

# Teng Long

• Last updated: June 11, 2021 •

Electrical Engineering Division, Department of Engineering, University of Cambridge  
9 JJ Thomson Ave, Cambridge, CB3 0FA, U.K.

Phone: +44 1223 748316; Email: [TL322@cam.ac.uk](mailto:TL322@cam.ac.uk); URL: <https://tenglong.eng.cam.ac.uk>

## Education

- 2009-2013 PhD in Engineering, University of Cambridge
- 2008-2009 BENG (1ST HON) in Electrical Engineering, University of Birmingham
- 2005-2008 BENG in Electrical Engineering, Huazhong University of Science and Technology, China

## Current positions

- 2016-present *University Lecturer*, Department of Engineering, University of Cambridge
- 2017-present *Fellow and Director of Studies in Engineering*, Peterhouse, University of Cambridge

## Appointments held

- 2013-2016 *Power Electronics Engineer*, General Electric (GE) Power Conversion, Rugby, U.K.

## Other Appointments and Affiliations

- 2017-2018 Guest Associate Editor: IEEE Journal of Emerging and Selected Topics in Power Electronics
- 2015-present Chartered Engineer (CEng)
- 2013-present Member of IEEE and IET

## Research grants

Cumulative to date: **£2,445,529**

- 2021-2022 Industrial sponsorship from the Centre for Advanced Photonics and Electronics (CAPE) and Electronics, 'VRM Electromagnetic Technology Research', Principal Investigator, **£117,583**
- 2020-2021 Industrial sponsorship from the Centre for Advanced Photonics and Electronics (CAPE) and Electronics, 'High Efficiency DC-DC converter', Principal Investigator, **£139,963**
- 2020-2021 Innovate UK ATF: moving the UK automotive sector to zero emissions competition, 'Scalable high efficiency DC-DC converter for electric vehicles (EVs) applications', Principal Investigator (Academic), **£118,345**
- 2020-2022 Cambridge University-Nanjing Centre of Technology and Innovation, '48V DC-DC converters for datacentre applications', **£197,625**
- 2020-2022 UK Engineering and Physical Science Research Council (EPSRC), 'Optimal passive filter topology for advanced power electronics converters', Principal Investigator, **£142,696**
- 2020-2022 Industrial sponsorship from the CBMM, 'Nanocrystalline alloy (FeCuNbSiB) based magnetic cores in high power Inductive Power Transfer (IPT) for Wireless EV charging'(G105565), Principal Investigator, **£338,344**
- 2020-2022 Tsinghua Cambridge Collaboration Fund, 'DC power systems for datacentres', Principal Investigator, **£15,000**

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| 2020-2022 | UK Engineering and Physical Science Research Council (EPSRC) Global Challenges Research Fund (GCRF): ‘Affordable Perovskite Solar Irrigation Systems for Small-holder Farmers in Ethiopia (AP-SISSFE)’(EP/To2030X/1), Co-Investigator, entitlement: <b>£328,358</b> , total: £938,246 |
| 2018-2020 | UK Engineering and Physical Science Research Council (EPSRC): New Investigator Award, ‘Enhancement of Inductive Power Transfer (IPT) for Wireless EV Charging’(EP/R036799/1), Principal Investigator, <b>£261,765</b>   |
| 2018-2020 | Innovate UK: Innovation in Vehicle-to-Grid (V2G) Systems R&D Grants, ‘Universal modular Vehicle-to-Grid bi-directional on-board charger with SiC technologies’(TS/R016968/1), Principal Investigator (Academic), <b>£264,716</b>  |
| 2018-2020 | Industrial sponsorship from the SAIC Motor UK Technical Centre Ltd, ‘Next generation SiC based integrated inverter/charger for 800V EVs’(RG96662), Principal Investigator, <b>£294,620</b>  |
| 2018-2019 | EPSRC Global Challenges Research Fund (GCRF) PUMP-PRIMING FUND, ‘Low cost high performance solar inverters for Tanzania’ (G100049), Principal Investigator, <b>£80,000</b>  |
| 2018-2019 | Industrial sponsorship from the Wuxi Silent Electric System Technology Ltd, ‘Supercapacitor based energy storage in electric systems for ships’ (RG95400), Principal Investigator, <b>£55,579</b>   |
| 2017-2018 | EPSRC Global Challenges Research Fund (GCRF) Internal Grant, ‘A low cost high performance solar inverter’(RG92550), Principal Investigator, <b>£26,370</b>  |
| 2017-2018 | Issca Newton Trust, ‘Intelligent Transformers for Future Internet of Energy’ (RG74916), Principal Investigator, <b>£25,000</b>  |

