NEWSLETTER · ISSUE 02

DEPARTMENT OF ELECTRICAL ENGINEERING

ELECTRO IMPRESSION

Guru Nanak Institute of Technology

An Autonomous Institute, Affiliated to MAKAUT · Approved by AICTE· NAAC A+

Academic Highlights
JULY – DECEMBER 2023

"Powering ideas, engineering the future — a chronicle of learning beyond the classroom."

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About ElectroImpression

Electro Impression is the biannual newsletter of the Department of Electrical Engineering, Guru Nanak Institute of Technology, chronicling departmental activities, faculty and student accomplishments, and academic milestones.

Editorial Faculty Members

1. Mr. Shyamal Roy (Asst. Prof., Dept. of EE, GNIT)
2. Ms. Subhra Sen (Technical Assistant, EE)

Editorial Student Members

1. Chandrima Ghosh (3rd year, EE, GNIT)
2. Diya Barui (3rd year, EE)
3. Prathit Bandopadhyay (4th year, EE)
4. Arnab Dutta (4th year, EE)

FROM THE LEADERSHIP

Messages



MESSAGE FROM PRINCIPAL

It gives me great pleasure to present the July–Dec 2023 edition of 'Electro Impression,' the biannual newsletter of the Department of Electrical Engineering, GNIT. This edition reflects the department's vibrant academic culture through faculty development programmes, seminars, industrial visits, student outreach, alumni engagement, research publications, patents, awards and recognitions.

The continued NBA accreditation of the Electrical Engineering programme and the Institute's NAAC A+ status are outcomes of sustained academic commitment and teamwork. I congratulate the faculty members, students, contributors and editorial team for documenting these achievements with dedication.

I extend my best wishes to the Department of Electrical Engineering for continued excellence in teaching, research, innovation and meaningful industry–society engagement.

Prof. (Dr.) Swarup Kr. Mitra
Principal, GNIT



M ESSAGE FROM HOD (EE))

I am thrilled to announce that our Electrical Engineering Department has received accreditation from the NBA for a three-year period for our undergraduate program. It gives me immense pleasure to pen a prologue to the newsletter of 'ELECTRO IMPRESSION' which will highlight achievement in the life of the EE department.

I congratulate all the contributors and the editorial board for bringing out such a beautiful magazine. I am confident that it will meet the expectations of our readers.

Dr. Barnali Kundu
HOD, EE Department

WHO WE ARE

Vision, Mission, PEOs & PSOs

OUR VISION

To produce new generation technologists and entrepreneurs with innovation and advanced research by inculcating world class education to meet industry expectations and impart sustainable growth of the society in global perspective.

Mission

DM1 To impart quality education and innovative teaching learning methodologies.	**DM2** To develop professionals with the ability of critical thinking and innovativeness to face the real-life challenges in their respective domain.
DM3 To inculcate an urge of entrepreneurship, research and pursue higher studies.	**DM4** To imbibe the spirit of moral values and ethics for the sustainable growth of the society.

Program Educational Objectives (PEOs)

Three to five years after graduation, the Department of EE expects its four-year B. Tech in Electrical Engineering program graduates to have achieved the following:

PEO1 To implant strong foundation in Science, Mathematics and Electrical Engineering to become successful professionals.	**PEO2** To impart knowledge on emerging technologies and entrepreneurship skills to produce future leaders.
PEO3 To train students in developing ethical attitudes, strong communication skills and capacity to relate engineering issues in social and environmental context.	**PEO4** To facilitate opportunity to work in a team in interdisciplinary projects for building leadership qualities.

Program Specific Outcomes (PSOs)

PSO1 To explore the ideas, methodologies and cutting-edge technologies in Renewable Energy and Electric Vehicles for gaining competence to solve energy related problems.	**PSO2** To analyze, design and provide an engineering solution applying knowledge of Embedded System, Smart Grid, Power Electronics and Electric Drives.	**PSO3** To use modern software tools for simulation, analysis and designing electrical and electronic Systems.

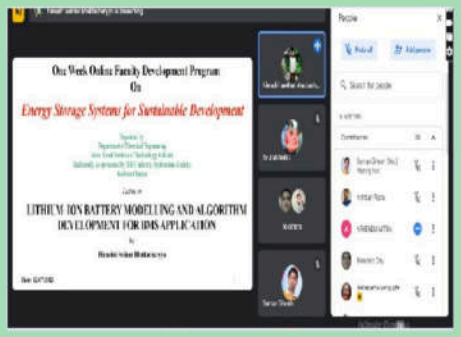
KNOWLEDGE SESSIONS

FDP / Seminar / Workshop / Conference

FDP· 11–15JUL 2023

A **One Week Online Faculty Development Program** on **"Energy Storage Systems for Sustainable Development"**, technically co-sponsored by the IEEE Industry Applications Society, Kolkata Chapter, was organized by the Department of Electrical Engineering, Guru Nanak Institute of Technology, from 11th to 15th July 2023.







