

Announcement and Invitation



IEEE - PES Malaysia Chapter

A WORKSHOP ON

Heuristic Optimization and its Application to Power Systems

By

Prof. Dr.-Ing. István Erlich

Date: **13th Aug 2009**

Time: **09:30 – 16:30**

Venue: **Faculty of Engineering Meeting Room (UKM Malaysia)**

Workshop Overview

The workshop is devoted to heuristic optimization and its application to power system.

The first part of the workshop provides an introduction to heuristic optimization methods in general. The speaker will give an overview about different techniques developed in the last 2-3 decades. Three selected methods, namely Genetic Algorithm (GA), Particle Swarm Optimization (PSO) and Ant Colony Optimization (ACO), will be discussed in detail and demonstrated on general benchmark functions. The participants will learn not only the basic approaches but also how the methods can be implemented and used for solving different problems.

The second part of the workshop deals with the application of heuristic optimization methods to problems in power system. Approaches for solving different tasks such as voltage and transient stability assessment and improvements, unit commitment and economic dispatch, voltage (profile) and reactive power management of wind farm, economic operation of decentralized generation and storage systems, parameter tuning of exciter and power system stabilizer, dynamic model identification based on measurements will be presented. The speaker will also discuss issues of uncertainties relating to load and generation forecast as well as how these issues can be addressed by heuristic optimization. The objective is to demonstrate the process of problem recognition and definition of the optimization task through implementation of heuristic solvers based on selected examples.

The elaboration of the basic concepts accompanied by application examples should enable the participants to gain insight into solving power system optimization problems using the advantages of modern heuristic optimization techniques.

Who should attend?

The workshop is open to all interested engineers, lecturers and postgraduate students.

SPEAKER



Prof. Dr. Istvan Erlich graduated from University of Technology, Dresden, Germany with Dipl.-Ing in 1976, PhD in Electrical Engineering in 1983 and Habilitation (post-doctoral degree) in Electrical Engineering in 1996. He had served as a project manager for planning and operation of MV networks of the power system utility TITASZ in the city of Nyiregyhaza, Hungary, senior engineer of the company EAB Energie-Anlagen Berlin, Germany and research group leader at the Fraunhofer Institute for Information and Data Processing, Dresden, prior to his appointment in 1998 as a full professor and director of the Institute of Electrical Power Systems, University of Duisburg-Essen, Germany. He is actively involved in joint research projects with the German Transmission Utilities RWE, Vattenfall and with several German Distribution Utilities. He is a senior member of IEEE and Chair of IFAC TC 6.3. He has an extensive list of publications on a wide array of topics published in various proceedings and journals including IEEE journals to his name. His research interests include power system small signal stability, power system (parameter) identification and optimisation problems, development of power system simulation software, high voltage and medium voltage network planning, transmission cost calculation, distributed power generation and computational intelligence.

WORKSHOP SCHEDULE:

Lecture 1 :	09:30 – 11:00
Tea Break:	11:00 – 11:15
Panel/Group Discussion:	11:15 – 12:15
Concluding Remarks:	12:15 – 13:00
Lunch:	13:00 – 14:00
Lecture 2 :	14:00 – 15:00
Panel/Group Discussion:	15:00 – 16:00
Concluding Remarks:	16:00 – 16:30

REGISTRATION AND ENQUIRIES

Participation is FREE! Please register by sending e-mail to ahmad924@vlsi.eng.ukm.my or azah@eng.ukm.my