The 2018 IEEE Power Electronics Society (PELS) DC Microgrids Workshop was held in Tsinghua University, Beijing, on 25 May 2018. It was sponsored and initiated by the PELS Technical Committee; organized by the Department of Electrical Engineering, Tsinghua University; and cosponsored by the PELS Beijing Chapter, China Electrotechnical Society, Tsinghua Energy Internet Research Institute, and State Key Lab of Power Systems. TBEA Xi, an electrical technology company, was the gold partner of this workshop. The main theme of the gathering was “Smart DC Microgrids for a Cleaner Future,” and there were over 230 attendees from more than 60 institutions.

Prof. Xi Xiao, vice dean of the Department of Electrical Engineering, Tsinghua University, and Prof. Zhengming Zhao, chair of the PELS Beijing Chapter, kicked off the workshop with welcome speeches. The workshop invited six experts from academia and industry to give presentations on dc microgrids (Figure 1). Prof. Josep M. Guerrero of Aalborg University, Denmark, gave the talk “Microgrids in Electric Ships and Seaports: Is DC Going Back to Sea?” Similarly, Prof. Yun Wei Li of the University of Alberta, Edmonton, Canada, offered the presentation “Power Quality Control in Smart AC/DC Microgrids.” Prof. Martin Ordonez of the University of British Columbia, Vancouver, Canada, talked about impedance detection and extreme dynamic regulation in dc grids.

Prof. Tsai-Fu Wu of the National Tsing Hua University, Hsinchu City, Taiwan, presented “Direct Digital Control for Multi-Function Converters in DC Microgrids.” Dr. Xiang Hao, representing TBEA Xinjiang New Energy Company, Ltd., gave the address “Smart Energy Router for Hybrid AC/DC Microgrids.” Last, Prof. Kai Sun of Tsinghua University talked about power electronics techniques for large-capacity photovoltaic generation integrated into dc grids.

After the workshop, all of the speakers and attendees joined a laboratory tour of the Department of Electrical Engineering at Tsinghua University.