



**International Symposium
On
Reliability of Electric Vehicle System: Challenges and Opportunities**

25th -26th July, 2018

(ISREVS 2018)

Resources Persons:

Prof. Om Prakash Yadav, North Dakota State University Fargo, USA

Mr. Pradeep Kundu, Prognostics and Diagnostics Expert, IIT Delhi,

Industrial Experts of Electric Vehicles

Users of Electric Vehicles

Faculty of Automobile and Mechatronics Engineering, MUJ

CHIEF PATRON

Prof. K Ramnarayan
Hon'ble Chairperson, MUJ

Prof. G.K. Prabhu
Hon'ble President, MUJ

PATRON

Prof. N. N. Sharma
Pro-President & Dean, FoE, MUJ

Prof. G. L. Sharma
Director, SAMM, MUJ

CONVENER

Prof. Anjaiah Devineni
HOD (Automobile)

Prof. Rajesh Solanki
Director (Q&C; iGurukul)

CO-CONVENER

Dr. Niketa Jain
Dr. Manish Rawat
Dr. Ashish Malik,

ORGANIZING SECRETARY

Mr. Binay Kumar Rajak
Mr. Vishnu Goyal
Mr. Vinay Gupta
Dr. Avanish Singh Chauhan

REGISTRATION AND PARTICIPATION

External Participants: INR 500

ABOUT SYMPOSIUM

The objective of this symposium are as follows:

- Facilitate a connecting platform between the field of Electric Vehicles and Reliability Engineering.
- Understand various existing and emerging challenges in Reliability of Electric Vehicles.
- Identify the areas and gaps that are unaddressed in the field of Electric Vehicle Reliability for future projects.

ABOUT MANIPAL UNIVERSITY JAIPUR

The Manipal Education Group, with its heritage of excellence in higher education for over 60 years, launched Manipal University Jaipur (MUJ) in 2011. The permanent campus of the university, set up on 122 acers of land at Dehmi Kalan Village near Jaipur-Ajmer expressway, is by far one of the best universities in the region. Manipal University Jaipur has more than 450 well qualified faculties and more than 7500 students. In line with Manipal University's legacy of providing quality education, the university uses the latest and innovative methods and technology to impart education. The multidisciplinary university offers career-oriented courses at all levels, i.e., UG, PG and Doctoral and across diverse streams, including Engineering, Architecture, Planning, Fashion Design, Hospitality, Allied Health Sciences, Humanities, Commerce, Management, Communication, Basic Sciences, Fashion Design and Jewellery Management.

Organized By:

Department of Automobile and Mechatronics Engineering
School of Automobile, Mechanical & Mechatronics
Faculty of Engineering



MANIPAL UNIVERSITY
JAIPUR

25th - 26th July, 2018

Program Schedule

| Session | Time Slot | Topic | Description | Speakers |
|---|----------------------|---|--|---|
| DAY 1: 25th July (Wednesday) | | | | |
| Session 1 | 10:00 -10:30 | Inaugural Ceremony | Opening Ceremony with welcome of guests and speakers. | Dr. Niketa Jain |
| Session 2 | 10:30 - 11:30 | Reliability: A brief Introduction | Basic introduction to the topic of Reliability, Reliability Estimation, Reliability models, Bath tub Curve, System Reliability | Prof. O.P. Yadav |
| Tea Break 11:30 -11:45 | | | | |
| Session 3 | 11:45 - 1:00 | Reliability: A brief Introduction | Basic introduction to the topic of Reliability Estimation, Reliability models, Bath tub Curve, System Reliability | Prof. O.P. Yadav |
| Lunch Break 1:00- 2:00 | | | | |
| Session 4 | 2:00-4:30 | Electric Vehicle System | Description of EV components, Sub-systems, working of Electric Vehicles, Challenges in performance and design | Dr. Ashish Malik/ Mr. Vishnu Goyal/ Mr. Vinay Gupta |
| | 4:30- 5:30 | EV Reliability | Brief discussion on reliability modeling of battery and power electronic modules specially IGBTs and Capacitors | Prof. O.P. Yadav |
| DAY 2: 26th July (Thursday) | | | | |
| Session 1 | 10:00- 12:00 | Prognostics and diagnostics of EVs | Health monitoring and management of Electric Vehicles | Mr. Pradeep Kundu |
| Session 2 | 12:00-12:30 | System Reliability Estimation | Discussion on estimating system reliability based on sub-system and component reliability. | Dr. Niketa Jain |
| | 12:30-1:00 | Integrated Reliability Design and Maintenance Planning | Integrated solution for reliability design and maintenance decision considering the minimum life cycle cost of EVs. | Dr. Manish Rawat |
| Lunch Break 1:00- 2:00 | | | | |
| Session 3 | 2:00- 4:30 | FMEA Process | Identification of failure modes in EV and detailed discussion by user's and participants. | Prof. Rajesh Solanki, Dr. Radhika Mohan Gupta and other participants |
| Closing ceremony and Vote of Thanks. | | | | |