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Presents



DRIVING THE FUTURE: Confluence of Data Analytics and Electric Mobility

Empowering India with E-mobility: Strengths & Roadmap

16-17 DECEMBER 2023

Overview of the Conclave

- The Conclave 2023 is a dynamic platform that brings together **academia, industry, start-ups, policy-makers, and stakeholders** of the EV ecosystem to foster collaboration, knowledge exchange, and innovation in the electric vehicles (EVs) sector.
- For academia, the Conclave offers the forefront of conducting research and developing cutting-edge technology and algorithms for data analysis in the EV sector, contributing to innovation and knowledge dissemination.
- Industry leaders are leveraging data analytics to optimize battery performance, charging infrastructure, and vehicle design, leading to increased efficiency and range.

About IIT (BHU) Varanasi

The institute completed its 100 years in 2019, and we wish to take forward the legacy with rejuvenated Vigor and sheer dedication with a commitment to nation building. The *Indian Institute of Technology (Banaras Hindu University) Varanasi* owes its existence to Bharat Ratna Mahamana Pandit Madan Mohan Malviya, the founder of the first residential University of modern India, Banaras Hindu University (BHU), who could foresee the vital role of technical education in strengthening independent India. IT-BHU became IIT (BHU) Varanasi on June 29, 2012, by an Act of Parliament. Following its conversion to IIT, the Institute has quickly established procedures and practices as per the standards of IITs.

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About I-DAPT HUB FOUNDATION IIT(BHU) Varanasi

I-DAPT- HUB FOUNDATION is a non-profit initiative at IIT (BHU) Varanasi acting as a nodal center and a Technology Innovation Hub (TIH) for technology development and entrepreneurial activities in “Data Analytics and Predictive Technologies (DAPT)” and other related areas under National Mission on Interdisciplinary Cyber-Physical Systems (NMICPS), DST, Govt. of India.

Key Highlights

- Session on Energizing India: Unveiling Electric Vehicle Trends, Policy Initiatives, and Roadblocks.
- Session on high power density components for electric vehicles.
- Session on next-gen Charging Technology for Electric Vehicles
- Session on smartening Up the Roads: Data-Driven Insights for Electric Vehicle Technology
- Session on batteries and battery management system (BMS)

Event Conveners

Prof. Rajeev Kumar Singh
Department of
Electrical Engineering

Dr. V. N. Lal
Department of
Electrical Engineering

Prof. Rajnesh Tyagi
Department of
Mechanical Engineering

DELEGATE REGISTRATION

Industry Delegate	3000
Academia	2000
Students	1000



For any query contact: rksingh.eee@iitbhu.ac.in ; 7317640777 / 9451890026 Registration Link: <https://forms.gle/o9JKEC6bH6DkNaE4A>

Schedule

16 December 2023

- **10:00 AM - 11:00 AM – Inaugural Ceremony**
- **11:00 AM – 11:30 AM – High Tea**
- **11:30 AM - 01:45 PM – EV Market, Policy & Tender Overview**
 - **Session 1 EV ecosystem: Challenges and Opportunities in India**
 - **Session 2 Title: TBA**
 - **Session 3 Electric vehicles**
- **01:45 PM – 02:45 PM – Networking Lunch**
- **02:45 PM – 05:45 PM - New Generation Charging Technologies for EVs**
 - **Session 1 Electrifying the Future: A Roadmap to Sustainable Mobility**
 - **Session 2 Current-fed Switched Boost Converters for EVs**
 - **Session 3 Title: TBA**
 - **Session 4 Power conversion systems and start-up opportunities for Indian EVs**
- **05:45 PM – 06:15 PM – Panel Discussion**

