

 **Free standard shipping on all orders**

Search by keywords, subject, or ISBN

**Limited Time Only, 20% Off All eBooks • Shop Now »**

1st Edition

Recent Trends in Engineering, Science and Technology

Edited By [Jyoti Sekhar Banerjee](#), [Siddhartha Bhattacharyya](#), [Debashis De](#),
[Jinia Datta](#), [Panagiotis Sarigiannidis](#), [Jan Platos](#), [Muhammad Mujtaba Asad](#)

Copyright 2025

Paperback

GBP £55.00 ADD TO CART

PURCHASE LOCALLY

ISBN 9781041121633
280 Pages 257 B/W Illu



Published August 19, 2025



 Free Shipping (14 days)
[shipping options](#)

 [PREVIEW BOOK](#)

Description

AIENT is a leading conference focused on providing a platform to researchers, scholars, engineers, scientists and industrial professionals to gather knowledge and bridge the gap between academia and its industrial aspects, around the world. This conference will be an immersive experience primarily focusing on the latest advancements and researchers in various fields of engineering, including but not limited to Mechanical Engineering, Civil Engineering, Electrical Engineering, Electronics and Communications Engineering, Computer Science Engineering, Information Technology and other interdisciplinary areas. AIENT will cater to the transitional practices where industrial knowledge would be conveyed to academia regarding real-time scenarios and practical findings, thus fostering collaboration and the development of innovative solutions to counter contemporary challenges in engineering and technology.

Table of Contents

- 1 Demand-driven automatic soil cleaning for PR enhancement of a roof-top solar PV power plant
Saheli Sengupta, Indrajit Bose, Madhusree Bhattacharjee, Riya Paul and Sugato Ghosh
- 2 Application of artificial neural networking for the estimation of illuminance and energy efficiency parameters of public road lighting systems
Sourin Bhattacharya, Saheb Samanta and Parthasarathi Satvaya
- 3 LED based energy efficient lighting design in a metro railway system
Ankit Ghosh and Parthasarathi Satvaya
- 4 FFT based comparative performance study of electric vehicle charging system
Tapash Kr. Das, Ayan Banik, Bikash Gopal Tewary, Sudarshan Das and Ayan Das Sarkar
- 5 Real time detection and classification of dust and shading on solar

panels

using multi agent system and hybrid machine learning

Sudeep Samanta, Samrat Hazra, Sucharita Saha, Subarna Pal and Sumangal Bhoumik

6 A stochastic approach for optimal scheduling in mixed generation

Reshmi Chandra, Kamalika Banerjee, Pallav Dutta, Suman Moitra and Bishaljit Paul

7 Development of accurate fault diagnosis system for electric vehicle

pertained lithium-ion batteries using deep neural network

Sudeep Samanta, Titas Bhaumik, Sumangal Bhaumik and Arpita Sarkar

8 Development of sensor-less speed estimation method of IFOC based

IM drive using genetic algorithm

Tista Banerjee, Sumangal Bhaumik, Titas Bhaumik, Jinia Datta and Debasish Mitra

9 Comparative performance analysis of novel hybrid approach in sustainable PV MPPT architecture

Soumyendu Bhattacharjee, Debabrata Mazumdar and Shounak Bandyopadhyay

10 Evolution of linear electrical model of non-branded white LEDs and

its application in the field of dimmable driver design

Shibangi Bhattacharya, Khushi Rao, Sudhangshu Sarkar, Pallav Dutta and

Biswadeep Gupta Bakshi

11 Comprehensive study of encryption algorithms for obtaining privacy

protection in smart grids

Rakhi V. Gupta and Parminder Singh

12 Optimal design parameters of a single-phase small transformer by different

optimization techniques

Pritish Kumar Ghosh, Rakesh Das, Raju Basak

13 Torque ripple control using hybrid converter in light weight electric vehicle

Sunam Saha, Madhurima Chattopadhyay and Moumita Mukherjee

14 Optimizing electric vehicle performance by using MATLAB for NEDC urban and suburban drive cycle

Goutam Kumar Ghorai, Rohit Nayak, Chandra Kumar Adak, Avijit Mondal

and Soujanya Ballav

15 Safeguarding mechanisms against cyberattacks in smart grids employing

grid forming inverters: ensuring stability and resilience

Taha Selim Ustun

16 Techno-economic analysis of off-grid PV systems and batteries vs. diesel generators: life span and cost-effectiveness

Taha Selim Ustun and Maher. G. M. Abdolrasol

17 Transforming waste into energy through a prototype model for sustainable and future-oriented solutions

Suparna Maity, Bapita Roy, Abhoy Ghosh, Debangi Chakraborty, Santana Das, Saikat Majumder, Sanghamitra Layek and Bikas Mondal

18 Photoplethysmograph based biomedical signal analysis using machine learning and vital sign monitoring using a web application

Soumyadip Jana and Partha Sarathi Pal

19 Performance analysis of nine level- inverter under different level shift modulation

technique with variable frequency

Sagnik Lodh and Jayanta Digar

20 Optoelectronic characteristics of exotic GaN/AlGaIn based avalanche

photodetector

Debraj Modak, Karabi Ganguly, Indranath Sarkar and Moumita Mukherjee

21 Realization of an innovative high efficiency n-type TOPCon solar cell

using a lower band gap dielectric oxide

Shiladitya Acharyya, Dibyendu Kumar Ghosh, Sukanta Bose, Partha Banerjee

and Santanu Maity

22 Investigating the photovoltaic performance and thermal stability of

AZO/Si hetero-junction solar cells with an analytical approach

Dibyendu Kumar Ghosh, Senjuti Das, Priyanjana Santra, Shiladitya Acharyya and

Sukanta Bose

23 Safe terrestrial route recommendation system using geographical information system

Shuvodeep Debnath and Yumnam Momojit Singh

24 Electromagnetic imaging system for monitoring hip stem micromovements

Saurav Kumar Roy, Tirtharaj Banerjee, Debasis Mitra, Rik Chattopadhyay

and Soutick Chanda

25 A comparative analysis of liquid level transmitter using force resistive

sensor and regression technique of machine learning

Anindya Ghosh, Brajesh Kumar, Suman Kumar, and Rajan Sarkar and Shib Sankar Saha

26 Prediction of external quantum efficiency for organic tin based perovskites

Saurabh Basak, Tanmay Sinha Roy and Bansari Deb Majumder

27 Beyond sight: ML techniques for image classification

Jayashree C. Nidagundi, Muskansaba M. Shahiwale, Preeti V. Savanur and