2018 Austin Power Electronics Symposium

University of Texas at Austin

MAY 30, 2018 - AUSTIN, TEXAS

Dear friends and colleagues:

Driven by the commercial availability of wide bandgap (WBG) power devices, this is an exciting time for power electronics community. Future power electronics systems will not only be much more efficient, but also smaller and lighter than before. This will have huge impacts to a whole array of industries from mobile computing, to data center to electric transportations. The increased voltage and speed in these power devices are also making it possible now to solve some of the greatest challenges facing the power grid with advanced medium voltage power electronics technology.

To showcase some of the latest research progress made by the newly established power electronics program at the University of Texas at Austin, we are organizing the 2018 Austin Power Electronics Symposium on May 30, 2018 at the university's J. J. Pickle campus. You and your colleagues are cordially invited to this inaugural event that I hope will become an annual tradition in the future. In this student organized annual symposium, industry thought leaders and university researchers will interact with each other through a number of oral sessions as well as a poster session.

Session 1: Industry Plenary Session

- "SiC Power MOSFET Technology", Monolith Semiconductor
- "Power Electronics for Medium Voltage Drive", Toshiba International
- "Data Center Power Delivery System", Dell Computer
- "Microinverter Technology", SunPower Corp
- "Grid-Tie Power Electronics Converter", Ideal Power

Session 2: Power Electronic Solutions for Efficient Data Center

- High Efficiency High Density 3.2kW GaN Totem-Pole PFC (Presenter: Qingyun Huang)
- High Efficiency High Density LLC Resonant Converter and Adaptive Synchronous Rectifier Control (Presenter: Ruiyang Yu)
- Solid State Transformer for Efficient Data Center Application (Presenter: Alex Huang)

Session 3: Technical Presentation

- High Efficiency GaN-based 400/12V Energy Storage System for UPS
- High Efficiency and High Density Multiport Building Block Single Phase Transformerless PV Inverter
- Loss Reduction using Si+SiC Hybrid Power Module
- Analysis on Ultra-Fast Switching of 1.2kV SiC MOSFETs for Megahertz Applications Enabled by 3D Package
- Design Consideration for Single-Driver Multi-Chip Module
- A Single-Stage Bidirectional Dual-Active-Bridge AC-DC Converter Based on Enhancement Mode GaN Power Transistor

Session 4: Poster Session and Lab Tour

- Lab tour 1: DC data center at Texas Advanced Computing Center
- Lab tour 2: Center for Electromechanics
- Lab tour 3: Power Electronics Lab and poster session

I hope you will be able to find time to attend this one-day event in the great city of Austin. May weather in Austin is extremely nice and you will enjoy a whole array of outdoor activities that the city is famously known for. So I look forward to seeing many of you in May. I am also eager to obtain your guidance on how to structure the power electronics program at UT Austin in the future.

Sincerely,

Alex Huang

Alex Q. Huang, Ph.D. and IEEE Fellow
Dula D. Cockrell Centennial Chair in Engineering
Director of Semiconductor Power Electronics Center

Date: May 30, 2018
J.J. Pickle Research Campus, Texas Advanced Computing Center
Advanced Computing Building (ACB), Building 205
10100 Burnet Rd, Austin, Texas 78758-4497

FREE Registration at: http://cvent.utexas.edu/ut_pe_symp_reg

TEXAS The University of Texas at Austin
SPEC Semiconductor Power Electronics Center
The University of Texas at Austin Center for Electromechanics

For more information and an updated agenda, please visit http://spec.ece.utexas.edu or email spec@utexas.edu