Event Report

1. Event Details

Event Title	Electrons in a box: The Science and Engineering in Battery Cells
Date & Time	21-08-2025 & 6.00 PM
Mode (Online / Offline)	Online
Venue (if offline)	Google Meet
Organized By (Dept./Association/Club)	EEE in association with Green Energy and EV Club
Event Coordinator(s)	Dr.S.Manoj
Chief Guest/Resource Person (if any)	Dr.K.Rajasekar, Faraday Institution Research Associate, University of Sheffield, England, UK.
Total Budget (Rs)	-
Activity Category: **Please mention as many as required**	Webinar

2. Objective of the Event

- Aimed to give students an in-depth understanding of the principles of battery cell design, the significance of energy storage systems in electric vehicles (EVs), and the emerging career opportunities in the field.
- To encourage interest in sustainable development solutions.

3. Event Description

The Department of Electrical and Electronics Engineering (EEE) in association with Green Energy and EV club successfully organized a Technical Seminar on Electrons in a box: The Science and Engineering in Battery Cells.

Inaugural Session

The program began with an inaugural session featuring:

1. Welcome Address: Delivered by Dr.S.Manoj, Assistant Professor, EEE, highlighting the objectives of the program and followed with Guest Intro by Ms.Shreya, III Year EEE and explaining the need of emerging technologies.
2. Vote of Thanks: Presented by, Ms.John Shijulin, III Year EEE, who emphasized the resource persons presentation and thanked him and the management, department and all

the faculty members for making this event successful.

4. Participants

Target Audience: Students

No. of Participants: 50

Attach name list in Annexure – I

5. Highlights of the Event

1. Battery Design

- The session began with an introduction to the fundamentals of electrochemistry and how electrons move within confined systems ("in a box").
- The resource person explained different types of battery chemistries, their efficiency, safety, and applications.
- Emphasis was placed on the importance of material selection (anodes, cathodes, electrolytes) and innovations aimed at improving battery life and performance.

2. EV Usage and Its Impact

- The role of batteries in driving the transition from fossil fuels to clean energy mobility was discussed.
- The speaker highlighted the advantages of electric vehicles, including reduced carbon emissions, lower operating costs, and sustainability benefits.
- The challenges of EV adoption—such as charging infrastructure, battery disposal, and raw material supply chain—were also addressed.

3. Career Opportunities

- Students were encouraged to explore careers in battery research, electric vehicle technology, energy storage solutions, and renewable energy integration.
- The resource person emphasized the growing demand for engineers in both academia and industry, spanning roles in R&D, manufacturing, quality testing, and system design.
- Global opportunities and interdisciplinary skills required for success in the field were also highlighted.

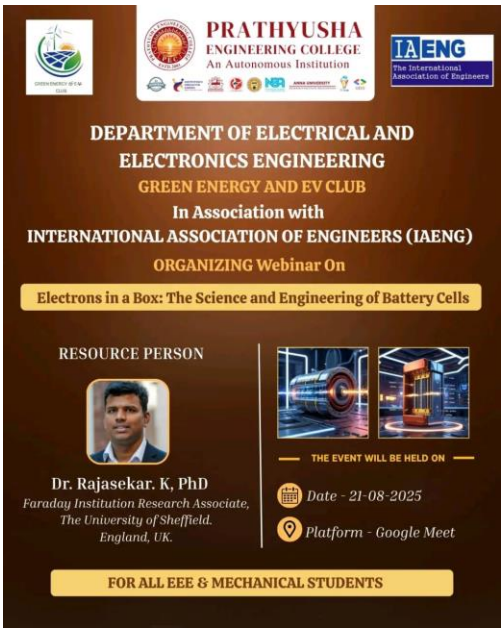
6. Outcomes / Benefits

The webinar proved to be highly informative and thought-provoking. Students gained:

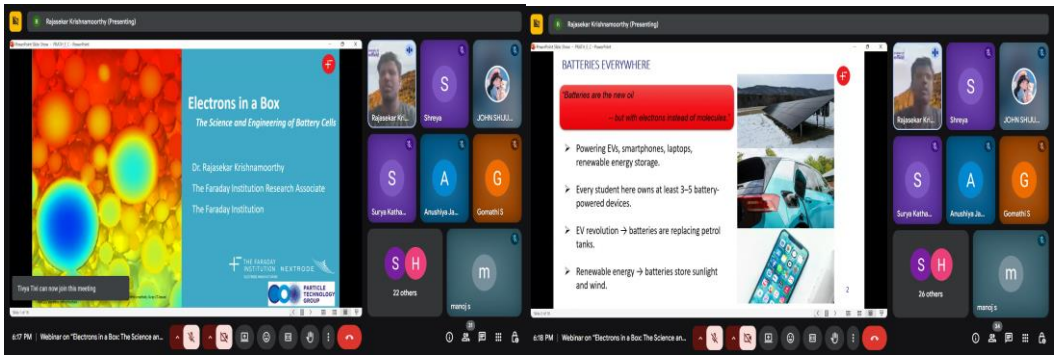
- A clear understanding of how battery systems are designed and optimized.
- Insights into the critical role of batteries in EVs and their environmental and societal impact.

- Awareness of career paths in the rapidly expanding domain of energy storage and green technology.

7. Supporting Materials



EVENT PHOTOGRAPHS



8. Website / Social Media Links

https://www.facebook.com/share/p/1EPVJttCXP/

9. Conclusion

The session on *"Electrons in a Box: The Science and Engineering in Battery Cells"* was a valuable learning experience that broadened the knowledge of students. By linking fundamental science with engineering applications and future career prospects, the webinar inspired students to engage in this cutting-edge field and contribute to sustainable technological development.

10. Submitted By

Name of Event Coordinator	Dr.S.Manoj
Designation & Department	Assistant Professor
Date of Submission	30.08.2025

Annexures

Annexure – I: List of Attendees (Name, Register No., Dept./Designation, Signature)

Annexure – II: Event Poster

Annexure – III: Event Photos (with captions)

Annexure – IV: Certificates / Media Coverage (if any)/Feedback copy (all collected feedback to be filed)

Annexure – V: Short Videos in latest format 2-4 minutes

Event Coordinator **HOD**