



The University of Sydney

**Centre of Excellence in Power Engineering
and
Australian Power Institute**

Future Trends for Power Systems

A Short Course to honour Professor David Hill

Society is increasingly questioning the sustainability of energy usage patterns. Consequently, renewable resources are steadily gaining in their contribution to electricity production, and electricity demand is becoming more efficient and responsive. Coordinated control of highly distributed generation and load resources will require the seamless integration of information networks with the physical power system. Power system planning must consider the impact of these distributed resources, particularly in the context of evolving regulatory requirements and market designs. The short course will consider these issues.

Date: Monday, 12 October, 2009

Venue: Auditorium, Sir William Tyree Laboratory in Power Engineering
Electrical Engineering Building, Level 2 (Please see map attached)
Centre of Excellence in Power Engineering, University of Sydney

Price: \$165 (including GST). No charge for power engineering graduate students.
Includes expert presentation, reference notes, lunch and refreshments.

Registration:

Ms Rita Wong, EIE School, University of Sydney
Email: rita@ee.usyd.edu.au, Phone: 02-93513229

Technical enquiries:

Professor Vassilios G. Agelidis, University of Sydney
Email: v.agelidis@ee.usyd.edu.au

Professor Ian Hiskens, University of Michigan
Email: hiskens@umich.edu

Program

- 8:00-8:30 Registration
- 8:30-8:45 Introduction
- 8:45-9:25 Innovations in Teaching and Research in Power Engineering at the University of Sydney
Vassilios G. Agelidis, EnergyAustralia Chair of Power Engineering, University of Sydney
- 9:25-10:05 Large Scale Wind Generation Integration Issues and Solutions
Yuri Makarov, Chief Scientist, Pacific Northwest National Laboratory
- 10:05-10:20 Break
- 10:20-11:00 Adaptive Power Grids: Responding to Generation Diversity
David Hill, Federation Fellow, Australian National University
- 11:00-11:40 Risk-limiting Dispatch of Power Systems with Renewable Generation
Felix Wu, Philip Wong Wilson Wong Professor in Electrical Engineering, The University of Hong Kong
- 11:40-12:20 Infrastructure Requirements for Highly Responsive Load Control
Ian Hiskens, Vennema Professor of Engineering, University of Michigan
- 12:20-1:20 Lunch
- 1:20-2:00 Non-Network Options and Demand Side Response for Network Support – TransGrid Experience
Ashok Manglick, Group Manager Strategic Projects, TransGrid
- 2:00-2:40 Some NSW System Planning Issues
Col Parker, Manager/System Planning and Analysis, TransGrid
- 2:40-2:55 Break
- 2:55-3:35 General Photo-Electro-Thermal Theory for LED Systems and the LED Revolution for General Lighting
Ron Hui, Chair Professor and Director of the Centre for Power Electronics, City University of Hong Kong
- 3:35-4:15 Responding to the Challenge of Residential Energy Demand: Blacktown Solar City Program
Maree Zammit, Manager Innovation, Integral Energy
- 4:15-4:30 Conclusion

Public Car Park available at the corner of Cleveland Street & Shepherd Street

Main Entrance:
Electrical Engineering Building J03
Level 3

Centre of Excellence in Power Engineering (CEPE)
 Building J03 (Electrical Engineering)

Level 2 – Ground

- Sir William Tyree Laboratory in Power Engineering
- ABB Technology Centre
- TECHLAND™ Studios
- Power Engineering Auditorium

Level 3

- Director's Office
- Academic Staff Offices
- Research Personnel Offices
- Power Engineering Boardroom

Secure Entrance

Double length glass door – Card access only

