Short term course on

Advances in Power Electronics Converter for Electric Vehicles (APECEV-2024)

February 5-9, 2024

Registration Form

Please complete the details below and mail along with the registration fee.

1. Name (Mr./Ms/Dr/Mrs.)_____

2. Category: **Academic/Industry/Research Scholar/Students**

3. Organization: _____

4.Address:

_____

_____

_____

5. Tel. No. (Mob): _____

6.E-mail ID: _____

7.Highest Acad. Qualification: _____

8. Transaction id.:_____Dt _____

9.Amount Rs._____ Bank Name:_____

Signature of the Candidate

Signature of the Head of the Department/Institution

Resource Persons:

Academician from IITs, NITs, Reputed Universities, CDAC and professionals from industries

Course content:

- Overview of Power Electronics switching Devices
- Overview of Electric Vehicles system
- Power Electronics Converters and Advance Power Electronics Converters for EV.
- Multi-level converter for EV.
- Advance Control technique for Electrical Vehicle design.
- Different control strategy of PMSM and BLDC Motor Drives for EV.
- Fundamental of soft computing used in EV technology.

Patron:

Prof. S. Sundar, Director

Organizing committee:

Dr. P.K. Biswas, Associate Professor, NIT Mizoram
Prof. S.Chatterjee, Professor, NIT Mizoram
Dr. S. Majumder, Assistant Professor, NIT Mizoram
Dr. A. Bhattacharya, Assistant Professor, NIT Mizoram
Dr. R. Kumar, Assistant Professor, NIT Mizoram
Dr. K. De, Assistant Professor, NIT Mizoram
Dr. U. Das, Assistant Professor, NIT Mizoram
Dr. S. Debnath, Assistant Professor, NIT Mizoram
Dr. Nitesh Kumar, T.A, NIT Mizoram
Mr. Lalrinmawia,T.A, NIT Mizoram
Dr. Avinash Kumar, PDF

Advisory committee:

Prof. S. Sundar, Director, NIT Mizoram
Prof. A. Koya, Registrar (i/c), NIT Mizoram
Prof. A. Shukla, Professor, NIT Mizoram
Prof. D. Chatterjee, Professor, JU
Prof. D,Das , Professor, IIT Kharagpur
Prof. K.Chatterjee, Professor, IIT Bombay
Smt. Sunita Verma, Scientist G, GC (R & D in Electronics & IT), MeitY.
Dr. Om Krishnan Singh, Scientist D, ESDA Div., MeitY.
Shri Renji V Chacko, Sr. Director, CDAC(T) & CI NaMPET-III

NaMPET @ NITMZ

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Advances in Power Electronics Converter for Electric Vehicles (APECEV-2024)

February 5-9, 2024

Organized by

Department of
Electrical Engineering
National Institute of Technology Mizoram

Under the aegis of

NaMPET Phase III

National Mission on
Power Electronics Technology
Towards Power Electronics Excellence

An Initiative of

Ministry of Electronics & IT (MeitY)

Nodal Centre

CDAC

Preamble:

Vehicle power electronics primarily process and control the flow of electrical energy in hybrid and plug-in electric vehicles, including plug-in electric vehicles. They also control the speed of the motor, and the torque it produces. Finally, power electronics convert and distribute electrical power to other vehicle systems such as heating and ventilation, lighting, and infotainment. Power electronics components include inverters, DC/DC converters, and chargers (for plug-in electric vehicles). With the increasing interests on energy efficiency, energy cost, and environmental protection, the development of electric vehicles (EVs) technology has been obvious nowadays. Based on the air pollution regulations in the USA and Europe as well as a lot of countries in the world, the fossil-fueled vehicles have been targeted as the major source of emissions that create air pollution leading to the global warming crisis. The oil resources in the earth are limited and the new discoveries of it are at a slower pace than the increase in demand especially with the increase in the world population so that the need for alternatives is becoming crucial. The technologies involved in EVs are diversified and include electrical and electronics engineering, mechanical engineering, automotive engineering, and chemical engineering. EVs depend on which called electric propulsion, in which an electric motor is used to drive the vehicle instead of the internal combustion engine (ICE) and the energy sources are batteries, fuel cells, or capacitors instead of gasoline or diesel fuel in the conventional ICE vehicles. Thus, power electronics technology plays an important role in the electrical propulsion system in order to efficiently drive the electric motor of the vehicle and control the power converters and the associated electronic circuits.

