



# IEEE

## Ottawa Section



Seminar by IEEE Ottawa Section, PELS, PELS Student Chapter, RS-PEL, PES, Education Activities, Algonquin College IEEE Student Branch, ComSoc, CESoc, and BTS Ottawa Joint Chapter.

*The IEEE Ottawa Section is inviting all interested IEEE members and nonmembers to a seminar*

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

*By*

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**DATE:** March 14<sup>th</sup> 2019

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

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

**PARKING:** Parking in Lots 8 and 9 after 5 p.m. is \$5 flat rate, pay at a machine and display the ticket on your 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/packaging 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, 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.

Please register by e-mail contacting: [ottawapels@gmail.com](mailto:ottawapels@gmail.com)

