

Editorial: Reflections on 2016

THE growth of the power electronics field, reflected by the continual growth in the IEEE TRANSACTIONS ON POWER ELECTRONICS (TPEL), continues to astonish us all. In 2016, we published 8600 pages, making our journal one of the largest engineering journals published in any society. Five years ago, the journal's page counts and the number of papers submitted for review were nearly half our current figures (see Fig. 1). Our impact factor remains in the top 5 of electrical engineering journals, indicating that TPEL papers are regularly cited by other researchers. Perhaps even more indicative of the journal's relevance, however, is that TPEL is the most downloaded journal of all IEEE's publications. In 2015, there were more than 430 000 downloads of TPEL papers. As a matter of comparison, in 2013, there were about 150 000 downloads. As an applications oriented society, the IEEE Power Electronics Society (IEEE PELS) relies on many of the hardware and experimental results in TPEL papers. Downloading statistics indicate TPEL papers are being read and are being utilized by the power electronics community.

In 2016, TPEL published 650 regular length manuscripts and 51 letters. Approximately, half the manuscripts were on the topics of: Controls (20%), High-Power Converters (15%), and Low-Power Converters (15%). The topics on Controls range from different pulse width modulation methods to nonlinear and digital controls. The most common emphasis on High-Power Converters was on multilevel converters (either dc–dc or dc–ac). For the Low-Power Converters, the topics seemed quite varied, including energy harvesters, topologies, system on a chip, and others. Other popular topics in TPEL papers included Renewable Energy (8%), Electric Drives (8%), and Power Quality (5%). We are also seeing an increased number of submissions in Reliability and Semiconductor Devices. In November 2016, TPEL published the *Special Issue on Impedance-Source Converter Topologies and Applications* with Guest Editors D. Vinnikov, Y. Li, and H. Abu-Rub.

The IEEE PELS also has expanded its publication portfolio by either sponsoring or co-sponsoring power electronics-related publications. The IEEE JOURNAL OF EMERGING AND SELECTED TOPICS IN POWER ELECTRONICS is now Ei Compendex listed and recently received its first registered, and very high, impact factor. It is now possible to include some special issue topics on power electronics in this journal instead of TPEL. Also, broader and more commercially oriented publications can now be found in the *IEEE Power Electronics Magazine*. Both these publications present new avenues for publication that were not available five years ago.

TPEL continues to encourage authors to include active content, such as video, with their paper submissions. When published, a footnote explaining the active content appears on the paper, and there is a special icon on IEEE Xplore that allows readers to download the multimedia. In 2016, we had eight manuscripts with different types of active content, and we hope this number substantially increases soon.

Additionally, in 2016, we were pleased to select three First Prize Paper Awards:

- G. J. Kish, M. Ranjram, and P. W. Lehn, “A modular multilevel DC/DC converter with fault blocking capability

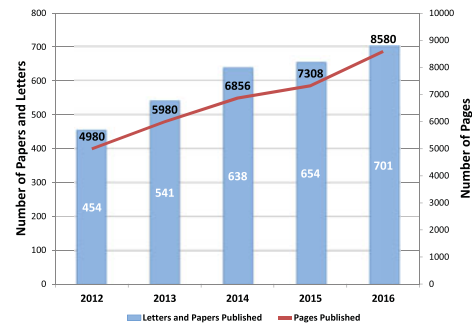


Fig. 1. TPEL publishing data in past 5 years.

for HVDC interconnects,” *IEEE Trans. Power Electron.*, Jan. 2015;

- W. Zhong and S.-Y. Ron Hui, “Maximum energy efficiency tracking for wireless power transfer systems,” Jul. 2015;
- O. Knecht, R. Bosshard, and J. W. Kolar, “High-efficiency transcutaneous energy transfer for implantable mechanical heart support systems,” Nov. 2015.

Five Second Prize Paper Awards:

- M. A. Perez, S. Bernet, J. Rodriguez, S. Kouro, and R. Lizana, “Circuit topologies, modeling, control schemes, and applications of modular multilevel converters,” Jan. 2015;
- C. Olalla, C. Deline, D. Clement, Y. Levron, M. Rodriguez, and D. Maksimovic, “Performance of power-limited differential power processing architectures in mismatched PV systems,” Feb. 2015;
- Z. Liu, J. Liu, W. Bao, and Y. Zhao, “Infinity-norm of impedance-based stability criterion for three-phase AC distributed power systems with constant power loads,” Jun. 2015;
- Z. Zhang, F. Wang, L. M. Tolbert, B. J. Blalock, and D. Costinett, “Evaluation of switching performance of SiC Devices in PWM inverter-fed induction motor drives,” Oct. 2015;
- C. Wan, M. Huang, C. K. Tse, and X. Ruan, “Effects of interaction of power converters coupled via power grid: A design-oriented study,” Jul. 2015.

And a Prize Letter Award from the 700 papers and letters published in our journal in 2015:

- F. Lu, H. Zhang, H. Hofmann, and C. C. Mi, “A double-sided LCLC compensated capacitive power transfer system for electric vehicle charging,” *IEEE Trans. Power Electron.*, Nov. 2015.

In summary, the year of 2016 was another remarkable year for TPEL growth and quality.

BRAD LEHMAN, *Editor-in-Chief*
Northeastern University
Boston, MA 02115 USA
E-mail: lehman@ece.neu.edu

HENRY S. H. CHUNG, *Editor-in-Chief for Letters*
City University of Hong Kong
Kowloon, Hong Kong
E-mail: eeshc@um.cityu.edu.hk