SEMINAR·17JUL2023

A seminar entitled **"Safe Electric Future: Passion for Power"** was organized by the Department of Electrical Engineering in the Seminar Hall on 17th July 2023.





TECHNICAL FEST·15–16SEP2023

SAMATVA 2K23, the Annual Technical Fest — featuring the Engineer's Day Celebration "Tech-Creation" model display — was organized by the Department of Electrical Engineering during 15th–16th September 2023.



BEYOND THE CLASSROOM

Industrial Visits

INDUSTRIAL VISIT · 21 SEP 2023

An Industrial Visit to **CAS Electrical & Automation Pvt. Ltd.** was organized by the Department of Electrical Engineering on September 21, 2023.



INDUSTRIAL VISIT · 24 NOV 2023

An Industrial Visit to **Racily Udyog** at the P.B. Samadder Industrial Estate, Khardah, was organized by the Department of Electrical Engineering on November 24, 2023.



COMMUNITY OUTREACH

CSR Activity

CSR · 10 NOV 2023

"ULLAS-2K23" — an initiative of distributing food packets to underprivileged brothers and sisters — was organized by the Department of Electrical Engineering on 10th November 2023.







RESEARCH & SCHOLARSHIP

Publications

Publications by Departmental Faculty Members

- **Dr. Barnali Kundu, Subhamoy Dey, Souvik Pal, Aniruddha Sengupta, Manoshi Biswas** — "Automated Transmission Line Fault Detection using Distance Locator", *American Journal of Advanced Computing*. ISSN: 2368-1209

- **Dr. Barnali Kundu, Dwaipayan Mazumdar, Debmalya Das, Sujoy Ghati, Arnab Dutta** — "Design of Two Stage Isolated Bidirectional Converter for Plug-in Electric Vehicles", *YMER*, 07/07/2023. ISSN: 0044-0477

- **Dr. Barnali Kundu, Dr. Debasree Saha, Chandrima Ghosh, Sarnava Mallick, Koushik Majhi** — "Review on Green Hydrogen Technology: Applications and Challenges", *International Conference on Energy, System, Drives, Measurement and Sensors, organized by Department of Electrical Engineering, NIT*, 28/06/2023. ISBN: 978-93-89817-95-9

- **Sumangal Bhaumik, Dr. Aveek Chattopadhyaya, Titas Bhaumik, Suman Ghosh, Shyamal Roy, Amit Debnath, Pinaki Biswas** — "Transient Behavior Analysis of Induction Motor in Grid Connected PV Microgrid Using ETAP and MATLAB", *Journal For Basic Sciences*, Vol. 23, Issue 12, Dec 2023, Impact Factor 6.1 (Scopus Indexed). ISSN: 1006-8341 · DOI: 10.37896/JBSV23.12/2763

Publications by Departmental Students

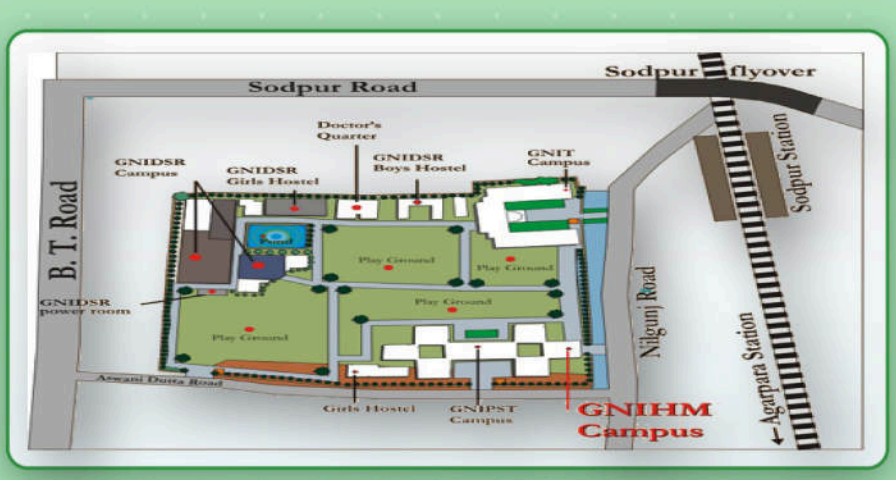
- **Subhamoy Dey, Souvik Pal, Aniruddha Sengupta, Manoshi Biswas** — "Automated Transmission Line Fault Detection using Distance Locator", *American Journal of Advanced Computing*. ISSN: 2368-1209

- **Dwaipayan Mazumdar, Debmalya Das, Sujoy Ghati, Arnab Dutta** — "Design of Two Stage Isolated Bidirectional Converter for Plug-in Electric Vehicles", *YMER*, 07/07/2023. ISSN: 0044-0477

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