

**Topic:**

Realizing Future Energy Grid Potential with the Power of Intelligence

**Abstract:**

Wind power – one of the most appealing renewable energy generating technologies – has become a mainstream alternative electricity source in the power industry. However, with wind power penetration increasing in many systems worldwide, its uncertainty and variability becomes a key challenge problem for system operations. In this context, this talk presents the recent work done by the presenter's team at the University of Sydney in the general area on easing large-scale integration of renewable energy into power system. In the first part of the talk, a brief introduction to the university, various research activities, and renewable energy projects led by the presenter are presented. In the second part of the talk, a more detailed exploration of the work that is currently being conducted on offshore wind farm design, microgrid, and demand side management will be provided. The talk will conclude with some of the practical implementation issues and challenges for designing and operating smart grid.

**Bio:**

Ke Meng received his Ph.D. degree in Electrical Engineering in 2009 from the University of Queensland, followed by post-doctoral appointments at the Department of Electrical Engineering, the Hong Kong Polytechnic University. His subsequent academic appointments were at the University of Newcastle, where he was initially an associate lecturer, and later promoted to research academic. He joined the School of Electrical and Information Engineering as a lecturer in electrical engineering in 2015. He is the editor of International Transactions on Electrical Energy Systems, the member of Electric Power Components & Systems and Journal of Modern Power Systems and Clean Energy editorial board. He has been involved in renewable energy research since 2008 and established an independent research profile in wind energy.

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