Topic: Empowering India with E-mobility: Roadmaps and Strengths

Schedule

17 December 2023

- **10:00 AM - 11:30 AM – Theme: Next Generation Battery Technologies**
 - **Session 1** Heavy-duty hybrid electric vehicles for agricultural farms
 - **Session 2** Vehicle-to-vehicle (V2V) power transfer
- **11:30 AM – 12:00 PM – Tea Break**
- **12:00 PM - 01:30 PM – Theme: Opportunities Startup and Entrepreneurship in EVs**
 - **Session 1** Green hydrogen technology for fuel cell vehicles
 - **Session 2** Smart battery technologies for future EVs
- **01:30 PM – 02:30 PM – Networking Lunch**
- **02:30 PM – 05:30 PM - Theme: Renewable Integrated Data Driven Smart EV Infrastructure**
 - **Session 1** Wide band gap (WBG – SiC & GaN) semiconductor devices for EV power electronics systems.
 - **Session 2** Real Time Simulators help in Grid Readiness for EV adoption
 - **Session 3** Synergizing Electric Vehicle Integration with Renewable Energy Systems
 - **Session 4** Renewable integrated smart E-mobility ecosystem
- **05:30 PM – 06:15 PM – Panel Discussion**

Topic: Strengthening E-mobility: Policy, Business and Techno-Commercial Roadmap
- **06:15 PM – 06:45 PM – Valedictory**

Speakers



Electrical motor drives and control for hybrid/electric Vehicles

**Andrew M. Knight, IEEE IAS Society President
Professor and Head (Electrical and Software Engineering Dept)
University of Calgary, Canada**



Next generation power electronics for EVs

**Frede Blaabjerg, Life Fellow, IEEE (past IEEE PELS President and EiC IEEE Transactions on Power Electronics)
Aalborg University, Denmark**



Heavy duty hybrid electric vehicles for agricultural farms

**Brij. N. Singh, IEEE Fellow and IEEE PELS Distinguished Lecturer
John Deere, Fargo, ND, USA**



Wide band gap (WBG – SiC & GaN) semiconductor devices for EV power electronics systems

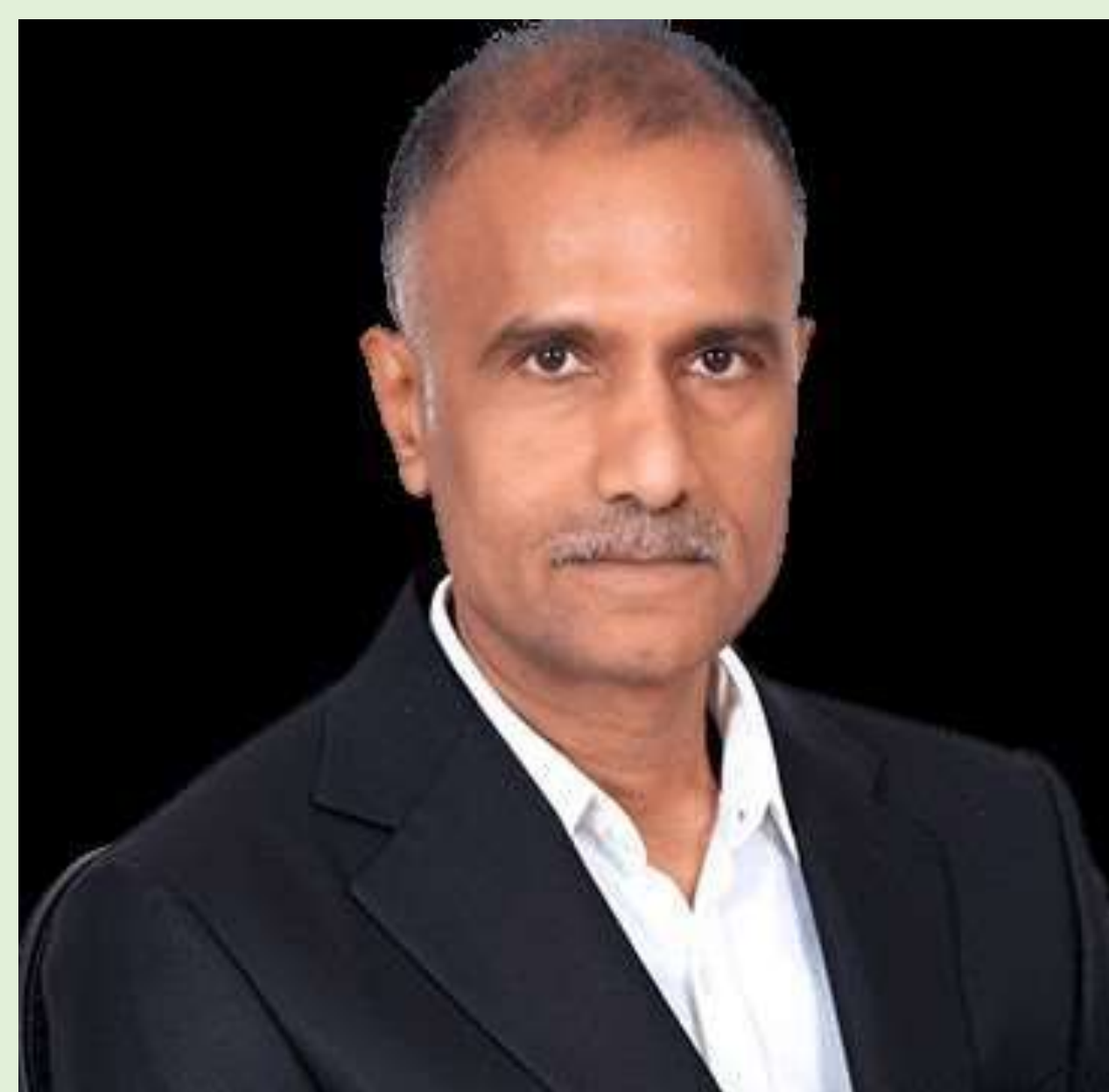
**Gourab Mazumdar, IEEE Fellow and IEEE PELS Distinguished Lecturer
Senior Fellow Mitsubishi Electric Corporation
Fukuoka, Japan**