## Undergraduate Teaching

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|-------------------------|--|
| Module 3B3:             | <i>Switching-Mode Electronics</i> , Part IIA Engineering Tripos (3rd Year), Lecture Leader   |
| Module 3B4:             | <i>Electric Drive Systems</i> , Part IIA Engineering Tripos (3rd Year), Co-Lecturer  |
| IB Sustainable Lectures | <i>Greening of electrical power systems using power electronics technologies</i> , Part IB Engineering Tripos (2nd Year), Lecturer |
| Project GB2:            | <i>Electrical Power Project</i> , Part IIA Engineering Tripos (3rd Year), Project Leader   |

## External examination

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| 2020 | External <i>PhD</i> Examiner: “Inductive Power Transfer Magnetics for Roadways”, University of Auckland   |
| 2019 | External <i>PhD</i> Examiner: “Integration of switched impedance network in Ultra Sparse Matrix Converter for enhanced operating range”, Indian Institute of Technology, Varanasi |
| 2019 | External <i>PhD</i> Examiner: “Application and Evaluation of GaN Technology in High Performance DC-DC Converters”, University of Manchester                                       |
| 2019 | External <i>EngD</i> Examiner: “Inductive Charging for Electric Vehicles”, University of Warwick  |
| 2019 | External <i>PhD</i> Examiner: “Improved Misalignment Tolerance of Bi-Directional IPT Systems”, University of Auckland   |

## Invited talk

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| 2020 | <i>Seminar</i> : “Power Electronics in Electric Vehicles”, Symposium on Power Electronics Challenges and Solutions for the Integration of Electric Vehicle Charging Network, Indian Institute of Technology (BHU) Varanasi, sponsored by Ministry of Education, Government of India |
| 2019 | <i>Seminar</i> : “Unlock the potential of Wide Band Gap (WBG) Power Semiconductors”, IEEE Power electronics Society New Zealand South Chapter, University of Canterbury, Christchurch, New Zealand  |
| 2019 | <i>Keynote</i> : “Unlock the potential of Wide Band Gap (WBG) Power Semiconductors”, The second   |

- 2019 Asia-Pacific Conference on Silicon Carbide and Related Materials (APCSCRM 2019), Beijing, China  
*Tutorial:* “WBG Devices, Circuits and Measurement”, International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management (PCIM), Nuremberg, Germany
- 2019 *Keynote:* “Power conversion systems in Electric Vehicles”, China EV100 Forum annual meeting, Beijing, China

## Research Impact and Publicity

- 2021 First Prize (EURO 10,000) of *Power-Up* Global Power Electronics Challenge organised by Huawei Technology Nuremberg Centre for the “Paralleled soft-switching technology for high efficiency power converters.” URL: [Link](#)
- 2018 Winner of Trinity College Bradfield Prize for start-up company, £10,000 cash and free office from the Bradfield Innovation Centre for the business plan of “Magnetically Geared Induction Machine Drive for Battery/Hybrid Vehicles” Ranked Number 1 among 84 applications
- 2018 Article published by *The Engineer*, “Research puts electric vehicles on track for improved inductive charging.” URL: [Link](#)
- 2018 Article published by *Vice* for my research on internet of drones, “Energy Neutral Drone Swarms Can Spy on You Without Taking a Break” URL: [Link](#)
- 2018 Live radio interview by *BBC World Service* for my research on internet of drones, “Energy Neutral Internet of Drones” URL: [Link](#)

