### **Speakers**



#### Mr. Ramesh Lakra

Mr. Ramesh Lakra is an electrical vehicle specialist with expertise for the same of about 20 years. A dedicated motor designer and researcher of electrical vehicle's impact on ICE battery technology and its military application, harnessing quantum

& plasma energy. He has an experience in the electrical, motor and controller engineering field of study. He has also presented papers on battery & electric technology for future electric ships in-wheel AFM technology. His electric vehicle related contributions have been recognized by FICCI & Ministry of Science and Technology in India. He has industry knowledge and endorsements in power train and other skills including production floor design of AFM in-wheel motor for EVs and electrical vehicle motor and generator design.



#### Mr. Sunil Trikha

35 years of rich experience in developing & manufacturing Lithium ion, Nickel Cadmium and other advance batteries for industrial, defence, railways & EV applications. He is specialised in product development, right from conceptual design to

commercialization. His other expertise are project planning, its implementation and World Class Quality Systems. With his Application engineering & market development skills, he introduced Ni-Cd and Lithium ion batteries in many new segments. He has worked with reputed organisations like Amco Saft Ltd. He was responsible for transfer of technologies of Ni-Cd batteries from ALCAD-UK, SAFT-France and of Lithium ion Battery technology from Telcordia Technologies-USA (formerly Bellcore)



#### **Shrivatsa Sinha**

Shrivatsa Sinha, a third-generation entrepreneur, is the CEO and managing partner of Precision Pressing Manufacturers. Shrivatsa has a constructive insight in business development, building strategies and delivering state-of-the -art

technological advancements in manufacturing electrical stampings and laminations. Shrivatsa is capitalizing on his technical insight and PPM's 4-decades of efficient manufacturing solutions to bring to life the future in the automotive industry with unique innovations like axial flux stator cores.

Beside above mentioned speakers, other Industrial Speakers are also expected.

## **Registration Details**

### **Registration Fees**

Category	Registration Fees (in Rs.)	Early Discount
Industry Delegates	20000.00	16000.00
MSME/ Startup	17500.00	13500.00
Academic	12000.00	8000.00

<sup>\*</sup> The amount mentioned above is excluding of GST.

### **Payment Mode**

Online Transaction NEFT/ IMPS/ Bank Transfer: Account Name: Autobot Engineers India Pvt. Ltd.

**Account Number: 201001481557 Bank Name: Indusind Bank** 

**Branch Name:** Sec. 18, Noida - 201301

INDB0000036 IFSC Code:

\*After payment, the attendees must send a copy of transaction acknowledgment via E mail, for verification.

#### For Registration

#### **Visit URL:**

edu.autobotindia.com/workshop/corporate-electric-vehicle/

#### Phone:

+91-9582390001; +91-8860040003

#### Email:

training@autobotindia.com

### **Certification and Assessment**

The participants will be required to undergo an assessment at the end of KIP. This assessment will be conducted on the basis of the 3 day training.

Grade certificate will be provided after the assessment mentioned above.



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www.autobotindia.com | www.edu.autobotindia.com info@autobotindia.com | training@autobotindia.com











05th - 07th Sep 2019 - Bangalore 18th - 20th Oct 2019 - Gurgaon

25th - 27th Oct 2019 - Pune



3 Days Knowledge Improvement Program on

**ELECTRIC VEHICLE: MOTOR AND BATTERY TECHNOLOGY** 

Cer fied By:











### **Abstract**

Developments are moving fast. Electric vehicle drives offer a number of advantages over conventional internal combustion engines, especially in terms of lower local emissions, higher energy efficiency, and decreased dependency upon oil. Electric Vehicles could represent a sustainable technology path. Electric vehicles are the future of transportation. Electric mobility has become an essential part of the energy transition, and will imply significant changes for vehicle manufacturers, governments, companies and individuals.

### **About the Program**

3 days KIP (Knowledge Improvement Program) on Electric Vehicle - Motor and Battery Technology is specially designed after giving training to over 100+industry professionals and feedback by R&D, Senior engineers, mid-level engineers from reputed OEM's such as Maruti Suzuki Ltd. Magna Steyr, Bajaj Auto ltd. Hero Motocorp, FCA, TATA and many more. This program will give in-depth knowledge and broad understanding on EV motor, it's design and applica ons, different battery chemetries, Battery Management System(BMS) and it's latest technologies being used globally.

The key agenda of this program is to upgrade the knowledge of EV enthusiast and professionals on EV motor and battery selection as per application, along with updated information on technology being explored in these sectors.

## **About the Company**

Autobot Engineers India Pvt. Ltd. known as "Autobot India" is a pioneer and leading brand in electric vehicle sector which offers One Stop solutions in domain of electric vehicle, which includes training, consulting, product and development with complete testing of the product.

Autobot India offers end-to-end training & development, course development, employability enhancement solutions to the enterprises and institutes in the specific domains of electric vehicle technology, energy storage systems, BTMS, charging technology, and safety.

Autobot India courses are ISO 29990:2010 certified by American Board Accreditation Services (ABAS, USA) which is internationally recognised along with other company credentials such as Ministry of Micro, Small & Medium Enterprises (MSME); Department of Industry Policy and Promotion (DIPP) and Startup India.

## Who can participate?

- FEV concept developing; OEM professionals or Manufacturing Entrepreneurs.
- Working professionals for battery pack development, EV assembly, EV drivetrain engineer, motor design engineer
- Engineer Trainees, Quality Engineers, Supervisors, Mfg. Head, Managers
- EV entrepreneurs, engineering students and faculties

## **Pre Requisite**

- Knowledge of electrical machines.
- Knowledge of motor architecture and working.
- Knowledge of electrical and electromagnetic concepts.
- Knowledge of battery chemistry and characteristics.

## **Learning Outcome**

- Fundamental understanding of EV Powertrain and its components.
- How to select and design electric motor for specific vehicle requirements.
- Understanding of Battery pack material used and cell stacking.
- Understanding of working and architecture of BMS and cell balancing.
- Understanding of motor control charcateristics.
- To apply fundamentals of electric vehicle engineering in your project.

## **Course Module**

### Day 1

- 08.30 Registration
- 09.00 Introduction
- 09.30 Electric Vehicle configuration and architecture
- 11.00 Motor classification and single motor drive
- 13.00 Lunch Break
- 14.00 Motor Fundamentals and Design Selection
- 16.00 BLDC Control and Switching configuration

### Day 2

- 09.00 AC Motor and PWM
- 11.00 Practical Demo and Case Study
- 12.30 Lunch Break
- 13.30 EMI and EMC Basics
- 15.30 Guest Session Axial Flux Motor
- 16.15 Conclusion

### Day 3

- 09.00 Introduction Battery Technologies
- 11.00 Overview of BMS/ battery test parameters
- 12.30 Lunch Break
- 13.30 Battery Design Consideration
- 16.15 Conclusion

# **Date and Venue**

05th - 07th Sep 2019 - Bangalore

18th - 20th Oct 2019 - Gurgaon

25<sup>th</sup> - 27<sup>th</sup> Oct 2019 - Pune

<sup>\*</sup>Autobot India holds the right to change the dates, schedule, contents, speakers, venue, etc. for program without notice.