



**Electrochemistry Summer School – 2024**  
**on**  
**Electroanalytical Techniques for Energy**  
**Conversion and Storage**

**(ESS-2024)**

**12<sup>th</sup> - 13<sup>th</sup> July 2024**

**Organized by**

Department of Chemistry  
College of Engineering and Technology  
SRM Institute of Science and Technology  
Kattankulathur, 603 203, Tamil Nadu, India.

**Excellence of Chemistry @SRMIST in Ranking**

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**#8** (Joint) Among All Institutions in India  
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### ABOUT SRMIST

SRM Institute of Science and Technology is one of the top-ranking universities in India with over 50000+ students and 3000+ faculty members offering a wide range of undergraduate, postgraduate, and doctoral programs in Engineering, Management, Medicine, Health Sciences, and Science and Humanities. SRMIST has established itself as a premier center for teaching, research, and industrial consultancy in the country. It has world-class infrastructure including smart classrooms, hi-tech labs, advanced instruments, research laboratories, a modern library, and a Wi-Fi facility.

### ABOUT THE DEPARTMENT

Department of Chemistry, SRM Institute of Science and Technology has been engaged in opening up the fascinating world of Chemistry to students since 1985. The Department is offering B.Sc. (Chemistry Hons.), M.Sc. (Chemistry), B.S (Chemistry Hons.), and Ph.D. (Chemistry) programs. It has 60+ faculty members whose areas of expertise and research include organic, inorganic, physical, analytical, environmental, electrochemistry, and nanotechnology. The department's faculty members have contributed to academia by publishing books, and research articles in high-impact peer-reviewed journals, presenting papers in conferences, and delivering guest lectures. The Department has tie-ups with recognized academic institutions, industries, and R&D laboratories for student projects, training, and research activities.

### ABOUT ESS – 2024

This is a two-day intensive course on electrochemistry, electroanalytical chemistry, energy conversion, and storage and is designed to quickly refresh the basics in electrochemistry and energy storage techniques while providing intensive hands-on training on electrode fabrication, reference electrode construction, catalyst ink preparation for energy conversion reactions, supercapacitor and battery cell fabrications for energy storage applications, and processing data thereof. Interaction and brainstorming sessions are to be held at the end of both days to evaluate and measure the level of understanding of the contents delivered depending on which follow-up sessions will also be held for those who are found to need one.

### CONTENTS OF TO BE COVERED

#### Day 1

**Lecture 1** (10:00 am – 11:00 am): Fundamentals of Electrochemistry and Electroanalytical techniques

**Lecture 2** (11:15 am – 12:15 pm): Standard Operating Procedures with Meaningful Interplay of Parameter Settings for High-Throughput Data Acquisition in Energy Conversion Reactions

**Demo and Training** (1:15 pm – 4:15 pm): Reference Electrode Fabrication, Demonstration of Electroanalytical Techniques. Brainstorming Session (4:30 pm – 5:00 pm): Rapid Quiz

#### Day 2

**Lecture 1** (10:00 am – 11:00 am): Best Practices for Data Interpretation in Energy Conversion Reactions

**Lecture 2** (11:15 am – 12:15 pm): Standard Analyses Procedures and Performance Evaluation for Energy Storage Devices (Supercapacitors)

**Demo and Training** (1:15 pm – 4:15 pm): Demonstration of (i) Catalyst Ink Preparation for Energy Conversion Reactions, and (ii) Supercapacitor and Battery Cell Fabrication

**Valedictory** (4:30 pm – 5:00 pm)

.....SRMIST Ranking.....

### TEACHERS OF THE SCHOOL

Research Assistant Professors, Department of Chemistry, SRMIST, Kattankulathur - 603 203, Tamil Nadu, India.