# Publication List of Dr Teng Long

• Last updated: June 11, 2021 •

## JOURNAL ARTICLES

- 2021 Y. Shen, Y. Jiang, H. Zhao and **T. Long**<sup>\*</sup>, “Enabling Resonant Commutated Pole in Parallel Power FET Bridge Legs,” *IEEE Transactions on Power Electronics*, accepted to publish, doi: 10.1109/TPEL.2021.3085558
- 2021 Gao, Chenxi and Wang, Jiawei and Huang, Yuan and Li, Zixuan and Zhang, Jiyan and Kuang, Haoze and Chen, Shuhao and Nie, Zanxiang and Huang, Shuyi and Li, Wei and Li, Yubo and Jin, Shunyu and Pan, Yuanjiang and **Long, Teng** and Luo, Jikui and Zhou, Hang and Wang, Xiaozhi, “A high-performance free-standing Zn anode for flexible zinc-ion batteries,” *The Royal Society of Chemistry*, accepted to publish, doi: 10.1039/D1NR01266E
- 2021 Y. Jiang, Y. Shen, L. Shillaber, C. Jiang and **T. Long**<sup>\*</sup>, “Split Parallel Semi-Bridge Switching Cells for Full-Power-Range Efficiency Improvement,” *IEEE Transactions on Power Electronics*, vol. 36, no. 9, pp. 9955-9969, Sept. 2021, doi: 10.1109/TPEL.2021.3067819
- 2021 D. E. Gaona-Erazo, C. Jiang and **T. Long**<sup>\*</sup>, “Highly Efficient 11.1 kW Wireless Power Transfer Utilizing Nanocrystalline Ribbon Cores,” *IEEE Transactions on Power Electronics*, vol. 36, no. 9, pp. 9955-9969, Sept. 2021, doi: 10.1109/TPEL.2021.3064902
- 2020 C. Jiang, D. E. Gaona, Y. Shen, H. Zhao, K. T. Chau and **T. Long**<sup>\*</sup>, “Low Frequency Medium Power Capacitor-Free Self-Resonant Wireless Power Transfer,” *IEEE Transactions on Industrial Electronics*, accepted to publish, doi: 10.1109/TIE.2020.3034867
- 2020 J. Qi, X. Yang, X. Lin, W. Chen, **T. Long**, K. Tian, X. Hou, X. Wang “Comprehensive Assessment of Avalanche Operating Boundary of SiC Planar/Trench MOSFET in Cryogenic Applications,” *IEEE Transactions on Power Electronics*, vol. 36, no. 6, pp. 6954-6966, June 2021, doi: 10.1109/TPEL.2020.3034902
- 2020 Y. Shen, Y. Jiang, H. Zhao, L. Shillaber, C. Jiang and **T. Long**<sup>\*</sup>, “Quadrilateral Current Mode (QCM) Paralleling of Power MOSFETs for Zero-Voltage Switching (ZVS),” *IEEE Transactions on Power Electronics*, vol. 36, no. 5, pp. 5997-6014, May 2021, doi: 10.1109/TPEL.2020.3029545
- 2020 Y. Xia and **T. Long**<sup>\*</sup>, “Chopperless Fault Ride-Through Control for DC Microgrids,” *IEEE Transactions on Smart Grid*, vol. 12, no. 2, pp. 965-976, March 2021, doi: 10.1109/TSG.2020.3027059.
- 2020 G. Chang, Y. Wu, S. Shao, Z. Huang and **T. Long**<sup>\*</sup>, “DC Bus Systems for Electrical Ships: Recent Advances and Analysis of a Real Case,” *IEEE Electrification Magazine*, vol. 8, no. 3, pp. 28-39, Sept. 2020, doi: 10.1109/MELE.2020.3005697
- 2020 C. Jiang and X. Li and S. S. Ghosh and H. Zhao and Y. Shen and **T. Long**<sup>\*</sup>, “Nanocrystalline Powder Cores for High-Power High-Frequency Applications,” *IEEE Transactions on Power Electronics*, vol. 35, no. 10, pp. 10821-10830, Oct. 2020, doi: 10.1109/TPEL.2020.2979069
- 2020 N. Ezra and **T. Long**<sup>\*</sup>, “Dual range flyback topology for high efficiency at dual voltage mains,” *IET Power Electronics*, vol. 13, no. 8, pp. 1565-1574, 17 6 2020, doi: 10.1049/iet-pel.2019.1371.
- 2020 Y. Shen, L. Shillaber, H. Zhao, Y. Jiang and **T. Long**<sup>\*</sup>, “Desynchronizing Paralleled GaN HEMTs to Reduce Light-Load Switching Loss,” *IEEE Transactions on Power Electronics*, vol. 35, no. 9, pp. 9151-9170, Sept. 2020, doi: 10.1109/TPEL.2020.2970240
- 2020 H. Zhao, Y. Shen, W. Ying, J. Qi, C. Jiang and **T. Long**<sup>\*</sup>, “Mixed Analog Digital (MAD) Converters for High Power Density DC-DC Conversions,” *IEEE Transactions on Power Electronics*, vol. 35, no. 8, pp. 7742-7748, Aug. 2020, doi: 10.1109/TPEL.2020.2967884
- 2020 Y. Xia, W. Wei, **T. Long**, F. Blaabjerg and P. Wang, “New Analysis Framework for Transient Stability Evaluation of DC Microgrids,” *IEEE Transactions on Smart Grid*, vol. 11, no. 4, pp. 2794-

