



**University of Pavia**

**Ph.D. School of Electrical and Electronics Engineering and Computer Science**

## **SEMINAR**

### **High power synchronous generators: maintenance, surveillance and diagnostics**

***Eng. Massimo Cremonesi***  
**GENERAL ELECTRIC POWER**

13 December 2016, h 14:00÷16:00  
Seminar Room, floor E - Polo Didattico Ingegneria

**Abstract:** The seminar will be focused on insights related to the maintenance of high power synchronous generators employed in thermoelectric and hydroelectric power plants. The modern strategies of maintenance are strongly influenced by the present-day scenarios related to the free electric energy market, the environmental protection regulations, the increase of the costs of the raw materials and the lack of natural resources. With these constraints, the energy utilities are pushed to make the most of the potential of their electrical machinery, with the aim to obtain the highest economical advantage and the minimum environmental impact. On the other hand, the manufacturers of the electrical machines are stimulated to improve not only the design and construction methodologies, but also to develop novel modern techniques of Preventive Diagnostics (off-line measurements) and Predictive Diagnostics (on-line measurements, surveillance, condition monitoring). These instruments make possible an increase of the performances of the large electrical rotating machines employed in the electric energy production and the avoidance of unexpected breakdown due to serious failures which can happen during the operation of the turbine-generator units. During the seminar, the main modern and innovative diagnostic techniques will be explained in details, with the presentation of interesting applications to real cases.

**Bio:** Massimo Cremonesi obtained his MSc degree in Electrical Engineering at Politecnico di Milano in 1984. He joined T.I.B.B. (Tecnomasio Italiano Brown Boveri) in 1985: this firm changed his property in ABB (1989), in ABB-ALSTOM (1998) and in ALSTOM (2001), General Electric (2015) where he currently works. His activities have been performed mainly in the Quality area of the production of high power electrical generators for thermal and hydraulic power plants. He participated to R&D projects regarding the innovative measurements techniques applied to high power electrical machines, in collaboration with ENEA, ENEL and the R&D area of ALSTOM Power (Baden). In 1998, he joined in the department of Diagnostics of Large Electrical Machines, where he is now Senior Engineer in the area of Diagnostic Engineering. He spent an important part of his activities in the field, at the plants of the customers (in Italy, Europe and Extra-Europe) and he held many training activities for the internal personnel of ALSTOM and for the personnel of the customers. He collaborated with University of Pavia, since 2010 until today, for seminars on diagnostics topics.

#### **Organizer**

Dr. Lucia Frosini

#### **Ph.D. Coordinator**

Prof. Paolo Di Barba

Seminar in Italian  
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