

# ABOUT NIT SRINAGAR

National Institute of Technology, Srinagar was established in 1960 as the Regional Engineering College, Srinagar. The Institute acquired the status of NIT in August, 2003 and attained full autonomy in its Academics. In 2007, it became an Institute of National Importance. It is one of the 31 NITs and it is directly under the control of the MHRD. The Institute is situated at the banks of world-famous Dal Lake. Besides running various undergraduate, post graduate and doctoral programmes, Institute has also established an Innovation Incubation and Entrepreneurship Development (IIED) centre.



## ORGANIZING COMMITTEE

### Chief Patron

**Prof. Rakesh Sehgal**  
Director, NIT Srinagar (J&K)

### Patron

**Prof. Sheikh Nazir Ahmad**  
Head of Department, Mechanical Engineering

### Coordinator

**Dr. Harveer Singh Pali**  
Assistant Professor  
Department of Mechanical Engineering

### Co-Coordinator(s)

**Dr. Mohammad Mursaleen**  
Assistant Professor, Mechanical Engineering  
**Dr. Mohammad Mohsin Khan**  
Assistant Professor, Mechanical Engineering  
**Dr. Neeraj Gupta**  
Assistant Professor, Electrical Engineering

### Organizing Team

Ashsih Kumar Singh, PhD Scholar, MED  
Akash Kumar Dwivedi, PhD Scholar, MED  
Ashique Lone, PhD Scholar, EED

### For Further Details

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**One Week**

## Faculty Development Program

On

**Opportunity and Challenges for  
Electric Vehicles in the Automotive**

**26-30, July 2021**



**Organized by  
National Institute of Technology Srinagar  
Srinagar-190006**

**Sponsored by**



**AICTE Training and Learning (ATAL)  
Academy, AICTE New Delhi**

## ABOUT THE PROGRAMME

Electrical Vehicle (EV) is a prominent solution of fuel crises and environmental pollution for global transportation sector. This Programme is designed to provide the state-of-the-art trends and advancements in Electric Vehicle. The Programme will focus on theoretical aspects as well as providing hands on experience to the participants. It will enable them to promote industry and institute collaborations by working on the current research problems. The participants will be introduced to fundamentals of Electric Vehicles, components such as cables, battery, drives and controllers used in of Electric Vehicles and develop the understanding of how to use optimization techniques such as AI and ML to improve the features of EV. The participants will be trained with hands-on approach in order to have an in-depth insight into the domain of Automobile and expose them to Feasibility & future scope of EV.

### TOPICS TO BE COVERED

- Introduction about Electrical Vehicle
- Research opportunities in Electric Vehicle Technology
- Different charging standards & charging infrastructure
- Vehicle Dynamics on Electric and Hybrid Electric Vehicles
- Battery thermal management
- Recent EV Technologies
- Testing of battery, E-motor and inverters
- Motor selection and it's control for Electric Vehicles
- Electric Motor technology for EV/HEV
- Future Opportunity in Electric vehicles

**Certificate:** Certificate to the participants will be issued on successful completion of the FDP as per the ATAL FDP guidelines.

## RESOURCE PERSON



Prof. C S Shankar Ram, IIT Madras



Prof. Naveen Kumar, DTU Delhi



Dr. Gaurav Kumar, IIIT Bhagalpur



Prof. BK Panigrahi, IIT Delhi



Dr. Fitwi Yohannes, Sultan Qaboos University



Dr. Arun Kumar, MNIT Jaipur



Prof. Navneet Arora, IIT Roorkee



Dr. Aashish Bohre, NIT Durgapur



Er. Rakesh Tyagi, AVL Technology Pine



Dr. A V Ravi Teja, IIT Ropar



Dr. T K Bera, NIT Durgapur



Dr. Neeraj Gupta, NIT Srinagar

**Registration Fee:** There is no registration fee for the program. Participants are required to register at <https://atalacademy.aicte-india.org/participant/workshop> by selecting this FDP.

**Selection:** The number of Participants is limited to 200 and will be selected on the first-come, first-served basis. The selected candidates will be intimated through e-mail only.

**Key dates:** Last Date for Receipt of Application: 23 July 2021. Date of the FDP: 26-30 July, 2021

## VISION OF THE INSTITUTE

To establish a unique identity of a pioneer technical Institute for NIT Srinagar by developing a high quality technical manpower and technological resources that aim at economic and social development of the nation as a whole and the region in particular keeping in view global challenges.

## MISSION OF THE INSTITUTE

- (1) The broad mission of NIT Srinagar is to create a strong and transformative technical educational environment in which fresh ideas, moral principles, research and excellence nurture with international standards.
- (2) Technically educated and broadly talented engineers, future innovators and entrepreneurs, graduate with understanding the needs and the problems of the industry, the society, the state, and the nation.
- (3) We promise to inculcate the highest degree of confidence, professionalism, academic excellence and engineering ethics in budding engineers.














### Expected Outcomes of FDP:

- Participants will get in depth understanding of EV systems
- List out the Research activities on Electric vehicles.
- Understand the Battery Management System.
- Figure out HV-EHV potential and avenues for future

# ATAL FDP on Opportunity and Challenges for Electric Vehicles in the Automotive

26-30, July 2021

Sponsored by AICTE Training and Learning (ATAL) Academy  
Organized by National Institute of Technology Srinagar, J&K

Day (Date)	Session – I (9:30 am to 11:00 am)	Tea Break	Session – II (11:30 am to 1:00 pm)	Lunch Break	Session – I (2:30 pm to 04:00 pm)
Day 1 26-07-2021	Inaural Session		Dr. T. K. Bera, NIT Durgarpur		Dr, Neeraj Gupta, NIT Srinagar
	Prof. C S Shankar Ram, IIT Madras 	Topic: A Vehicle Dynamics on Electric and Hybrid Electric Vehicles			
Day 2 27-07-2021	Prof. B K Panigrahi, IIT Delhi 	Tea Break	Dr. Ftwi Yohanness Hagos, Sultan Qaboos University, Sultanate of Oman 	Lunch Break	Er. Rakesh Tyagi, Avl India Private Limited Pune 
	Topic: Electic vehicle & its charging infrastructure		Topic: Battery thermal management		Topic: Testing of battery, E-motor and inverters
Day 3 28-07-2021	Prof. Navneet Arora, IIT Roorkee 	Tea Break	Dr. Aashish Bohre, NIT Durgarpur 	Lunch Break	Dr. Dhinesh Balasubramanian, Khon Kean University, Thailand 
	Motivational Talk: Manage your strengths		Topic: Electric Motor technology for EV/HEV		Topic: Introduction to Hybrid Vehicle
Day 4 29-07-2021	Dr. A V Ravi Teja, IIT Ropar 	Tea Break	Prof. Naveen Kumar, DTU Delhi 	Lunch Break	Er. Avinash Kumar Singh Founder & CEO of DIYguru 
	Topic: Topic: Motor selection and it's control for Electric Vehicles		Biofuels for EV Application: Status and opportunity for India		Topic: Future Opportunity in Electric vehicles
Day 5 30-07-2021	Dr. Gaurav Kumar, IIIT Bhagalpur 	Tea Break	Dr. Arun Kumar, MNIT Jaipur 	Lunch Break	Valedictory Session
	Topic: Types of EV, HEV and switch Reluctance Motor		Topic: EV Charging infrastructure development		

\*\*\*Participants are required to register at <https://atalacademy.aicte-india.org/participant/workshop> by selecting this FDP Title.