2804, July 2020, doi: 10.1109/TSG.2020.2964583

- 2019 D. E. Gaona, S. Ghosh and **T. Long**<sup>\*</sup>, “Feasibility Study of Nanocrystalline-Ribbon Cores for Polarized Inductive Power Transfer Pads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 7, pp. 6799-6809, July 2020, doi: 10.1109/TPEL.2019.2957774
- 2019 H. Zhao, Y. Shen, W. Ying, S. S. Ghosh, M. R. Ahmed and **T. Long**<sup>\*</sup>, “A Single- and Three-Phase Grid Compatible Converter for Electric Vehicle (EV) On-Board Chargers”, *IEEE Transactions on Power Electronics*, vol. 35, no. 7, pp. 7545-7562, July 2020, doi: 10.1109/TPEL.2019.2956653
- 2019 Y. P. Siwakoti, A. Palanisamy, A. Mahajan, S. Liese, **T. Long** and F. Blaabjerg, “Analysis and Design of a Novel Six-Switch Five-Level Active Boost Neutral Point Clamped Inverter”, *IEEE Transactions on Industrial Electronics*, vol. 67, no. 12, pp. 10485-10496, December 2020, doi:10.1109/TIE.2019.2957712
- 2019 Y. Liu, W. Xu, **T. Long** and F. Blaabjerg, “An Improved Rotor Speed Observer for Standalone Brushless Doubly-Fed Induction Generator Under Unbalanced and Nonlinear loads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 1, pp. 775-788, Jan. 2020. doi: 10.1109/TPEL.2019.2915360
- 2019 Y. Shen, H. Wang, F. Blaabjerg, H. Zhao and **T. Long**<sup>\*</sup>, “Thermal Modeling and Design Optimization of PCB Vias and Pads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 1, pp. 882-900, Jan. 2020. doi: 10.1109/TPEL.2019.2915029
- 2019 Z. Li, X. Huang, L. Wu, **T. Long**, B. Shi and H. Zhang, “Open-Circuit Field Prediction of Interior Permanent-Magnet Motor Using Hybrid Field Model Accounting for Saturation”, *IEEE Transactions on Magnetics*, vol. 55, no. 7, pp. 1-7, July 2019, Art no. 8104707. doi: 10.1109/TMAG.2019.2907023
- 2019 K. Nathan, S. Ghosh, Y. Siwakoti and **T. Long**<sup>\*</sup>, “A New DC-DC Converter for Photovoltaic Systems: Coupled Inductors Combined Cuk-SEPIC Converter”, *IEEE Transactions on Energy Conversion*, vol. 34, no. 1, pp. 191-201, March 2019. doi: 10.1109/TEC.2018.2876454
- 2018 Yupeng Yuan, Jixiang Wang, Xinpeng Yan, Qing Li, **Teng Long**, “A design and experimental investigation of a large-scale solar energy/diesel generator powered hybrid ship”, *Energy*, 165,965-978
- 2018 Yuan, Y and Zhang, T and Shen, B and Yan, X and **Long, T**, “A Fuzzy Logic Energy Management Strategy for a Photovoltaic/Diesel/Battery Hybrid Ship Based on Experimental Database”, *Energies*, 11(9): 2211.
- 2018 Duan Q, Liu S, Schlaberg HI, **Long T.**, “Generalized vector control with reactive power control for brushless doubly-fed induction machines”, *Journal of Power Electronics*, 18(3):817-825
- 2018 Li Qin, Shi Liu, **Teng Long**, Muhammad Ali Shahzad, H. Inaki Schlaberg, Song An Yan, “Wind field reconstruction using dimension-reduction of CFD data with experimental validation”, *Energy*, 151,272-288
- 2018 G. Lyu, C. Zhuang, R. Zeng, **T. Long**, P. Palamer, “Physics-based Compact Model of Integrated Gate-Commutated Thyristor with Multiple Effects for High Power Application”, *IET Power Electronics*, 11(7):1239-1247
- 2018 **T. Long**<sup>\*</sup>, M. Ozger, O. Cetinkaya, O. B. Akan, “Energy Neutral Internet of Drones”, *IEEE Communications Magazine*, vol. 56, no. 1, pp. 22-28, Jan. 2018. doi: 10.1109/MCOM.2017.17004548
- 2017 G. Lyu, Z. Yu, R. Zeng, J. Liu, X. Zhang, **T. Long**, P. Palmer, “Optimization of Gate Commutated Thyristors for Hybrid DC Breakers”, *IET Power Electronics*, 10(14):2002-2009
- 2013 **T. Long**<sup>\*</sup>, S. Shao, E. Abdi, R. A. McMahon and S. Liu, “Asymmetrical Low-Voltage Ride Through of Brushless Doubly Fed Induction Generators for the Wind Power Generation”, *IEEE Transactions on Energy Conversion*, 28(3): 502-511
- 2013 P. C. Roberts, **T. Long**<sup>\*</sup>, R. A. McMahon, S. Shao, E. Abdi and J. M. Maciejowski, “Dynamic modelling of the brushless doubly fed machine”, *IET Electric Power Applications*, 7(7),544-556
- 2013 **T. Long**<sup>\*</sup>, S. Shao, P. Malliband, E. Abdi and R. A. McMahon, “Crowbarless Fault Ride-Through of the Brushless Doubly Fed Induction Generator in a Wind Turbine Under Symmetrical Voltage

