

**Department of Electrical and Electronics Engineering**  
**IEEE Power Electronics Society NHCE Student Branch Chapter**  
**Geo-Code is SBC66131**  
**&**



**Jointly organised**

---

**Distinguished Lecture Program on “Wide Bandgap (WBG) Power Electronics  
Systems for Heavy-Duty Vehicles”**

Electrical and Electronics Engineering

From: 23.10.2021

To: 23.10.2021

From: 08.00 AM (IST)

To: 10.00 AM (IST)

The IEEE PELS NHCE Student Branch Chapter from Department of Electrical and Electronics Engineering, New Horizon College of Engineering, Bengaluru is organized the Distinguished Lecture Program on “Wide Bandgap (WBG) Power Electronics Systems for Heavy-Duty Vehicles” on 23rd October 2021, Saturday from 08.00 AM to 10.00 AM in association with IEEE PELS Bangalore Chapter. Dr. Brij N. Singh; John Deere Inc., North Dakota, USA acted as a resource person.

The outcome of the programme is to bring the researchers and academic experts from reputed institutes of our country to a collective gathering for exchanging and sharing the knowledge about the recent developments and research challenges in Wide Bandgap (WBG) Power Electronics Systems for Heavy-Duty Vehicles. This presentation covered publicly known information on the 200 kW 1050 VDC silicon carbide (SiC) inverter technology development project in John Deere. The SiC inverter converts vehicle engine power into electrical power needed for the permanent-magnet-motor based electric powertrain used in heavy-duty construction and mining vehicles. The presentation also covered design, development, and test verification of WBG technology deployed in the successful realization of a power-dense (43 kW/Liter) high-temperature (suitable for 115°C coolant) high-efficiency (> 98% over entire range of coolant) SiC dual-inverter.

The entire session is very informative and enthusiastic manner in the area of power electronics industry. The eminent expert from the John Deere Inc., North Dakota, USA delivered the lecture and his talk has been very well received by the participants.

Congratulations to Event Coordinator Mr. Satish Kumar. D, Sr. Assistant Professor, Department of EEE, NHCE for successfully organized this event.

## SESSION IMAGES

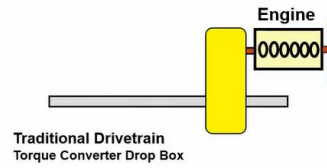
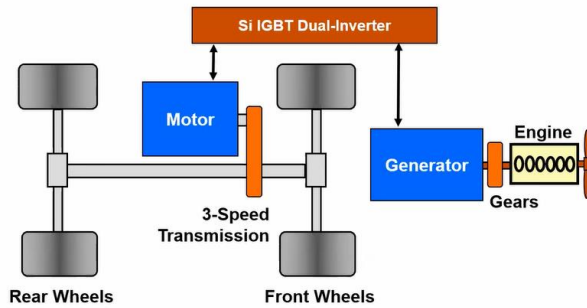
### Wide Bandgap (WBG) Power Electronics Systems for Heavy-Duty Vehicles

Dr. Brij N. Singh, John Deere Inc., USA



### 644K Hybrid Loader's Powertrain Architecture

- Control system allows application of maximum power where it is needed the most



### Dynamic Testing of Inverter (4 inverters and 4 electric machines set-up)





DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
IEEE Power Electronics Society NHCE Student Branch Chapter

&  
IEEE PELS Bangalore Chapter



*Jointly Organising*

IEEE PELS DISTINGUISHED LECTURE

*on*

WIDE BANDGAP (WBG) POWER ELECTRONICS  
SYSTEMS FOR HEAVY-DUTY VEHICLES

CONVENOR

**Dr. M. Mahesh**

Professor and HOD – Dept. of EEE, NHCE

FACULTY COORDINATOR

**Mr. Satish Kumar D**

Sr. Assistant Professor, Dept. of EEE, NHCE

CONTACT

**Mr. Nischal Dinesh**

IEEE PELS SBC Chair (+91 8088166224)

**Mr. Sarthak Das**

IEEE PELS SBC Secretary (+91 9900787967)

SPEAKER



**Dr. Brij N. Singh**

John Deere Inc., USA

Online Platform: zoom

Registration link: <https://forms.gle/7NrJTXCDarrx6s76A>

Last Date of Registration: 20<sup>th</sup> October 2021

Free Registration

E-certificates will be provided to all the Participants

**23<sup>rd</sup> october 2021 @ 08:00 AM - 10:00 AM IST**