



33rd Annual IEEE Applied Power Electronics Conference and Exposition
March 4-8, 2018 at the Henry B. Gonzalez Convention Center, San Antonio, TX, USA

Announcement and Call for Technical Session Papers

APEC 2018 continues the long-standing tradition of addressing issues of immediate and long-term interest to the practicing power electronic engineer. Outstanding technical content is provided at one of the lowest registration costs of any IEEE conference. APEC 2018 will provide a) the best power electronics exposition, b) professional development courses taught by world-class experts, c) presentations of peer-reviewed technical papers covering a wide range of topics, and d) venue to network and enjoy the company of fellow power electronics professionals in a beautiful setting. Activities and attractions for guests, spouses, and families are abundant in the Tampa area.

Topics of Interest:

1. **AC-DC Converters:**
 - a. Single-Phase and Three-Phase Input
 - b. Power Factor Correction, CCM, DCM, CRM/BCM Control, Bridgeless
 - c. Embedded AC-DC Power Supplies
 - d. External AC-DC Adapters
2. **DC-DC Converters:**
 - a. Hard- and Soft-Switched
 - b. Resonant Converters
 - c. Point-of-Load (PoL) and Multi-Phase Converters
 - d. Voltage Regulator Modules (VRM)
3. **Power Electronics for Utility Interface:**
 - a. Power Generation, Transmission and Distribution
 - b. Power Quality, UPS, Filters
 - c. Distributed Energy Systems
 - d. SmartGrid
 - e. UPS
 - f. Solid-State Transformers
 - g. Metering
4. **Motor Drives and Inverters:**
 - a. AC, DC, BLDC Motor Drives
 - b. Single- and Multi-Phase Inverters
 - c. Sensor Integration
 - d. Actuators
 - e. High Performance Drives
5. **Devices and Components:**
 - a. Power Silicon MOSFETs, BJTs, IGBTs
 - b. GaN HEMTs,
 - c. SiC MOSFETs and BJTs
 - d. Fast Recovery Diodes
 - e. Magnetic Materials and Components
 - f. Capacitors, Supercapacitors
 - g. Interconnects and Fuses
6. **System Integration:**
 - a. Power Electronics Packaging
 - b. Power Modules
 - c. High Power Density Design
 - d. Thermal Management
 - e. EMI and EMC
 - f. Material Science and Nanotechnology
 - g. Sensors for Power Electronics
7. **Modeling and Simulation:**
 - a. Circuits and Systems
 - b. Device and Component Modeling
 - c. Parasitics
 - d. Software Tools
 - e. Rapid Prototyping
8. **Control:**
 - a. Control of Power Electronic Converters
 - b. Current-Mode and Voltage-Mode Control
 - c. Digital Control
 - d. Sensor and Sensor-less Control
 - e. Gate Drive Circuits
 - f. Control ICs
 - g. MCUs, DSPs, FPGAs, ASICs
9. **Manufacturing, Quality and Business Issues:**
 - a. Quality and System Reliability
 - b. Design for Manufacturability
 - c. Fault-Tolerant Systems and Lifetime Predictions
 - d. Life Cycle Cost Analysis
 - e. Material Procurement
 - f. Supplier Qualification
 - g. Standards
 - h. Production Processes



10. Renewable Energy Systems:

- a. Photovoltaic (PV) Inverters and Micro Inverters
- b. Maximum power point tracking (MPPT)
- c. Wind Energy Conversion Systems
- d. Fuel Cells
- e. Grid-Tied Systems
- f. Bi-directional Power Converters
- g. Microgrid Systems
- h. Energy Storage Systems

11. Transportation Power Electronics:

- a. Vehicular Power Electronic Circuits and Systems
- b. Power Electronics for Hybrid and Electric Cars
- c. Power Electronics for Aerospace
- d. Charging Systems

12. Power Electronics Applications:

- a. Lamp Ballasts and LED Lighting
- b. Network and Telecommunication Power Electronics
- c. Defense and Military Power Electronics
- d. AC-DC-AC Applications and Matrix Converters
- e. Portable Power
- f. Energy Harvesting
- g. Wireless Charging (Non-Transportation Applications)

Please note the following time frames (subject to change and posted at www.apec-conf.org/speakers/):

June 1, 2017	Start date to submit paper
July 19, 2017	Deadline for submission of digests
October 4, 2017	Notification that a paper was accepted or declined
November 14, 2017	Final papers and author registrations are due

Submission Requirements: Prospective authors are asked to submit a digest explaining the problem that will be addressed by the paper, the major results, and how this is different from the closest existing literature. Papers presented at APEC must be original material and not have been previously presented or published. The principal criteria in selecting digests will be the usefulness of the work to the practicing power electronic professional. Reviewers value evidence of completed experimental work. Authors should obtain any necessary company and governmental clearance prior to submission of digests. Please visit www.apec-conf.org/speakers/ for all details on digest and final manuscript format and to submit your paper.

If a digest is accepted, authors must submit a final manuscript before the deadline or the manuscript cannot be published in the Proceedings or presented at the conference. Final manuscripts may be subject to charges if their papers are over the page or file-size limit. **At least one of the authors listed on a paper must be registered for either a Full Registration or for the Technical Sessions Only registration, per paper.**

Become an APEC paper Reviewer: APEC relies upon a peer review process to ensure the quality of the technical content. To help maintain the high quality of the program, please contribute a few hours to review digests in your area of expertise by registering at www.apec-conf.org (reviewer registration will be available summer 2017 under “Speakers” and “Paper Reviewer Sign-up”).

Calls for Industry Sessions, Professional Education Seminars, and Exhibitor Seminars will be posted at www.apec-conf.org.

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