



## Announcement and Call for Technical Session Papers

APEC 2021 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 2021 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) A 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 Phoenix area.

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### Important Milestones *(subject to change and posted at <http://apec-conf.org/conference/sessions/technical/>):*

<b>June 8, 2020</b>	<b>Digest submission site opens</b>
<b>August 14, 2020</b>	<b>Deadline</b> for submission of digests
<b>October 28, 2020</b>	<b>Notification</b> that a paper was accepted or declined
<b>November 20, 2020</b>	<b>Final papers and author registrations are due</b>

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**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 <http://apec-conf.org/conference/sessions/technical/> 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. Both the technical paper and its APEC presentation file will be distributed as protected Adobe PDF files (text and graphics copy protected). Submission of your digest serves as your implicit agreement and consent to electronic distribution of your presentation. 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.**

### 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
  - e. Bidirectional ac/dc converters
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)
  - e. Bidirectional dc/dc converters
3. **Power Electronics for Utility Interface:**
  - a. Power Generation, Transmission and Distribution
  - b. Power Quality, UPS, Filters
  - c. Distributed Energy Systems
  - d. Smart Grid
  - e. UPS
  - f. Solid-State Transformers
  - g. Metering
  - h. Bidirectional grid interface converters

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. Capacitors, Supercapacitors
  - f. Interconnects and Fuses
6. **Power Electronics Integration and Manufacturing:**
  - a. Power Electronics Packaging
  - b. Power Modules / High Density Design
  - c. Thermal and EMC Management
  - d. Quality and System Reliability
  - e. Embedding technologies, 3D packaging, and additive manufacturing
  - f. Production Processes and Design for Manufacturability
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. **Wireless Power Transfer:**
  - a. Wireless charging
  - b. Energy harvesting
  - c. Power for IoT
  - d. Non-contact Sensors for Power Electronics
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
13. **Magnetics**
  - a. Advanced magnetic materials and geometries
  - b. Magnetics applications
  - c. High-frequency magnetics
  - d. Additive manufacturing for magnetic materials
  - e. Magnetics modeling and simulations

**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](http://www.apec-conf.org) (available summer 2020 under "Paper Reviewer Sign-up").

**Calls for Industry Sessions, Professional Education Seminars, and Exhibitor Seminars will be posted at [www.apec-conf.org](http://www.apec-conf.org).**

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