

NITS NEWSLETTER DATA: APRIL 2025-SEPTEMBER 2025**DEPARTMENT: ELECTRICAL ENGINEERING**

1) PLEASE FURNISH THE **NUMBERS** OF THE FOLLOWING:

TOTAL NUMBER OF JOURNAL PUBLICATIONS: 34 (THIRTY FOUR)

TOTAL NUMBER OF CONFERENCE PROCEEDINGS: 16 (SIXTEEN)

TOTAL NUMBER OF PROJECTS SECURED IN THE DEPARTMENT: 01 (one)

2) **PATENT DETAILS OF FACULTY MEMBERS: (within 30 words, specify the country in which the patent is filed)**

Dr. Amritesh Kumar**Indian Patent (Granted)**

- **Patent No.:** 561824
 - **Date of Grant:** 04/03/2025
 - **Application No.:** 202431005916
 - **Date of Filing:** 29/01/2024
 - **Patentee:** National Institute of Technology, Silchar
 - **Inventors:**
 1. Dr. Amritesh Kumar
 2. Dr. Avadh Pati
 3. Mr. Anem Veera Venkata Nagaphanindra
 4. Mr. Anand Prakash Panchbhai
 5. Mr. Joyshankar Bhattacharjee
 6. Mr. Ganesh Chilakalapudi
 7. Ms. Alankrita
 - **Title:** *A Dual Active Bridge Based Fast Charging System for Electric Vehicles*
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Prof. Saurabh Chaudhury**German Patent (Granted)**

- **Title:** *Ripplet-SVR: A Novel Approach for No Reference Image Quality Assessment using the Ripplet-II Transform and SVR*
- **Patent Registration ID:** 20 2025 100 656
- **Status:** **Granted**


Dr. Sreenu Sreekumar

Indian Patent Published (June 2025)

- **Title:** *A Novel VI-Shaped Rotor for an Interior Permanent Magnet Motor*
- **Patent Number:** 202531029109A
- **Description:**
The invention presents a **VI-shaped Interior Permanent Magnet (IPM) synchronous motor system** designed for enhanced **torque production, power factor, output power, and motor efficiency**.
 - **Stator:** Silicon steel core with **curved top stator slots** housing **double-layer parallel windings**.
 - **Air Gap:** 0.5 mm – 1 mm (optimum 0.7 mm) to minimize leakage inductance.
 - **Rotor:** Metal shaft with rotor poles formed by **V-shaped magnets**, reinforced with an **I-shaped magnet** for stability. A silicon steel rotor shaft ensures durability under high torque.
 - **Applications:** Automotive, industrial, and household sectors.
 - **Performance:** High torque, improved efficiency, with **cogging torque and torque ripple within industrial standards** for high-performance uses.

- 3) DETAILS OF CONFERENCE(S) [INTERNATIONAL/NATIONAL] ORGANISED BY THE DEPT.: (write-up of 100-150 words and **three/two** photos)

Grateful Reflections | IEEE North-East India International Energy Conversion Conference & Exhibition (NE-IECCE 2025)

 4th – 6th July 2025 | NIT Silchar

It was an immense honor to host the **First Flagship Annual International Conference – IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE 2025)**, held from **4th to 6th July 2025** at **NIT Silchar**, organized by the **Department of Electrical Engineering** in association with the **IEEE Industry Applications Society Joint Chapter of IEEE Silchar Subsection**.

Conference Highlights

- **Objective:** NE-IECCE 2025 provided a unique platform for **researchers, practitioners, industry delegates, technocrats, and policymakers** from academia and industry to share and promote recent research accomplishments and innovations for the **sustainable development of industry and society**.

- **Focus Areas:**
 - Sustainable energy conversion
 - Transport electrification
 - Modern smart grids
 - Electric mobility
 - AI integration in energy systems
 - Emerging sustainable technologies
- **Impact:** The conference catered to future industry demands by bringing together experts working on solutions that significantly influence **smart grids, sustainable electric transportation, and advanced control strategies.**

Three Days of Knowledge Exchange

The event witnessed:

- **Enriching discussions and cutting-edge research presentations**
- **Vibrant interactions** among academicians, researchers, industry leaders, and policymakers
- **International participation**, fostering collaboration and innovation

Special Acknowledgements

A heartfelt thank you to:


- Our **esteemed keynote and invited speakers**
- **Paper presenters and session chairs**
- **Sponsors, exhibitors, and collaborators**
- The **organizing team, volunteers, and supporting staff**
- And everyone who contributed to making this event a resounding success!

