
Editorial

Ahmed F. Zobaa*

Electrical Power and Machines Department
Faculty of Engineering, Cairo University
Giza, 12613, Egypt
Fax: +2012 390 4786
E-mail: a.zobaa@eng.cu.edu.eg
*Corresponding author

Adel M. Sharaf

University of New Brunswick, Canada
E-mail: sharaf@unb.ca

Keyue Smedley

University of California, Canada
E-mail: smedley@uci.edu

Biographical notes: Ahmed Faheem Zobaa received BSc (Honors), MSc, and PhD degrees in Electrical Power and Machines from the Faculty of Engineering at Cairo University, Giza, Egypt, in 1992, 1997, and 2002, respectively. Currently, he is Assistant Professor in the Department of Electrical Power and Machines, Faculty of Engineering, Cairo University. He served the same institution as Instructor from 1992 to 1997 and as Teaching Assistant from 1997 to 2002. His areas of research include harmonics, compensation of reactive power, power quality, photovoltaics, wind energy, education, and distance learning. He is Editorial Board Member for *Electrical Power Quality and Utilisation Journal*, *Electric Power Components and Systems Journal*, *International Journal of Emerging Electric Power Systems*, and *International Journal of Computational Intelligence*. He is Editor for *IEEE Power Engineering Letters* and *IEEE Transactions on Energy Conversion*. He is also Associate Editor for *IEEE Transactions on Industrial Electronics*, *International Journal of Power and Energy Systems*, *International Journal on Modelling and Simulation*, *International Journal of Energy Technology and Policy*, and *Neurocomputing Journal*. Dr. Zobaa is member of the IEEE Power Engineering/Industry Applications/Industrial Electronics/Power Electronics Societies, Institution of Electrical Engineers, the International Association of Science and Technology for Development, and the International Solar Energy Society.

Adel Mohamed Sharaf obtained his BSc degree in Electrical Engineering from Cairo University in 1971. He completed an MSc degree in Electrical Engineering in 1976 and PhD degree in 1979 from the University of Manitoba, Canada and was employed by Manitoba Hydro as Special Studies Engineer, responsible for engineering and economic feasibility studies in Electrical Distribution System Planning and Expansion. Dr. Sharaf was selected as NSERC-Canada research-assistant Professor in 1980 at University of Manitoba. He joined the University of new Brunswick in 1981 to start a

tenure-track academic career as an Assistant Professor and he was promoted to Associate Professor in 1983, awarded tenure in 1986, and the full professorship in 1987. Dr. Sharaf has extensive industrial and consulting experience with Electric Utilities in Canada and Abroad.

He authored and coauthored over 400 scholarly Technical Journal, Referred Conference Papers, and Engineering Reports. Dr. Sharaf holds a number of US and International Patents (Pending) in electric energy and environmental devices He supervised over (35) Graduate Students (21-MSc & 14-PhD) since joining Academia in July-1981.

Keyue Ma Smedley, received her BS and MS degrees in EE from Zhejiang University, Hangzhou, China, in 1982 and 1985 respectively, and MS and PhD degrees in EE from the California Institute of Technology, Pasadena, CA, USA, in 1987 and 1991 respectively.

Dr. Smedley was employed at the Superconducting Super Collider from 1990 to 1992 where she was responsible for the design and specification of ac-dc converters for all accelerator rings. Dr. Smedley is currently a professor and Associate Chair in the Department of Electrical Engineering and Computer Science at the University of California, Irvine. She is also the Director of the UCI Power Electronics Laboratory. Her research interest includes topologies, control, and integration of high efficiency dc-dc converters, high fidelity class-D power amplifiers, active and passive soft switching techniques, single-phase and three-phase power factor corrected rectifiers, active power filters, and grid-connected inverters for alternative energy sources, *etc.* Dr. Smedley has published numerous technical articles and holds nine US patents.

Dr. Smedley is an Associate Editor of IEEE Transactions on Power Electronics, a Co-Chair of Industry/Education Committee of the Power Sources Manufacturer's Association, and the General Chair of IASTED and IEEE Power Electronics Society International Conference on Power and Energy Systems 2003. A General Co-chair of Industrial Conference on Power Electronics for Distributed and Cogenerations, 2004.

Distributed and Co-Generation (DCG) has great growth potential, as the world is becoming more energy dependent and energy demanding. DCG creates alternative solutions to serve the growing energy market. Nevertheless, the market dynamics differ in various regions. In North America, DCG helps to relieve the pressure from volatile power prices and ensure power reliability. In Europe, DCG is being promoted because it provides an environment-friendly energy source, which helps reduce greenhouse gas emissions. In Asia, DCG alleviates power shortages and poverty.

The ongoing development of interconnection standards and regulations will present both market opportunities and technology challenges for the power electronics industry. Future research and development efforts will need to focus on improving efficiency and reliability, communication and interface, thermal management, reducing parts and points of failure, packaging and bringing down costs.

The objective of this special issue is to provide a means for the publication and interchange of information, on an international basis, on all aspects of Power Electronics for Distributed and Co-Generation.