Dips”, *IEEE Transactions on Industrial Electronics*, 60(7):2833-2841

2013 S. Shao, **T. Long**<sup>\*</sup>, E. Abdi and R. A. McMahon, “Dynamic Control of the Brushless Doubly Fed Induction Generator Under Unbalanced Operation”, *IEEE Transactions on Industrial Electronics*, 60(6):2465-2476

2013 E. Abdi, R. A. McMahon, P. Malliband, S. Shao, M. E. Mathekga, P. Tavner, S. Abdi, A. Oraee, **T. Long**, M. Tatlow, “Performance Analysis and Testing of a 250 kW Medium-speed Brushless Doubly-Fed Induction Generator”, *IET Renewable Power Generation*, 7(6): 631-638

#### CONFERENCE ARTICLES

2020 D. E. Gaona and T. Long, “Design Considerations for High-power-density IPT Pads using Nanocrystalline Ribbon Cores,” 2020 IEEE PELS Workshop on Emerging Technologies: Wireless Power Transfer (WoW), Seoul, Korea (South), 2020, pp. 377-382, doi: 10.1109/WoW47795.2020.9291288.

2020 Y. Jiang, Y. Shen, L. Shillaber and T. Long, “Design of a SiC-Based Switched CCM/TCM Inverter for High-speed Machine Drive with Low PWM-Induced Current Ripple,” 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 5784-5789, doi: 10.1109/ECCE44975.2020.9236407.

2020 D. E. Gaona, H. El Khatib, T. Long and M. Saur, “Overmodulation Strategy for Deadbeat-Flux and Torque Control of IPMSM with Flux Trajectory Control in the Stationary Reference Frame,” 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 6087-6095, doi: 10.1109/ECCE44975.2020.9236331.