NE-IECCE 2025 was more than just a conference — it was a **confluence of ideas, innovation, and inspiration.** 🌍 ✨

Looking forward to continued collaboration and to the **next edition of this vibrant knowledge exchange!**



IEEE North-East India International Energy Conversion Conference & Exhibition (NE-IECCE 2025)

 4th – 6th July 2025 | NIT Silchar

- 4) DETAILS OF **WORKSHOP(S)** [INTERNATIONAL/NATIONAL] ORGANISED BY THE DEPT.: (write-up of 100-150 words and **two** photos)

ANRF-Funded Workshop (2025)

A one-week workshop on “*Next Generation Technology for Energy Sustainability & Climate Resilience*” was successfully funded by ANRF with a grant of ₹3 Lakhs.

- **Duration:** September 6–10, 2025
- **Convener:** Dr. Ambrish Devanshu

- **Co-Convenor: Dr. Sreenu Sreekumar**

<p>Committee</p> <p>Chief-Patron Prof. Dilip Kumar Baidya Director, NIT Silchar</p> <p>Patrons Prof. Nalin B. Dev Choudhury Dean (Research & Consultancy)</p> <p>Prof. B.K.Roy</p> <p>Prof. Nidul Sinha</p> <p>Chairman Dr. Tanmoy Malakar HOD, EED, NIT Silchar</p>	<p>Registration</p> <p>Registration Fee for external participants INR 2500/- Scan and upload the signed application form using the below google form. Scan the QR code to pay the registration fees</p> <p>https://forms.gle/2P5aH6131L6P25iye8</p>	 																								
<p>Advisory Committee</p> <table border="0"> <tr> <td>Prof. S. Choudhury</td> <td>Prof. L. C. Saikia</td> </tr> <tr> <td>Prof. A. K. Goowami</td> <td>Prof. J. P. Mishra</td> </tr> <tr> <td>Dr. D. C. Das</td> <td>Dr. C. Bhattacharjee</td> </tr> <tr> <td>Dr. Prasanta Roy</td> <td>Dr. Rajesh Dey</td> </tr> <tr> <td>Dr. R. K. Biswas</td> <td>Dr. Saheli Ray</td> </tr> <tr> <td>Dr. A. Kumar</td> <td>Dr. Partha Koyal</td> </tr> <tr> <td>Dr. N. Adhikary</td> <td>Dr. Tapan Pradhan</td> </tr> <tr> <td>Dr. Avadh Pati</td> <td>Dr. Asha Rani M A</td> </tr> <tr> <td>Dr. Sreejith S</td> <td>Dr. S. Mansami</td> </tr> <tr> <td>Dr. Ashish Paramane</td> <td>Dr. Vivekanandan S</td> </tr> <tr> <td>Dr. M. Balimidi</td> <td>Dr. Debayan Sarkar</td> </tr> <tr> <td>Dr. B. Ganguly</td> <td>Dr. Biswajit Sahoo</td> </tr> </table>	Prof. S. Choudhury	Prof. L. C. Saikia	Prof. A. K. Goowami	Prof. J. P. Mishra	Dr. D. C. Das	Dr. C. Bhattacharjee	Dr. Prasanta Roy	Dr. Rajesh Dey	Dr. R. K. Biswas	Dr. Saheli Ray	Dr. A. Kumar	Dr. Partha Koyal	Dr. N. Adhikary	Dr. Tapan Pradhan	Dr. Avadh Pati	Dr. Asha Rani M A	Dr. Sreejith S	Dr. S. Mansami	Dr. Ashish Paramane	Dr. Vivekanandan S	Dr. M. Balimidi	Dr. Debayan Sarkar	Dr. B. Ganguly	Dr. Biswajit Sahoo	<p>Eligibility of Participation</p> <p>This program is open to Faculty Members, Research Scholars, and M.Tech./M.Sc. and B.Tech. Students of technical institutions, engineering colleges, polytechnics, Universities and other recognized institutions. The number of external participants is limited to 25. Shortlisted candidate will be communicated through email. Certificate will be issued to all participants having attendance above 90%.</p> <p>Accommodation and Travel</p> <p>Please note that TA/DA or accommodation will not be provided to the participants. However, refreshments will be arranged for all participants during the workshop. Lunch will be arranged for external participants in the institute guest house.</p>	<p>अनुसंधान नेशनल रिसर्च फाउंडेशन Anusandhan National Research Foundation (ANRF) Govt. of India Funded One Week Workshop</p> <p>On Next Generation Technology for Energy Sustainability & Climate Resilience</p> <p>(NGT-ESCR-2025)</p> <p>6th to 10th Sept. 2025</p>
Prof. S. Choudhury	Prof. L. C. Saikia																									
Prof. A. K. Goowami	Prof. J. P. Mishra																									
Dr. D. C. Das	Dr. C. Bhattacharjee																									
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Dr. B. Ganguly	Dr. Biswajit Sahoo																									
<p>Important Dates</p> <p>Last Date of Registration: 31-Aug-2025 Workshop Dates: 6th to 10th Sept 2025</p>	<p>Conveners</p> <p>Dr. Ambrish Devanshu Assistant Professor Dept. of Electrical Engineering, NIT Silchar Email: ambrish@ee.nits.ac.in Mobile: 9599755664</p> <p>Co-Convenor</p> <p>Dr. Sreenu Sreekumar Assistant Professor Dept. of Electrical Engineering, NIT Silchar Email: sreenu@ee.nits.ac.in Mobile: 8079033176</p>	<p>Organized By:</p>  <p>Electrical Engineering Department, National Institute of Technology Silchar</p>																								

