Two Week Hybrid Faculty Development Programme Under AICTE Training & Learning (ATAL) Academy

21st November – 2nd December 2022

SUSTAINABLE AND ROBUST ELECTROCHEMICAL TECHNOLOGIES FOR INDUSTRIAL APPLICATIONS (SRETIA 2022)

Department of Chemical Engineering

National Institute of Technology Calicut

NIT Campus P.O., Kozhikode – 673601

Programme Objectives

This FDP would like to discuss the most recent developments in the electrochemical processes for a clean and green environment. The scope of this FDP includes the exploration of new aspects in membrane-based electrodes, water remediation processes, fuel cells, nano electrochemistry, electro-analysis, electrochemical reactor designs, and other emerging electrochemical techniques, as well as their applications in fields such as health, environmental protection, and agriculture.

Programme Outcomes

Participants are expected to gain enhanced knowledge of various emerging electrochemical techniques for the sustainable environment and industrial applications, as well as a better understanding and practice of pedagogy, after completing this course. Further, an insight into electrochemical instruments, techniques and practical skills will be acquired.

Who should attend?

- Faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry. Bureaucrats / Technicians / Professionals / School Teachers and staff of host institutions.
- Max Limit- 50 participants from the HEIs of the same city / within 100 km of host institute.
- Accommodation and travel expenditure have to be borne by the participants or the nominating organization

Resource Persons

Dr. Prasad Krishna
Director
NIT Calicut

Dr. S. Ramanathan
Professor
IIT Madras

Dr. Prasenjit Mondal
Professor
IIT Roorkee

Dr. N. Anantharaman
Professor (HAG)
NIT Trichy

Dr. S. Vasudevan
Sr. Principal Scientist
CSIR-CECRI

Dr. S. Venkata Mohan
Professor
AcSIR

Dr. Nidheesh P.V
Sr. Scientist
NEERI Nagpur

Dr. R. Aishwarya
Asst. Prof.
IIM Kozhikode

Dr. S. Gajalakshmi
Asso. Prof.
Pondicherry university

Mr. S. Radhakrishnan
Sr. Manager MILMA Diary
Kozhikode

Dr. Sreedharan R
Professor
NIT Calicut

Dr. Anantha Singh T S
Asst. Prof.
NIT Calicut

Dr. V. Sivasubramanian
Professor
NIT Calicut

Dr. S. Bhuvaneshwari
Asso. Prof.
NIT Calicut

Mode of FDP

Mode of the FDP is **Hybrid**. First week (21st – 26th November 2022) of the FDP will be **Online** and second week (28th November – 2nd December 2022) of the FDP will be **Offline.**

Register at –

https://atalacademy.aicte-india.org

About NIT Calicut

National Institute of Technology Calicut was founded as Regional Engineering College, Calicut, in 1961. Set in a picturesque at the foothills of the Western Ghats, it is located about 22 km north-east of Calicut city. It is a prestigious institute with a reputation for excellence at undergraduate, postgraduate and research levels, fostering the spirit of national integration among the students and close interaction with industry.

Highlights

- Free Registration
- Learn from Experts
- Hands on Training
- Hybrid Mode
- Participation Certificate

About Chemical Engineering Department

Established in 2006, the Department of Chemical Engineering of the National Institute of Technology Calicut offers programmes leading to Bachelor's Degree, Master's Degree as well as Ph.D. In addition to these regular programmes, this department is also actively involved in conducting International Conferences, GIAN, Faculty Development Programmes, Job-Oriented Short-term Training Programmes and continuing education programmes for engineering professionals and academic faculty. The R&D projects undertaken in the past were sponsored by the various agencies like the Ministry of Human Resources Development (MHRD), Department of Science &Technology (DST), Science and Engineering Research Board (SERB) and the Kerala State Council for Science, Technology and Environment (KSCSTE).

About ATAL Academy

AICTE Training and Learning (ATAL) Academy is established to empower faculty to achieve goals of Higher Education such as access, equity, and quality. AICTE is committed to the development of quality technical education in the country by initiating various schemes launched by the Ministry of Education, Govt. of India, such as SWAYAM, MOOCs, Start-up Initiatives, Prime Minister Kaushal Vikas Yojana, Sansad Adarsh Gram Yojana (SAGY), Swachh Bharat/ Unnat Bharat Abhiyan, Yoga Activities etc.

