



8<sup>th</sup> Global Power, Energy and Communication Conference  
Naples/ITALY  
June 3-5, 2026

## Special Session on **DC/X Converter with WBG Devices for Hybrid Vehicular and Microgrid System**

DC-X (DC-DC or DC-AC) systems enable efficient energy conversion and control in applications such as power systems, electric vehicles, industrial drives, renewable energy integration, and data centers. As requirements for higher efficiency, power density, dynamic performance, power quality, and reliability continue to grow, DC-X systems must operate robustly under wide operating conditions, thermal stress, and grid disturbances, while meeting tighter EMI and packaging constraints. Recent advances in the area of wide band gap devices opens the opportunities for researchers in the field of converter to increase the frequency of operation, energy density, efficiency, and reliability of systems. Researchers are moving towards the implementation of power converters with wide bandgap devices such as Silicon Carbide (SiC) and Gallium Nitride (GaN) based switches. This special session offers a platform for researchers and practitioners to present innovations and real-world implementations of power converters with these devices. This special session supports SDG 7 (Affordable and Clean Energy) by advancing high-efficiency, reliable power electronics that accelerate renewable integration and reduce energy losses across electrified applications.

### Topics of interest include, but are not limited to:

- DC to AC or DC to DC Converters using SiC, GaN or Vertical GaN power devices
- WBG Devices in Electric Vehicles (EVs)
- WBG Devices in Motor Drive Applications and Renewable Energy Systems
- Ultrawide bandgap devices
- Low parasitic packaging of power device
- WBG Device synthesis techniques and design
- New device characterization schemes and innovative material diagnostic methods

### Organizer(s):

- 1) Prema V, B.M.S. College of Engineering, Bangalore, India; [prema.v.eee@bmsce.ac.in](mailto:prema.v.eee@bmsce.ac.in)
- 2) M. S. Bhaskar, Renewable Energy Lab, Prince Sultan University, Riyadh, Saudi Arabia; [smahajan@psu.edu.sa](mailto:smahajan@psu.edu.sa)

### Deadlines of the special session:

|  |                       |
|--|-----------------------|
| Full paper submission (maximum 6 pages): | <b>March 15, 2026</b> |
| Notification of acceptance:              | <b>April 12, 2026</b> |
| Final submissions due:                   | <b>April 26, 2026</b> |

All the instructions for paper submission are included at the conference website. <https://gpecom.org/2026/guidelines/>



**Prema V.** received the Ph.D. degree (VTU, 2018). Senior Member IEEE, IES and PELS (Chair-PELS and Vice Chair, IES Bangalore chapter. She has 22 years of teaching and industry experience and working in BMSCE, Bangalore, India. Authored 60+ articles in Power Electronics and Renewable Energy . Her research interests include renewable energy, forecasting and power electronics. She is a senior member of IEEE, IEEE Industrial Electronics, Power Electronics societies. Currently she is the chair of IEEE Power Electronics Society, Bangalore chapter and Vice-chair of IEEE Industrial Electronics Society, Bangalore chapter.



**M. S. Bhaskar** received the Ph.D. degree in electrical and electronic engineering from the University of Johannesburg, South Africa, in 2019. He has authored 150 plus scientific papers with particular reference to DC/DC and DC/AC converters, and high gain converters, and received the best paper research paper awards from IEEE-GPECOM'20, IEEE-CENCON'19, IEEE-ICCPCT'14, IET-CEAT'16. He is an IEEE Industrial Electronics, Power Electronics, Industrial Application, Robotics and Automation, Vehicular Technology Societies, Young Professionals, various IEEE Councils, and Technical Communities.