SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: https://www.eng.nus.edu.sg/ece/

Area: Power and Energy Systems

Host: Assoc Prof Biplab Sikdar

Lecture Seminar

TOPIC	***:***	**An Introduction to Optimal Power Flow and Economic Dispatch**
SPEAKER	***:***	**Dr Chen Niangjun,** **Research Scientist,** **Institute of High Performance Computing**
DATE	***:***	**28 August 2019, Wednesday**
TIME	***:***	**2pm to 3pm**
VENUE	***:***	**E3-06-01, Engineering Block E3, Faculty of Engineering, NUS**

ABSTRACT

To maintain stability of frequency and voltage, electricity generation and consumption has to be balanced at all time, across all locations. In this lecture, we will get an overview of how this is achieved, and in particular, how the electricity market plays a major role. We will discuss the optimal power flow problem (OPF), which is the problem of finding optimal power generation schedule, and how the optimal solution is enforced using the the locational marginal price (LMP).

Lecture material will cover the following topics:

1. The economic dispatch Problem;
2. Optimal power flow and DC Power Flow;
3. How locational marginal price of electricity is determined

Lecture slides will be based on Chapter 3 and Chapter 8 of Power Generation, Operation, and Control by Allen J. Wood, Bruce F. Wollenberg, and Gerald B. Sheble, as well as Chapter 1 of Power System Economics by Steven Stoft.

BIOGRAPHY

Niangjun Chen is a research scientist in Institute of High Performance Computing. He received his Ph.D. degree in the Department of Computing and Mathematical Sciences at the California Institute of Technology, where he is a member of the Rigorous Systems Research Group (RSRG) and Netlab. His research interests include online algorithms, optimization, and game theory and their applications to distributed control and mechanism design for power systems, data centers, and electricity markets.

https://www.eng.nus.edu.sg/ece/highlights/events/