Speakers



Current-fed Switched Boost Converters for EVs

Santanu Kumar Mishra,
Professor, Center for Automotive Research and Tribology (CART)
Indian Institute of Technology, New Delhi, India



Electrifying the Future: A Roadmap to Sustainable Mobility

Suresh S. Kalpathi
CEO, Executive Director &
Chairman, Veranda Learning
Solutions



Synergizing Electric Vehicle Integration with Renewable Energy Systems

Arun Kumar Chaudhary
Scientist / Assistant Director (Technical) Scientist / Assistant Director (Technical)
Ministry of New and Renewable Energy (MNRE)



Power conversion systems and start-up opportunities for Indian EVs

Akshay Kumar Rathore, IEEE Fellow and co-EiC (IEEE Trans on IE)
Professor and Program Leader (Electrical Power Engineering)
Singapore Institute of Technology, Singapore

Speakers



Green hydrogen technology for fuel cell vehicles

Sanjeet Dwivedi
Technology Project Manager
EVERFUEL, Denmark



Vehicle-to-vehicle (V2V) power transfer

Vinod Khadkikar,
Professor and IEEE Fellow and IEEE IAS Distinguished Lecturer
Khalifa University, Abu Dhabi, UAE



Smart battery technologies for future EVs

Abhijit Kulkarni
Assistant Professor (Energy)
Aalborg University, Denmark



Electric vehicles

Tapan Sahoo
Executive Director (Maruti Suzuki India Limited)
New Delhi, India

Speakers



Om Krishan Singh
Scientist D, MeitY

Real Time Simulators help in Grid Readiness for EV adoption



Girish Nanjundaiah
Managing Director, OPAL-RT India
Bengaluru, Karnataka, India



Hitesh Bhardwaj
Business Head- Semiconductor & Devices at Mitsubishi Electric
Mitsubishi Electric Asia Pte Ltd
Gurgaon, India



EV ecosystem: Challenges and Opportunities in India

Sunita Verma
Group Coordinator, R&D in Electronics & IT Divisions, MeitY

Speakers



Renewable integrated smart E-mobility ecosystem

Rajeev Kumar Singh

**Professor, Department of Electrical Engg.,
IIT(BHU) Varanasi**

To be announced

To be announced

To be announced

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