of Production Systems."

Laboratory web site : http:/g-scop.grenoble-inp.fr/

Research experience

Technological advances, scientific and industrial organizational systems mainly rely on the development of information systems. In addition to optimizing equipment (design) control of the industrial system in operation is a significant advance lever. The successful candidate will therefore have a strong ability to lead and develop the local community on these issues in supervision of complex systems but also participate in national and international reputation of the laboratory in the field.

The applicant must have a strong background in supervision of discrete event systems. Skills in decision-making architecture and system monitoring are required. He (she) should have a good practice of monitoring tools such as SCADA. The addressed application areas are the production systems of goods and services.

Energetic systems are an application field that is particularly appreciated for the position. Indeed, monitoring of energetic systems is an important issue in the development of distributed and intermittent energetic sources.

Keywords : supervision, complex systems, supervision of industrial networks, monitoring, sensors