



Organizing Committee

Department of Electrical Engineering,
Sardar Vallabhbhai National Institute of
Technology
Surat, Gujarat - 395007

One Week Short Term Course (Online) On

EV Charging Technology and Infrastructure Development (EVCTID-2023)

30th March - 3rd April 2023

Course Coordinators

Dr. Chandani P. Gor, Assistant Professor,
Dr. Sukanta Halder, Assistant Professor,
Dr. K.V.Praveen Kumar, Assistant Professor,
Dr. Varsha A Shah, Professor



About the Course

The adoption of electric vehicles (EVs) in India is growing, but the need for charging infrastructure hinders its progress. To make the great switch from petrol to electric cars, EV owners must be able to charge their vehicles conveniently and quickly. Hence, the country needs an efficient EV charging infrastructure. This leads to increased interest in research and development of charging infrastructure and increased investment in the sector of charging stations to support the growing EV market in India. The important challenges for future-ready EV charging infrastructure are building enough charging stations suitable for various kinds of EVs in the right places and having the electric grid to support its trouble-free operation. To target these main challenges in the development of suitable charging infrastructure, this course covers both fundamental and advanced concepts of energy storage modelling, AI applications in EV charging, integration of renewable energy sources with EV, novel concepts of Electric Vehicle Supply Equipment (EVSE) control and battery swapping and global approaches to sustainable transportation by supporting EV charging infrastructure. The course is designed for faculties, researchers, and engineers who are interested to work or setup their own start-ups in the field of battery charger and charging station.

Course Objective

The objective of this course is to fill the gap between the research and industry via theoretical sessions explaining the various aspects of advanced electric vehicle charging technology for developing the sustained transportation system. Along with that virtual laboratory sessions will also be conducted to validate the performance benefits of the advanced converter control algorithms learned during the theoretical sessions.

About the Institute

The institute, one of the pioneering engineering institutions of the country, was established in 1961 as Sardar Vallabhbhai Regional College of Engineering & Technology and was given a status of National Institute of Technology, in 2002. At present, there are six undergraduate courses, seventeen post graduate courses and Ph.D. programmes in all disciplines of engineering and applied sciences. It has an excellent placement record with a number of top-ranking companies visiting the campus. The institute is located at Surat, about 260 kms North of Mumbai and south of Ahmedabad (250 kms)/Vadodara (150 kms) by road. Surat is the industrial city with historical importance and is well known for Textile, Jari and Diamond industries. The leading industries like RIL, ONGC, KRIBHCO, L&T, ESSAR, NTPC, and GAIL are established in Surat Hazira area.

About the Department

The department is one of the pioneering departments of the Institute. Over the years, the department has progressed at a rapid pace with development in both the spheres of infrastructure facilities and academic programs. The department has highly qualified faculty members engaged in teaching and research with the aim of achieving excellence in the field of Electrical Engineering.

The department offers Under Graduate course in Electrical Engineering and Post Graduate Programs in **Power Electronics & Electrical Drives, Power System and Control & Instrumentation**. The department offers Ph.D. Program to promote basic research activities in the various areas of Electrical Engineering. The consultancy and testing services are also rendered by the department.

Who can apply:

- Research Scholars
- Faculty members of Engineering Colleges
- Practicing Engineers from industries
- PG/UG/Diploma students

Speakers:

Faculty members from IITs/NITs/ Experts from Industries/Others.

Course Content

- Overview of Electric Vehicle.
- Advanced Battery Technology and Battery Management System.
- Machine Learning for BMS and EV.
- Charging Strategies and SOC Estimation.
- Contact and Contactless Battery Charging Technologies.
- Advanced Power Converter Topologies for Off-board and On-board Chargers.
- Standards for charging and communication protocols.
- Supply System of EV Charging Stations (EVSE).
- Charging Station and Battery Swapping Station and their associated research aspects.
- Renewable Grid Connected Smart E-mobility (G2V, V2G).
- Guidelines for Startup in EV.

Patron:

Prof. Anupam Shukla, Director, SVNIT, Surat.

Organizing Committee:

Department of Electrical Engineering

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Registration and General Information.

Applications for the participation in the 'course' should be sent to the following link: <https://forms.gle/8SmahgAj22Ty9PLE9>

or sent via following email id as well as scan copy application form in email
evctid23@gmail.com

The last date of registration is 28th March, 2023. The candidates would be informed of their selection through E-mail by **29st March, 2023.**

Course fee

Students/ Research scholars: Rs.300/- + 18% GST

Institute/ College Teachers: Rs. 500/- + 18% GST

Delegates from industries: Rs. 1000/- + 18% GST

The non-refundable registration fee should be sent through Net-banking/Online Payment.

Bank Account Name: Director, SVNIT-CCE

SBI Account No.: 37030749143

Bank Name: State Bank of India

IFSC Code: SBIN0003320

Branch: SVRCET Branch,

Ichchhanath, Surat,

Gujarat, 395007.

While paying through the net-banking, in remarks the purpose is to be written as "EVCTID SVNIT".

(Kindly save the receipt or take screenshot of the payment)