2020 D. E. Gaona, H. El Khatib, T. Long and M. Saur, “Analysis of Implementation Methodologies of Deadbeat Direct-Torque and Flux Control (DB-DTFC) for IPMSMs in Stationary and Rotatory Reference Frames,” 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 6071-6078, doi: 10.1109/ECCE44975.2020.9236396.

2020 L. Shillaber, L. Ran, Y. Shen and T. Long, “Gigahertz Current Measurement for Wide Band-gap Devices,” 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 2357-2363, doi: 10.1109/ECCE44975.2020.9235662.

2020 N. Ezra and T. Long, “Dual Voltage Flyback Topology Operation With Efficiency Enhancers at Dual Voltage Mains,” 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 399-404, doi: 10.1109/ECCE44975.2020.9235714.

2020 H. Hu, S. Ghosh and T. Long, “Generalized Bidirectional Multilevel DC-DC Converter,” 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 1720-1726.

2020 S. Ghosh, D. Gaona, Y. Siwakoti and T. Long, “Synchronous Combined Cuk-SEPIC Converter for Single Phase Transformerless Solar Inverter,” 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 3225-3231.

2020 R. Barzegarkhoo, Y. P. Siwakoti, T. Long and F. Blaabjerg, “Five-Level Grid-Tied Inverter Employing Switched-Capacitor Cell with Common-Grounded Feature,” 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 3298-3303.

2019 Daniel E. Gaona, Saikat Ghosh, Teng Long, “Embedded compensation for DDQ/Bipolar-Q IPT Charging Pads”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019

2019 Wucheng Ying, Hui Zhao, Yanfeng Shen, Zhaokai Li, Hao Hu, Teng Long, “Multi-Phase Input-Parallel Output-Parallel Dual Active Bridge with Inherent Current sharing and Optimized Integrated Transformer”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019

- 2019 Yam P. Siwakoti, Teng Long, Reza Barzegarkhoo, and Frede Blaabjerg “A Dual Mode 5-Level Inverter with Wide Input”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019
- 2019 Yanfeng Shen, Hui Zhao, Teng Long, Huai Wang, and Frede Blaabjerg, “Two-Dimensional Thermal Modeling and Parametric Optimization of Printed Circuit Board Vias”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019
- 2019 Hao Hu, Saikat Ghosh, Yam Siwakoti, and Teng Long, “Generalized Multilevel Converter in DC-DC Applications”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019
- 2019 Zhaokai Li, Yuzheng Chen, Xiaoyan Huang, Xinru Li, Wucheng Ying, Boyang Shen, Xiaoyan Huang, Teng Long, “Dynamic Modeling of Surface-Mounted Permanent Magnet Motors Considering Saturation”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019
- 2019 Patrick Palmer, Tianqi Zhang, Xuqiang Zhang, Edward Shelton, Teng Long, “Control Strategies for Parallel Connected IGBT Modules”, 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019
- 2019 D. E. Gaona and Voltage Ranged T. Long, “Feasibility Analysis of Nanocrystalline Cores for Polarize and Non-Polarized IPT Charging Pads”, 2019 IEEE Applied Power Electronics Conference and Exposition (APEC), Anaheim, CA, USA, 2019, pp. 1539-1546. doi: 10.1109/APEC.2019.8722317
- 2018 Xinru Li, Saikat Subhra Ghosh, Prabhat Ranjan Tripathi, Teng Long “Design and Optimization of Energy Storage Inductor for High Power High-Frequency DC-DC Converter”, IEEE Workshop on Wide Bandgap Power Devices and Applications in Asia (WiPDA Asia 2018), 2018, Xi’an, China
- 2018 S Ghosh, K Nathan, Y P Siwakoti, T. Long, “Single Phase integrated Ćuk Transformer-less SiC Inverter for Grid Connected PV Systems”, IEEE Workshop on Wide Bandgap Power Devices and Applications in Asia (WiPDA Asia 2018), 2018, Xi’an, China
- 2018 T Long, S Ghosh, K Nathan, M Southall, M Louati, “Derivation and analysis of a novel bi-directional non-isolated multi-level DC-DC (MLDC) converter”, The 9th International Conference on Power Electronics, Machines and Drives (PEMD), 2018, Liverpool, UK
- 2018 S. S. Ghosh<sup>1</sup>, K. S. Nathan<sup>1</sup>, Y. P. Siwakoti and T Long, “Dual Polarity DC-DC Converter Integrated Grid-tied Single-Phase Transformer Less Inverter for Solar Application”, The 9th International Conference on Power Electronics, Machines and Drives (PEMD), 2018, Liverpool, UK
- 2018 Saikat Subhra Ghosh, Timothy J. Flack and Teng Long, “Independent Phase Belt Controlled Phase Pole Modulated Induction Machine for Integrated Starter Alternator Application”, The 9th International Conference on Power Electronics, Machines and Drives (PEMD), 2018, Liverpool, UK
- 2018 K S Nathan, S S Ghosh, P R Tripathi, Y P Siwakoti, T J Flack, X Li, T Long, “Benefits of the Coupled Inductors Combined Ćuk-SEPIC (CI-CCS) Converter”, The 9th International Conference on Power Electronics, Machines and Drives (PEMD), 2018, Liverpool, UK
- 2017 Y. Liu, W. Xu, T. Long, F. Blaabjerg, “A new rotor speed observer for stand-alone brushless doubly-fed induction generators”, The 2017 IEEE Energy Conversion Congress and Exposition (ECCE 2017), Oct. 2017, Cincinnati, USA
- 2017 Hari, N and Long, T and Shelton, E (2017) “Investigation of gate drive strategies for high voltage GaN HEMTs. In: First International Conference on Power Engineering Computing and Control (PECCON-2017) 2nd -4th March .2017.pp. 1152-1159
- 2016 T. Long, M. Butcher, M. Benatmane, “Earth Fault Protection of Transformer-less Power Conversion Systems”, 13th International Naval Engineering Conference and Exhibition (INEC 2016), 26-28 April 2016, Bristol, UK.
- 2012 T. Long, S. Shao, E. Abdi, R. A. McMahon, P. J. Tavner, “Symmetrical Low Voltage Ride-Through