#### ❖ Dr. S. Anandhakumar

(<https://www.srmist.edu.in/faculty/dr-anandhakumar-s/>)

#### ❖ Dr. N. Clament Sagaya Selvam

(<https://www.srmist.edu.in/faculty/dr-clament-sagaya-selvam/>)

#### ❖ Dr. P. Arun Prakash

(<https://www.srmist.edu.in/faculty/dr-arun-prakash-p/>)

#### ❖ Dr. Abhilash Pullanchiyodan

(<https://www.srmist.edu.in/faculty/dr-abhilash-pullanchiyodan/>)

### CALL FOR PARTICIPATION

Participants must pay their registration fee beforehand and keep the screenshot of the payment proof showing the date and time, recipient's name and account number, reference number, paid amount, etc. clearly. The payment must only be made online through NEFT/RTGS/IMPS. After paying the registration fee, the participants are requested to fill out the application form by accessing the following link.

<https://rb.gv/3uh993>

Scan Here



### Account Credentials for Paying the Fee:

Name: Chemistry Department Association

A/C. no: 500101011069471

Name of the Bank: CITY UNION BANK

Branch: Tambaram: IFSC: CIUB0000117

### ADDRESS FOR COMMUNICATION

All communications may be made to  
Dr. S. Anandhakumar, Res. Assist. Prof  
Email: [anandhas2@srmist.edu.in](mailto:anandhas2@srmist.edu.in)

### REGISTRATION FEES

Academic Participants: 2000 (INR)

Industry Participants: 3000 (INR)



## **2<sup>nd</sup> Edition of Electrochemistry Summer School (ESS-2024)**

### **Event Report**

The second edition of Electrochemistry Summer School (ESS - 2024) was held at the University Building, UB1010, SRMIST-KTR Campus from 12<sup>th</sup> July to 13<sup>th</sup> July 2024. The event was convened by **Dr. M. Arthanareeswari**, Professor & Head, Department of Chemistry, and co-convened by **Dr. S. Anandhakumar**, Research Assistant Professor of Chemistry. **Dr. P. Arun Prakash**, **Dr. Clament Sagaya Selvam**, and **Dr. Abhilash P**, supported as the coordinators for the ESS – 2024 event.

This event was a great success with participants from various reputed institutions such as Cochin University of Science and Technology (CUSAT, Kerala), CSIR-Central Leather Research Institute (CSIR-CLRI (Chennai), Anna University (Chennai), JSS Academy of Higher Education and Research (Mysuru), Saveetha School of Engineering (Chennai), PSGR Krishnammal College for Women (Coimbatore), and St. Joseph's College (Tiruchirappalli). Besides, our campus research scholars from the Chemistry, Physics, and Nanotechnology departments also participated in this event. A total of 25 participants participated in the ESS-2024 event of which 17 were girls and 8 were boys. The school consisted of four lectures: 1. *“The fundamental concepts of electrochemistry and electroanalytical techniques”* by Dr. S. Anandhakumar; 2. *“Operating procedures with a meaningful interplay of parameter settings for high-throughput data acquisition in energy conversion reactions”* by Dr. Arun Prakash P; 3. *“Best Practices for Data Interpretation in Energy Conversion Reactions”* by Dr. N. Clament Sagaya Selvam, and 4. *“Standard Analyses Procedures and Performance Evaluation for Energy Storage Devices”* by Dr. Abhilash P.

In addition to that, there were two hands-on and demonstration sessions (3 hours in the afternoon) on both the 12<sup>th</sup> and 13<sup>th</sup> of July 2024 at Raman Research Park (RRP), Room No. 312 & 313 about basic electrochemistry measurements in cyclic voltammetry, catalyst ink preparation for hydrogen evolution & oxygen evolution reactions, supercapacitor & battery cell fabrication and testing, and the fabrication home-made silver-silver chloride reference electrodes.

All participants from different institutions felt delighted with the fundamental knowledge of electrochemistry they gained through ESS – 2024. Also, they expressed highly positive feedback at the closing ceremony of ESS – 2024 and their willingness to join the next edition of Electrochemistry Summer School 2025.

## Snapshots taken during ESS – 2024



Inauguration of ESS – 2024 by the Convenor (Prof. Dr. M. Arthanareeswari, HoD of Chemistry)  
on 12-July-2024.



Lecture sessions for ESS – 2024





Demonstration sessions for ESS – 2024



Group photos with ESS – 2024 participants