

Guest Editorial

Special Section on Power Engineering Education

ELECTRIC power engineering education in this special section focuses primarily on formal university programs that provide new engineers for the industry and academe. The major changes in the industry have had a significant impact on education both from the view of program content and the view of professional activities and interaction with industry.

This special section was created to document new ideas and activities in power engineering education throughout the world and hopefully stimulate further communication between educators and practicing engineers. The effort for this special section began with a broad call for abstracts near the end of 2002. From nearly 100 submitted abstracts, the editors selected approximately 30 for development into full papers that would be reviewed through the normal IEEE/PES transaction process.

The special section begins with a paper prepared by the guest editors on “The State of Power Engineering Education.” This paper provides information on the health of programs throughout the world and the activities of professional societies like the IEEE. This information includes results from a survey conducted in the Spring 2003. The remaining 19 papers address subjects ranging from curricula issues and program content to specific teaching techniques and tools. An abbreviated short descriptive title of each paper is given here:

- The State of Power Engineering Education
- A multidisciplinary curriculum for network industries
- What future distribution engineers need to learn
- An industry-university partnership
- Learning to learn in a first power engineering course
- Teaching utility applications of power electronics
- A simulation tool for power system control and stability
- Objectstab—a tool for power system stability studies
- Modeling and simulation in power engineering education
- An online portal for collaborative learning and teaching
- Computer-assisted interactive learning

- A software platform to teach spot market architectures
- Advanced web technologies and problem-based learning
- A virtual environment for protective relaying analysis
- A laboratory for machines, power electronics, and systems
- A reconfigurable FACTS system for university laboratories
- Electrical energy systems with coupled laboratory experiences
- Remote experimentation in power engineering education
- Power system stabilizers as control design projects
- Capstone team projects versus topical design courses

These papers offer new ideas for power engineering educators to utilize in programs that will hopefully stimulate additional interest in the power engineering area of electrical engineering and encourage additional communication between practicing engineers and educators.

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Biographies of the guest editors are included with the special section lead paper on “The State of Power Engineering Education” which immediately follows this guest editorial.