of a 250 kW Brushless DFIG”, 6th IET International Conference on Power Electronics, Machines and Drives (PEMD 2012), 27-29 Mar. 2012, Bristol, United Kingdom.

- 2012 T. Long, S. Shao, P. Malliband, M. E. Mathekga, E. Abdi, R. A. McMahon, P. J. Tavner, “Experimental LVRT performance of a 250 kW brushless DFIG”, European Wind Energy Conference and Exhibition 2012, 16- 19 April 2012, Copenhagen, Denmark. T. Long, S. Shao, T. Logan, R. A. McMahon, “A Novel Vector Control Approach for Single Phase Brushless Doubly Fed Machine”, 37th Annual Conference on IEEE Industrial Electronics Society (IECON 2011), pp.1722-1727, 7-10 Nov. 2011, Melbourne, Australia.
- 2011 S. Shao, T. Long, E. Abdi, R. A. McMahon, Y. Wu, “Symmetrical Low Voltage Ride-Through of the Brushless Doubly-Fed Induction Generator”, 37th Annual Conference on IEEE Industrial Electronics Society (IECON 2011), pp.3209-3214, 7-10 Nov. 2011, Melbourne, Australia.
- 2011 T. Logan, T. Long, R. A. McMahon, “The Single-Phase Brushless Doubly-Fed Machine as a Generator for Wind Turbines”, 2011 IEEE International Electric Machines and Drives Conference (IEMDC 2011), pp.795-800, 15-18 May 2011, Niagara Falls, Canada.

#### PATENTS

- 1 **Teng Long**, Allan David Crane, Martin Charles SOUTHALL, Mounir LOUATI, “DC-DC power converters with step-up and/or step-down mode(s)”, US10263520B2
- 2 Lihua Hu, **Teng Long**, Martin Samuel Butcher, Allan David Crane, “Ground fault protection methods”, US20180241200A1
- 3 **Teng Long**, Ushindibaba MUPAMBIREYI, “Power distribution systems”, US20180191156A1
- 4 **Teng Long**, Stephen Wood, Ushindibaba MUPAMBIREYI, “Power distribution systems”, US9954393B2