Power Electronics Projects

I. POWER ELECTRONICS based MULTI-PORT SYSTEMS

1. Analysis, Design, Modeling, and Control of an Interleaved- Boost Full-ridge Three-Port Converter for Hybrid Renewable Energy Systems. **(IEEE 2017)**
2. Secondary-Side-Regulated Soft-Switching Full-Bridge Three-Port Converter Based on Bridgeless Boost Rectifier and Bi-directional Converter for Multiple Energy Interface. **(IEEE 2017)**
3. Design and Implementation of an Amorphous High-Frequency Transformer Coupling Multiple Converters in a Smart Micro grid. **(IEEE 2017)**

II. POWER ELECTRONICS based WIND ENERGY

1) A Medium-Frequency Transformer-Based Wind Energy Conversion System Used for Current-Source Converter-Based Offshore Wind Farm. **(IEEE 2017)**
2) Bipolar Operation Investigation of Current Source Converter-Based Wind Energy Conversion Systems. **(IEEE 2017)**
3) Novel Isolated Power Conditioning Unit for Micro Wind Turbine Application. **(IEEE 2017)**

III. POWER ELECTRONICS based MICRO GRID

1. Bidirectional Single-Stage Grid-Connected Inverter for a Battery Energy Storage System. **(IEEE 2017)**
2. Electric Vehicle Charging Station with an Energy Storage Stage for Split - DC Bus Voltage Balancing. **(IEEE 2017)**
3. Control of a Hybrid AC/DC Microgrid Involving Energy Storage and Pulsed Load. **(IEEE 2017)**

IV. POWER ELECTRONICS based INVERTER

1. A Highly Reliable and High-Efficiency Quasi Single-Stage Buck–Boost Inverter. **(IEEE 2017)**
2. A Four-Switch Single-Stage Single-Phase Buck–Boost Inverter. **(IEEE 2017)**
3. Maximum Boost Control of Diode-Assisted Buck–Boost Voltage Source Inverter with Minimum Switching Frequency. **(IEEE 2017)**
4. Modeling and Optimization of a Zero-Voltage Switching Inverter for High Efficiency and Miniaturization. **(IEEE 2017)**

V. POWER ELECTRONICS based SOLAR ENERGY

1. Nonlinear PWM-Controlled Single-Phase Boost Mode Grid-Connected Photovoltaic Inverter with Limited Storage Inductance Current. **(IEEE 2017)**
2. A Highly Efficient and Reliable Inverter Configuration Based Cascaded Multilevel Inverter for PV Systems. **(IEEE 2017)**
3. An Improved Zero-Current-Switching Single-Phase Transformer less PV H6 Inverter with Switching Loss-Free. **(IEEE 2017)**
4. A Multilevel Transformer less Inverter employing Ground Connection between PV Negative Terminal and Grid Neutral Point. **(IEEE 2017)**
5. A Novel Single-Stage Single-Phase Reconfigurable Inverter Topology for a Solar Powered Hybrid AC/DC Home. **(IEEE 2017)**

VI. POWER ELECTRONICS based POWER FACTOR CORRECTION

1) A Family of Single-Phase Hybrid Step-Down PFC Converters. (**IEEE 2017)**
2) A Boost PFC Stage Utilized as Half-Bridge Converter for High-Efficiency DC–DC Stage in Power Supply Unit**. (IEEE 2017)**

3) Flexible Mode Bridgeless Boost PFC Rectifier with High Efficiency over a Wide Range of Input Voltage. **(IEEE 2017)**

VII. POWER ELECTRONICS based MULTILEVEL & Z-SOURCE INVERTER

1. Steady-State Analysis and Design Considerations of High Voltage Gain Switched Z-Source Inverter with Continuous Input Current. **(IEEE 2017)**
2. A Novel Nine-Level Inverter Employing One Voltage Source and Reduced Components as High-Frequency AC Power Source. **(IEEE 2017)**
3. High-Voltage Gain Half-Bridge Z-Source Inverter with Low-Voltage Stress on Capacitors. **(IEEE 2017)**

VIII. POWER ELECTRONICS based CONVERTERS (BUCK-BOOST, SEPIC, FLYBACK)

1. Design and Analysis of a Class of Zero Fundamental Ripple Converters. **(IEEE 2017)**
2. A Cascaded Coupled Inductor-Reverse High Step-Up Converter Integrating Three-Winding Coupled Inductor and Diode–Capacitor Technique. **(IEEE 2017)**
3. Passive Regenerative and Dissipative Snubber Cells for Isolated SEPIC Converters.**(IEEE 2017)**
4. A New Negative Output Buck-Boost Converter with Wide Conversion Ratio. **(IEEE 2017)**

