



IEEE

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The IEEE Ottawa, IEEE Ottawa Joint Chapter of Reliability Society and Power Electronics Society (RS/PELS), IEEE Ottawa Power and Energy Society (PES), IEEE Ottawa Joint Chapter of Communications Society, Consumer Electronics Society, and Broadcast Technology Society (ComSoc/CESoc/BTS), IEEE Ottawa Educational Activities (EA), IEEE Ottawa PELS Student Chapter, and Algonquin College Student Branch (ACSB) in conjunction with School of Advanced Technology, Algonquin College are inviting all interested IEEE members and other engineers, technologists, and students to a technical seminar on

Opportunities and Design Considerations for GaN HEMTs in Industrial and Automotive Applications

By

Juncheng (Lucas) Lu, Applications Engineering Manager, GaN Systems Inc

DATE: March 14th 2019

TIME: Refreshments, Registration and Networking: 18:00; Seminar: 18:30 – 20:00.

PLACE: [Ciena-Optophotonics Lab \(Room T129\)](#), T-Building, Algonquin College, 1385 Woodroffe Ave., Ottawa.

PARKING: after 5:00 p.m. at Lots 8 & 9. Pay \$5 flat rate at the machine and display the ticket on your car dashboard.

Abstract - GaN HEMT has been a focus in both academia and industry, due to the extremely low figure of merits ($R_{DS(on)} \times Q_G$) compared with conventional Silicon counterparts. The opportunities, challenges and design considerations for GaN HEMTs in industrial and automotive applications will be presented in the device/package and system perspectives. Design examples are detailed to show how the system performance maximization is enabled by GaN HEMTs with minimum cost in the selected applications. The key design procedures will be thoroughly discussed, i.e., topology selection, loss analysis, cost reduction, power stage layout, thermal design, etc.

This presentation is aimed at covering the fundamentals as well as the latest research and updates of GaN HEMTs applications. The target audience is the design engineers, researchers, and graduate/undergraduate students interested in industrial/automotive applications or just GaN technology.

Speaker's Bio

Juncheng (Lucas) Lu received B.S. degree from Zhejiang University, Hangzhou, China, and M.S. degree from Kettering University, Michigan, USA. He was a research engineer with Delta Power Electronics Center, Shanghai, China. Since 2016, he has been with GaN Systems, Inc., Ottawa, Canada. He manages the head office applications and is responsible for Americas and EMEA application support.

His research interest is wide bandgap devices application, power electronics packaging, high-efficiency high power density power supply, and electric vehicle battery charger. He published more than 20 IEEE/SAE transaction and conference papers and holds 9 U.S. Patents.

Admission: Free. Registration required.

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