

CY Chung

**Smart Grid Research and Development in the Canadian Province of Saskatchewan
(University of Saskatchewan)**

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Increasing concerns about energy security, fuel diversity and climate change have spurred growth in renewable energy sources worldwide. Building a smart grid is an efficient means of enabling greater use of renewable energy and preventing large-scale system blackouts. Canada is speeding up plans to virtually eliminate coal-fired electricity by 2030. SaskPower, owned by the province of Saskatchewan, also has a very ambitious program to expand and modernize the existing power grid to support the provincial target of using 50% renewable energy by 2030. Dr Chung is now leading a research team, supported by SaskPower and NSERC of Canada, to conduct cutting-edge and long-term smart grid research for SaskPower and address critical technical issues associated with smart grid technologies and their applications to real power systems. This presentation will provide an overview of smart grid development in Saskatchewan and also report the latest research works of Dr Chung's team on smart grid technologies.

Dr C.Y. Chung is a Professor, the NSERC/SaskPower Senior Industrial Research Chair in Smart Grid Technologies, and the SaskPower Chair in Power Systems Engineering in the Department of Electrical and Computer Engineering at the University of Saskatchewan, Saskatoon, SK, Canada. He is a prominent leader for advancing academic activities and applied research in power systems engineering development in the province of Saskatchewan. He is a Fellow of IEEE and IET. He is also an IEEE PES Distinguished Lecturer and the Member-at-Large (Global Outreach) of IEEE PES Governing Board.

Dr Chung received the B.Eng. degree (with First Class Honors) and the Ph.D. degree in electrical engineering from The Hong Kong Polytechnic University, China, in 1995 and 1999, respectively. Dr Chung's research interests include smart grid, renewable energy, power system stability/control, planning and operation, applications of advanced optimization methods, power markets and electric vehicle charging. His research work has not only generated 3 US patents, 2 book chapters and over 120 international journal papers, but has also resulted in successful transference of two new commercial software packages developed for power system analysis. Software package "Small Signal Analysis Tool (SSAT)" developed by him is now being used by over 80 power companies and nearly 90 universities worldwide.

Dr Chung was the Past Chairman of the IEEE Hong Kong Section, IEEE Hong Kong Joint Chapter of PES/IAS/PELS/IES and IET Hong Kong PES. He was the General Chair of IEEE EPEC2017 and IEEE PES APPEEC2014, Co-Chair of IEEE TENCON2015, IEEE PES APPEEC2013 and IEEE ICHQP2012, Vice-Chairman of IET APSCOM 2015 and IET APSCOM2012, Technical Chairman of IET APSCOM2009, and Honorary Secretary of IEEE DRPT2004 and IEEE IAS 2005 Annual Meeting.

Dr Chung is currently an Editor of IEEE Transactions on Power Systems, IEEE Transactions on Sustainable Energy, and IEEE Power Engineering Letters, and an Associate Editor of IET Generation, Transmission & Distribution.