

PROPOSAL FOR ORGANIZING A CONFERENCE

Title: *IIT Kharagpur Platinum Jubilee International Conference on “Sustainable Energy Technologies” (SET-2026)*

The Department of Physics, in collaboration with Departments of: Mechanical Engineering, Electrical Engineering, Chemical Engineering and Rajiv Gandhi School of Intellectual Property Law, proposes to organize an International Conference titled “*IIT Kharagpur Platinum Jubilee International Conference on Sustainable Energy Technologies (SET-2026)*”, focusing on sustainable energy technologies and solutions. The conference will cover topics ranging from energy generation and storage systems, thermal management of energy systems, battery and storage management systems, to IPR, policy and legal issues associated with them. The conference aims to bring together researchers, academicians, industry professionals and students working in these area both in India and abroad.

Organizing Team:

- Chairperson: Prof. Amreesh Chandra (PH)
- Co-chairpersons: Prof. Uday Shankar (RGSOIPL), Prof. Anandaroop Bhattacharya (ME), Prof. Siddhartha Mukhopadhyay (EE)
- Secretary: Prof. Amar Nath Gupta (PH)
- Treasurer: Prof. Poornachandra Sekhar Burada (PH)
- Technical Program Coordination: Prof. Rahul Ranjan (CE)

Student Members:

- Accommodation Coordinator: Mr. Rahul R and Ms. Silpa C S
- Technical Program Managers: Mr. Lalit Bharti and Ms. Dipanwita Mondal
- Transport Coordinators: Mr. Satvik Anshu and Ms. Shyamal Shegokar
- Website and Branding: Mr. Anjan Dutta and Mr. Suman Shit

The conference will be held during the period **12th to 16th December 2026** in IIT Kharagpur. The event will include keynote and invited talks by experts from academia and industry, oral and poster presentations by young researchers, industry talks, panel discussions and IIT

Kharagpur student-focused technology exhibition sessions. The conference is expected to enhance research collaboration in the field of energy science and storage technologies.

Thematic areas:

- **Energy Storage Technologies** (Convenor: Prof. Amreesh Chandra)
 - Advances in beyond lithium battery technologies
 - Advances in anodes, cathodes and separators
 - Advances in analysis techniques for battery research
 - Advanced Materials
 - Next Generation Batteries, Supercapacitors and Hybrid Systems
 - Life Cycle Assessment (LCA) of Energy Technologies
 - Sustainable Materials & Green Processing
 - Recycling, Reuse & Resource Recovery
 - Critical Materials & Supply Chain Analysis

- **Thermal Management and Analysis of Energy Systems** (Convenor: Prof. Anandaroop Bhattacharya)
 - Machine Learning Models of Heat Management
 - Thermal Behaviour of Storage Systems
 - Numerical and Experimental Models for ESS
 - Heat Generation and Transport in Porous Media
 - Insulation, Packaging and Cooling Protocols for Batteries

- **Bio-Inspired Energy Systems** (Convenor: Prof. Amar Nath Gupta)
 - Bioelectrochemical Energy Systems
 - Bio-Inspired Materials for Energy Storage
 - Energy Transport in Biological Systems
 - Biomimetic Interfaces & Sensor

- **Power and Electricity Management** (Convenor: Prof. Siddhartha Mukhopadhyay)
 - Power Electronics for Energy Systems
 - Battery Management Systems (BMS)
 - Electric Vehicles & Charging Infrastructure
 - Smart Grids & Microgrids

- **Modelling & Simulations** (Convenor: Prof. Poornachandra Sekhar Burada)
 - Multiscale Modelling & Simulations
 - Density functional theory for battery materials
 - Data Analytics & Machine Learning for battery Materials

- **Energy Policy, Law & Techno-Economics** (Convenor: Prof. Uday Shankar)
 - Energy Policy & Regulatory Frameworks
 - Environmental & Energy Law
 - Standards, Safety & Compliance
 - Intellectual Property & Technology Transfer

Technical Programs

- Keynote / invited talks: ~50
- Technical sessions (oral): ~100
- Technical sessions (poster): ~250
- Industry talks: ~10
- Industry exhibition: ~10
- Industry-academia panel discussion: 4
- Flash talks: ~20-25

Additional Events

- Cultural events showing the talent of IIT Kharagpur
- Gala dinner

Awards

- Awards: 10 young scientists

Expected Budget for this 4 day conference of nearly 350-400 participants: Rs. 50,00,000 (i.e. 50 Lakhs)

To successfully organize the conference, we request financial support of ₹25 lakhs from the institute. Additional funds of around ₹25 lakhs will be generated through registration fees and sponsorship from industry and government agencies.

Other Sources of Funding

- Registration fees: ₹12 lakhs (Average: 3000/- per person)
- Industry sponsors: ₹8 lakhs
- Government agencies: ₹5 lakhs

Industry partners

- Procam group
- BatteryLife2
- EV BaTTechs

Budget Estimate:

Sl. No.	Budget Head	Estimated Cost (INR)
1.	Travel support, accommodation and local hospitality for Indian/Foreign speaker + students	₹20 lakhs
2.	Food, refreshments and cultural events	₹20 lakhs
3.	Venue booking including sound, decorations and other required amenities	₹6 lakhs
4.	Website maintenance and online streaming	₹2 lakhs
5.	Awards, prizes and gifts	₹2 lakhs
8.	Total	₹50 lakhs

All expenditures will be carried out in accordance with the institute's financial rules and necessary reports will be submitted after the conference.