About National Mission on Power Electronics Technology (NaMPET):

National Mission on Power Electronics Technology-NaMPET is a national mission programme launched by the Ministry of Electronics and Information Technology (MeitY), Govt. of India, with a vision to provide the country with the capability to become a dominant player in Power Electronics Technology. Through this National level R&D Programme, Research, Development, Deployment and Commercialization of Power Electronics Technology is envisaged by enhancing the indigenous R&D expertise and infrastructure in the country with active participation from academic institutions and industries. Centre for Development of Advanced Computing, CDAC, Thiruvananthapuram, a premier R&D organization under MeitY, is the Nodal Centre coordinating the activities of NaMPET.

The first phase of the programme was successfully completed in 2010 and the activities under NaMPET Phase1 focused on R&D, infrastructure and awareness creation. Considering the impact, MeitY initiated the second phase of NaMPET (NaMPET Phase-II) in January 2012 for five years aiming further strengthening of power electronics technology base in the country.

About Centre for Development of Advancement Computing (CDAC):

CDAC undertakes application oriented research, design and development in electronics, so as to generate state-of-the-art producible, marketable, field maintainable products and systems. The Power Electronics group has wide experience of developing successful power electronics products/systems, and a very good industry interaction by way of transfer of technology, field implementation etc. It has very close association with reputed academic institutions like IISc, IITs, NITs etc. CDAC has contributed significantly to the growth of industry through indigenous development of commercially viable products and systems, foreign technology absorption, consultancy, training and turnkey implementation of contract projects.

About the Institute:

NIT Mizoram was started in the year 2010 in the scenically beautiful state of Mizoram with an objective to impart education, research & training leading to B.Tech, M.Tech & PhD. degrees. This institute has been declared as an Institute of National Importance by an Act of Parliament. Wrapped between clouds and mountain rocks, which adds to its beauty it is amongst the most educated states of our country with a literacy rate of 91%. It also beholds a very peaceful and calm environment suitable for studies. The institute is situated in the capital city Aizawl which can be reached by Air through Kolkata / Guwahati. Silchar is the nearest railway station to Aizawl. The journey (by road) from Silchar to Aizawl may take approx. 6 Hrs. Now NIT Mizoram is working under the Ministry of Human Resource Development, Govt. of India.

About the Department:

Electrical Engineering was one of the first three disciplines in the B. Tech programme that had started in NIT Mizoram since July 2010, while it was functioning under the mentor Institute, VNIT, Nagpur. Since its inception in 2010, the department has been actively engaged in teaching and research in diverse fields of Electrical Engineering with well experienced faculty. The department offers a UG Program in Electrical Engineering, PG Programs in the specializations of Power Electronics & Drives and also offers Ph.D Programs of Electrical Engineering. All along, the department has been at the modernization of the curriculum for both UG and PG courses.

Registration fee:

- Professionals from Industry and R&D Units: Rs. 4000/-
- Faculty members from universities/institutes Rs. 2000/-
- Research scholars: Rs. 1000/-
- Students (B.Tech and M.Tech): Rs.500/-

Registration:

The registration fee is to be paid through online in the below account:

A/C No.:33755447886
A/C Name: NIT Mizoram
Branch: Bawngkawn
IFSC: SBIN0007059

Application in the prescribed format duly sponsored by the Head of the Institution along with the registration fee slip have to sent to the following id:
anagha.eee@nitmz.ac.in, suman.eee@nitmz.ac.in

Important dates:

Last date for registration: **1st February, 2024**
[Complete application should be received to the coordinators by **2nd February,2024**]
Selection intimation to the applicant: **3rd February, 2024**

Boarding and Lodging:

No TA and DA and accommodation will be provided to out station participants.

Program convener:

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NIT Mizoram India
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Co-Coordinators

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Assistant Professor
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