Topics

- Sustainable Water Purification Solutions from Electrochemical Approaches
- Electro-Fenton and its applications in wastewater treatment
- Electrochemical sensors for the health and agriculture sector
- Electrochemical process for the removal of Arsenic/Fluoride from groundwater
- Bio-electrochemical systems (MFC and MEC): Fundamentals, applications, and energy recovery from wastewater
- Wastewater treatment using Electro-coagulation Techniques
- Electrochemical impedance spectroscopy
- Batteries
- National Education Policy (NEP) 2020
- Indian values & ethos, Classroom conduct & behaviour (teaching – learning psychology)
- Life Skills such as time and stress management
- Research Methodology
- Hands on session on Electrochemical workstation and Electrochemical analysis

Co-ordinators

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DEPARTMENT OF CHEMICAL ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY

ATAL SPONSORED FACULTY DEVELOPMENT PROGRAMME ON SUSTAINABLE AND ROBUST ELECTROCHEMICAL TECHNOLOGIES FOR INDUSTRIAL APPLICATIONS (SRETIA 2022)

DETAILED SESSION PLANNING: Week 1 (21st – 26th November 2022) **– Online (7:00 pm – 9:30 pm)**

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
21/11/2022	**22/11/2022**	**23/11/2022**	**24/11/2022**	**25/11/2022**	**26/11/2022**
7:00 – 7:50 Session 1 (I) **Dr S. Vasudevan, CECRI**	7:00 – 7:50 Session 2 (I) **Dr. R. Aishwarya, IIM Kozhikode**	7:00 – 7:50 Session 3 (I) **Dr. S. Gajalakshmi, Pondicherry university**	7:00 – 7:50 Session 4 (I) **Dr. Anantha Singh T S, NITC**	7:00 – 7:50 Session 5 (I) **Dr. S. Ramanathan, IIT Madras**	7:00 – 7:50 Session 6 (I) **Dr. S. Ramanathan, IIT Madras**
8:00 – 8:50 Session 1 (II) **Dr. S. Vasudevan, CECRI**	8:00 – 8:50 Session 2 (II) **Dr. R. Aishwarya IIM Kozhikode**	8:00 – 8:50 Session 3 (II) **Dr. S. Gajalakshmi, Pondicherry University**	8:00 – 8:50 Session 4 (II) **Dr. Anantha Singh T S, NITC**	8:00 – 8:50 Session 5 (II) **Dr. S. Bhuvaneshwari, NITC**	8:00 – 8:50 Session 6 (II) **Dr. V. Sivasubramanian, NITC**
9:00 – 9:30 Session 1 Interactions **Dr. S. Bhuvaneshwari, NITC**	9:00 – 9:30 Session 2 Interactions **Dr. V. Sivasubramanian, NITC**	9:00 – 9:30 Session 3 Interactions **Dr. S. Bhuvaneshwari, NITC**	9:00 – 9:30 Session 4 Interactions **Dr. V. Sivasubramanian, NITC**	9:00 – 9:30 Session 5 Interactions **Dr. S. Bhuvaneshwari, NITC**	9:00 – 9:30 Week 1 MCQs **Dr. V. Sivasubramanian, NITC**

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DETAILED SESSION PLANNING: Week 2 (28th November – 2nd December 2022) **– Offline (9:30 am – 4:30 pm)**

Day 1	Day 2	Day 3	Day 4	Day 5
28/11/2022	**29/11/2022**	**30/11/2022**	**01/12/2022**	**02/12/2022**
9:00 – 9:30 Inauguration	9:30 – 12:00 Session 8 **Dr. Nidheesh P. V.** **CSIR-NEERI**	9:30 – 12:00 Session 10 **Dr. Prasad Krishna** **Director NITC**	9:30 – 12:00 Session 12 **Dr. S. Venkata Mohan,** **CSIR-IICT**	9:30 – 12:00 Session 14 **Dr. Prasenjit Mondal,** **IIT Roorkee**
9:30 – 12:00 Session 7 **Dr. N. Anantharaman,** **NIT Trichy**	12:00 – 1:00 Article 1 Discussion **Dr. S. Bhuvaneshwari,** **NITC**	12:00 – 1:00 Article 2 Discussion **Dr. V. Sivasubramanian,** **NITC**	12:00 – 1:00 MCQs **Dr. S. Bhuvaneshwari,** **NITC**	12:00 – 1:00 Visit Report (Team)
12:00 – 1:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch	1:00 – 2:00 Lunch
1:00 – 2:00 Travel for Visit	2:00 – 4:00 Session 9 **Dr. Nidheesh P. V.** **CSIR-NEERI**	2:00 – 4:00 Session 11 **Er. S. Radhakrishnan**	2:00 – 4:00 Session 13 **Dr. S. Venkata Mohan** **CSIR-IICT**	2:00 – 3:00 Reflection Journal **Dr. Anantha Singh T S,** **NITC**
2:00 – 4:00 Visit MILMA Dairy Plant	4:00 – 5:15 Teaching Practice **Dr. Sreedharan R,** **NITC**	4:00 – 5:15 Teaching Practice **Dr. Sreedharan R,** **NITC**	4:00 – 5:15 Teaching Practice **Dr. Sreedharan R,** **NITC**	3:00 – 4:00 Feedback
4:00 – 5:00 Travel back				4:00 – 5:00 Valedictory