About the Online FDP

The objective of this online FDP is to promote basic and advanced research related to energy storage and its application for sustainable developments. Electrochemical energy storages like batteries, supercapacitors, fuel cells have been a leading solution for electrified/green transportation, renewable power grid, consumer electronics, etc. by taking care of the intermittency problem of renewable power sources. Efficient modeling, estimation, optimal control, cyber security, etc. are the primary research concern for efficient utilization of energy storage devices. Hence, this FDP plans to bring more awareness and instil research interest in the related areas into the minds of experienced as well as budding researchers.

Topics to be covered in the workshop

- Introduction to energy storage devices and sustainable development
- Energy storage modeling
- State-of-charge estimation
- Health diagnosis through estimation
- Optimal sizing
- Energy management/control techniques in EV, HEV, Building
- Role of power electronic converters in energy storage systems
- Cyber-security of CPS
- Distributed energy resources and smart grid

Laboratory Demonstration on:

- Energy management of hybrid energy storage based systems.
- Implementation of MPPT in energy storage based PV systems.

Organizing Committee

Patron

Prof. Sivaji Bandyopadhyay, Director, NIT Silchar.

Chairman

Prof. S. H. Laskar, HOD, Dept. of EIE, NIT Silchar.
Prof. N. B. Deb Choudhury, HOD, EE, NIT Silchar.

Advisory Committee

Prof. M. Ali Ahmed, Dean (R&C), NIT Silchar.
Prof. A. K. Barbhuiya, Dean (Academic), NIT Silchar.
Prof. R. Gupta, Chairman, IEEE CSS-IMS Kolkata Chapter.

Resource Persons

Dr. Prabir K Dash, Scientist-D, MNRE.

Dr. Somnath Sengupta, IIT Kharagpur.

Dr. Jahangir Hossain, University of Technology Sydney.

Dr. Hari Om Bansal, BITS Pilani.

Dr. Arijit Guha, NIT Rourkela; Ex-Senior Engineer, Samsung Elect. Corp.

Dr. Arunava Naha, Uppsala University, Sweden; Ex-Senior Engineer, Samsung Elect. Corp.

Dr. Utpal Goswami, STA, MNRE.

Dr. Kaushik Das, Technical University of Denmark.

Dr. Altaf Badar, NIT Warangal.

Dr. Ashish Khandelwal, Ex-Senior Engineer, Samsung Elect. Corp., USA

Dr. Monalisa Pattnaik, NIT Rourkela.

Dr. Binoy Krishna Roy, NIT Silchar.

Dr. Munmun Khanra, NIT Silchar.

Schedule (Everyday)

Session 1: 9:30 am – 11:15 am
Session 2: 11:45 am – 1:30 pm
Session 3: 2:45 pm – 4.30 pm

AICTE sponsored AICTE Training and Learning (ATAL) Academy
(Online FDP)
On
Energy Storage for Sustainable Development
[26 – 30 Sept. 2020]

Coordinators

Dr. Munmun Khanra,
Assistant Prof., Dept. of EIE

Dr. B. K. Roy,
Professor, Dept. of EE

IEEE Joint CSS-IMS Kolkata Chapter

Organized by:

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About NIT Silchar

National Institute of Technology Silchar is one of the 31 National Institutes of Technology of India and was established in 1967 as a Regional Engineering College in Assam. In 2002, it was upgraded to the status of National Institute of Technology and was declared as Institute of National Importance under the National Institutes of Technology Act, 2007. NIT Silchar is situated on the bank of river Barak and has a sprawling green campus spread over 625 acres of land in the outskirts of Silchar.

NIT Silchar is a fully residential institution with ten hostels for boys students, three hostels for girls students and one hostel for married research scholar. It has six engineering degree offering departments and five non-engineering departments. All the departments of the institute offer M.Tech and Ph.D programmes.

Department of EIE

The Department of Electronics & Instrumentation Engineering (EIE) was established in 2008. The department offers a B.Tech. programme in Electronics and Instrumentation Engg., an M.Tech. programme in Instrumentation Engg., and PhD programme. The department has several well equipped laboratories for the regular course as well as research. It has a library containing basic books needed for students and faculty members too. Various research and developmental activities are taken up by the department to put the students on busy schedules enabling them to blend to the modern industrial requirements. The department regularly organizes seminars, workshops, conferences at national and international level.

Eligibility

The faculty members of the AICTE approved institutions, research scholars, PG, Scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry, etc.) and staff of host institutions

Selection

The seats are limited to 200 candidates. The intimation regarding selection will be sent to the candidates by email as per schedule.

Conduct of Test and Issuance of Certificate

- Tests shall be conducted during the program.
- The certificate shall be issued to those who have minimum 80% attendance and have scored at least 60% in the test.

Registration Procedure and Fee

Registration Fee: *No fee will be charged from the participants of AICTE approved institutes.*
Link for online registration:
https://www.aicte-india.org/atal

Department of Electrical Engineering

It is one of the finest and well equipped Electrical Engg. Department. It offers a B.Tech. Programme in Electrical Engineering, an M.Tech. Programme in Power Energy Systems Engineering, an M.Tech. programme in Control and Industrial Automation, and also a well integrated Ph.D. programme. The department offers core courses in Power Systems, Control Systems, Electrical Machines, Instrumentation, etc. The department also has its own society, the 'Electra' comprising of the faculty members and the 400 strong student members. It caters to all the academic and co-curricular persona of the branch. The programmes are NBA accredited.

Important Dates

Registration closes on: 20th Sept. 2020

Intimation date: 21st Sept. 2020

Event date: 26-30 Sept. 2020

AICTE Training and Learning (ATAL) Academy (Online FDP)
on

Energy Storage for Sustainable Development

(26 – 30 Sept. 2020)

Organized by
National Institute of Technology Silchar

In collaboration with
IEEE CSS-IMS Kolkata Chapter

Expected schedule

TIME	26.09.2020 Day 1	27.09.2020 Day 2	28.09.2020 Day 3	29.09.2020 Day 4	30.09.2020 Day 5
9:30 am – 11:15am	Inaugural Ceremony (9.10-9.30am) Introduction to energy storage sustainable development (Binoy K Roy, NIT Silchar)	Energy management in EV/HEV (Somnath Sengupta, I Kharagpur)	Optimal energy management in EV/HEV V2G integration (Hari Om Bansal, BITS Pilani)	PV assisted hybrid energy storage system Part 1 (Munmun Khanra, NIT Silchar)	Power electronic convert in sustainable development Design aspect (Monalisa Pattnaik, NIT Rourkela)
11:45 am – 1:30 pm	Solar PV storage and sustainable development (Prabir K. Dash, MNRE)	Sustainable development smart building, smart city (Utpal Goswami, MNRE)	Distributed energy source energy storage and smart grid Part 1 (Jahangir Hossain, University of Technology Sydney)	PV assisted hybrid energy storage system Part 2 (Laboratory demonstration) (Munmun Khanra, NIT Silchar)	Energy management smart building (Altaf Badar, NIT Warangal)
2.45pm - 4:30 pm	Battery modelling, estimation, diagnosis (Arijit Guha, NIT Rourkela)	Security of physical la of cyber physical systems (Arunava Naha, Uppsal University Sweden)	Battery fault and diagno machine learning application (Ashish Khandelwal, -Ex Samsung Electronic cor USA) ***	Wind-solar storage based hybrid power plant (Kaushik Das, Technical University of Denmark)	Distributed energy source energy storage and smart grid Part 2 (Jahangir Hossain, University of Technology Sydney)
4:30pm – 4.45pm	Test				Test and Valedictory session

*** Exact time will be announced later