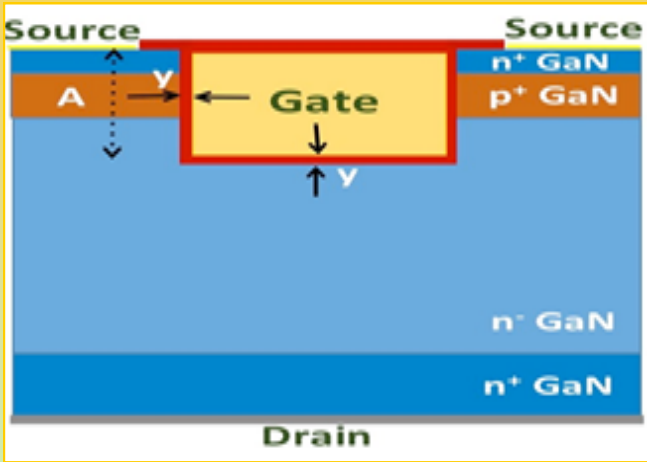


**Three Days National Level  
Hands-on Training Program**  
on  
**“Power Semiconductor Device  
Modeling and TCAD  
Simulation”**

29<sup>th</sup> Nov 2019– 1<sup>st</sup> Dec 2019



*Organized by*

**Department of Micro & Nanoelectronics,  
School of Electronics Engineering.**



**Three Days National Level  
Hands-on Training Program**  
on  
**“Power Semiconductor Device  
Modeling and TCAD  
Simulation”**

(Capital Letters only)

Full Name .....

Gender: Male / Female

Designation: .....

Organization: .....

Address: .....

.....  
.....

Mobile No.: .....

E-mail: .....

Amount: ..... Date: .....

**Declaration:** The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the course and attend the course for the entire duration.

Place:

Date:

Signature of the Participant

**Note: To register online use the below link**  
<https://tinyurl.com/PSDM-TCAD>

**ADVISORY COMMITTEE**

**Chief Patron**

**Dr. G. Viswanathan**, Chancellor

**Patrons**

**Mr. Sankar Viswanathan**, Vice President

**Mr. Sekar Viswanathan**, Vice President

**Mr. G.V. Selvam**, Vice President

**Dr. Anand A Samuel**, Vice-Chancellor

**Dr. S. Narayanan**, Pro Vice-Chancellor

**Advisors**

**Dr. Kittur Harish Mallikarjun**

Dean, School of Electronics Engineering

**Dr. Arunachalam. V.**

Head, Dept. of Micro & Nanoelectronics

School of Electronics Engineering

**Resource Persons**

**Dr. Kittur Harish Mallikarjun**

Professor, Dept. of Micro & Nanoelectronics

School of Electronics Engineering,

VIT-Vellore

**Dr. V.N. Ramakrishnan**

Associate Professor,

Dept. of Micro & Nanoelectronics,

School of Electronics Engineering,

VIT-Vellore

## About The Institute

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in relentless pursuit of excellence.

Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. VIT University is the first Indian Institute to get International Accreditation from IET and EI, UK. VIT university obtained highest possible grade of "A" from NAAC during the re-accreditation process in 2015. With steady steps, we continue our march forward. We look forward to meeting you here at VIT.

## About School of Electronics Engineering

School of Electronics Engineering (SENSE) has 103 faculty members who have done their UG and PG degrees from the top-notch universities. The faculty members of this school are consistently doing well in teaching and research. The school offers B. Tech (Electronics and Communication Engineering), M.Tech (VLSI Design), M.Tech (Embedded System), M.Tech (Sensor Technology) and M.Tech (Nano Technology), M.S by Research and Ph.D in Engineering. Both B.Tech and M.Tech programs attract the brightest students of the country and abroad every year. B. Tech (Electronics and Communication Engineering) is accredited by the Engineering Accreditation Commission of ABET.

The placement record of the school has always been impressive. Almost 100% of the students get job from the campus placement and many of them getting it in core companies every year. We encourage the students to do engineering projects during their B.Tech and M.Tech degrees. The School has state-of-the art of laboratories in almost all the areas of Electronics, Communication, VLSI, Embedded, Sensors and Nano Technology. The School has the latest simulation tools to cater to various specializations and is equipped with facilities for measurement, characterization and synthesis of experimental as well as theoretical results. Every year, students get scholarships to do their final year projects abroad under the Semester Abroad Program (SAP).

## Target Audience

Faculty, research scholars and students from various engineering colleges in India. The number of participants is limited to 30.

## About The Workshop

It is assessed that 50-60% of electricity used in the world is controlled by power semiconductor devices. Power semiconductor devices play a crucial role in the regulation and distribution of power and energy in the world. Power electronics is the application of solid state devices to control and convert electrical power. Power semiconductor devices are recognized as the key components for all power electronic systems. Many novel devices are being explored currently. TCAD tool allows us to generate new structures, circuits and analyze their performance. Unlike circuit simulators, TCAD needs a special training. This hands-on training addresses this gap. This three day workshop is scheduled as follows:

## Day 1 ( 29<sup>th</sup> November 2019 )

Session 1 - Introduction to semiconductor device physics  
Session 2 - TCAD based 2D/3D device generation  
Session 3 - Device simulation and IV Characteristics  
Session 4 - Hands-on session

## Day 2 ( 30<sup>th</sup> November 2019 )

Session 5 - Introduction to power semiconductor device physics  
Session 6 - Basic process steps simulation  
Session 7 - Hands -on session  
Session 8 - Hands -on session

## Day 3 ( 1<sup>st</sup> December 2019)

Session 9 - Motivation behind High Electron Mobility Transistors (HEMT)  
Session 10 - HEMT device generation  
Session 11 - Introduction to vertical-GaN device simulation  
Session 12 - Hands-on session

## Registration Fees: Rs. 1,416/-\*

(\* - Inclusive of 18% GST)

## Contact:

**Dr. V.N. Ramakrishnan,**  
Associate Professor,  
Dept. of Micro and Nanoelectronics,  
SENSE, VIT - Vellore.  
vnramakrishnan@vit.ac.in  
Ph : +91-9840954095

## Important Date:

Last date for registration: **27<sup>th</sup> November 2019**

## (First Come First Serve)

Prospective participants are requested to fill up the online registration form and submit.