IX. POWER ELECTRONICS based BI-DIRECTIONAL CONVERTER

1. High Light-Load Efficiency Power Conversion Scheme Using Integrated Bidirectional Buck Converter for Paralleled Server Power Supplies. **(IEEE 2017)**
2. Cascaded High-Voltage-Gain Bidirectional Switched-Capacitor DC–DC Converters for Distributed Energy Resources Applications. **(IEEE 2017)**
3. A Family of True Zero Voltage Zero Current Switching Non isolated Bidirectional DC–DC Converter with Wide Soft Switching Range. **(IEEE 2017)**

4. Interleaved Switched-Capacitor Bidirectional DC-DC Converter with Wide Voltage-Gain Range for Energy Storage Systems. **(IEEE 2017)**

X. POWER ELECTRONICS based DRIVES

1) Design and Demonstration of High Power Density Inverter for Aircraft Applications. **(IEEE 2017)**

2) Commutation Torque Ripple Reduction in BLDC Motor Using Modified SEPIC converter and three-level NPC Inverter. **(IEEE 2017)**

3) Commutation Torque Ripple Suppression Strategy for Brushless DC Motors With a Novel Non-inductive Boost Front End. **(IEEE 2017)**

XI. POWER ELECTRONICS based MULTIPLE OUTPUT CONVERTER

1) Design and Implementation of a High-Efficiency Multiple Output Charger Based on the Time-Division Multiple Control Technique. **(IEEE 2017)**
2) A Dual-Buck–Boost AC/DC Converter for DC Nanogrid with Three Terminal Outputs. **(IEEE 2017)**
3) Improved Power Quality Bridgeless Converter-Based SMPS for Arc Welding. **(IEEE 2017)**

XII. POWER ELECTRONICS based SOFT SWITCHING CONVERTER

1) A T-Type Isolated Zero Voltage Switching DC–DC Converter With Capacitive Output. **(IEEE 2017)**
2) A Hybrid ZVZCS Dual-Transformer-Based Full-Bridge Converter Operating in DCM for MVDC Grids. **(IEEE 2017)**
3) High-Efficiency Soft-Switching AC–DC Converter with Single-Power Conversion Method. **(IEEE 2017)**

XIII. POWER ELECTRONICS based WIRELESS POWER TRANSFER

1. Higher Order Compensation for Inductive-Power-Transfer Converters with Constant Voltage or Constant-Current Output Combating Transformer Parameter Constraints. (**IEEE 2017)**
2. Simultaneous Wireless Power Transfer for Electric Vehicle Charging. **(IEEE 2017)**
3. Modeling and Analysis of AC Output Power Factor for Wireless Chargers in Electric Vehicles. **(IEEE 2017)**

XIV. POWER ELECTRONICS based RESONANT CONVERTER

1. Design and Steady-State Analysis of Parallel Resonant DC– DC Converter For High-Voltage Power Generator. **(IEEE 2017)**
2. A Quasi-Resonant Current-Fed Converter with Minimum Switching Losses. **(IEEE 2017)**
3. A New Dual-Bridge Series Resonant DC-DC Converter with Dual-Tank. **(IEEE 2017)**

XV. POWER ELECTRONICS based Z- SOURCE CONVERTER

1. High-Performance Quasi-Z-Source Series Resonant DC–DC Converter For Photovoltaic Module-Level Power Electronics Applications. **(IEEE 2017)**
2. Load and Source Battery Simulator Based on Z-Source Rectifier. **(IEEE 2017)**
3. Hybrid Z-Source Boost DC–DC Converters.**(IEEE 2017)**

XVI. POWER ELECTRONICS based HIGH -VOLTAGE

1) Zero-Ripple Input-Current High-Step-Up Boost–SEPIC DC–DC Converter with Reduced Switch-Voltage Stress. **(IEEE 2017)**

2) A High Step-up PWM DC-DC Converter with Coupled-Inductor and Resonant Switched Capacitor. **(IEEE 2017)**
3) Ultra large Gain Step-Up Coupled-Inductor DC–DC Converter with an Asymmetric Voltage Multiplier Network for a Sustainable Energy System. **(IEEE 2017)**

XVII. POWER ELECTRONICS based INTERLEAVED CONVERTER

1. Interleaved LLC Resonant Converter with Hybrid Rectifier and Variable Frequency Plus Phase-Shift control for Wide Output Voltage Range Applications. **(IEEE 2017)**
2. Discontinuous Current Mode Operation of Two-Phase Interleaved Boost DC-DC Converter with Coupled-inductor. **(IEEE 2017)**
3. Zero-Voltage-Transition Interleaved Boost Converter with an Auxiliary Coupled Inductor. **(IEEE 2017)**

XVIII. POWER ELECTRONICS based LED APPLICATIONS

1) An AC–DC LED Driver with a Two-Parallel Inverted Buck Topology for Reducing the Light Flicker in Lighting Applications to Low-Risk Levels. **(IEEE 2017)**
2) Analysis and Design of a Single-Stage Isolated AC–DC LED Driver with a Voltage Doubler Rectifier. **(IEEE 2017)**
3) Single-Stage Single-Switch Four-Output Resonant LED Driver With High Power Factor and Passive Current Balancing. **(IEEE 2017)**