- 5) DETAILS OF GIAN COURSES ORGANISED BY THE DEPT.: (write-up of 100 words and **two** photos)

_NIL

- 6) DETAILS OF SPARC PROJECTS SECURED BY THE DEPARTMENT: (write-up of 100-150 words and **two** photos)

_NIL



- 7) FACULTY ACHIEVEMENT: (write-up of 20 words)

Name	Role / Contribution	Event / Details	Funding / Support
Prof. L. C. Saikia	Session Chair	IEEE IAS NE-IECCE Students Symposium (Poster Presentation)	—
	Session Chair (Special Session 4: Stationary & Mobile Battery Storage for	IEEE IAS NE-IECCE Oral Paper Presentation	—

Name	Role / Contribution	Event / Details	Funding / Support
	Grid Resilience & Flexibility – SMART)		
Prof. Nidul Sinha	Session Chair (Special Session 1: Advances in Control & Operation of Inverter-Dominated Power Distribution Systems)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Prof. Arup Kumar Goswami	Session Chair (Special Session Track 1: Power Conversion Technologies for Transportation Electrification & Sustainable Energy Integration)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Prof. Saurabh Chaudhury	Session Chair (Special Session Track 3: Smart & Sustainable Charging Infrastructure for e-Mobility)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Prof. Nalin Behari Dev Choudhury	Session Chair (Special Session Track 5: Computational Intelligence, Cyber Security & IoT Applications for Energy Efficiency & Conservation)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Prof. J. P. Mishra	Session Chair (Special Session Track 1: Power Conversion Technologies for Transportation	IEEE IAS NE-IECCE Oral Paper Presentation	—

Name	Role / Contribution	Event / Details	Funding / Support
	Electrification & Sustainable Energy Integration)		
Prof. B. K. Roy	Session Chair (Special Session Track 1: Power Conversion Technologies for Transportation Electrification & Sustainable Energy Integration)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Dr. Amritesh Kumar	Organising Chair	IEEE IAS NE-IECCE Students Symposium	—
Dr. Avadh Pati	Session Chair	IEEE IAS NE-IECCE Students Symposium (Poster Presentation)	—
Dr. Biswajit Sahoo	Session Chair (Special Session Track 1: Power Conversion Technologies for Transportation Electrification & Sustainable Energy Integration)	IEEE IAS NE-IECCE Oral Paper Presentation	—
	Title Of Research Project: " Development of Fast Fault Detection and Location Estimation Scheme for Low-Voltage DC Microgrids " Sponsored By: SERB or ANRF Overall Budget: Rs 6274080 Duration: Jul 10, 2025 - Jul 10, 2028 (3 years) Status: Ongoing Principal Investigator: Dr. Biswajit Sahoo, Assistant Professor, Department of Electrical Engineering, NIT Silchar		

Name	Role / Contribution	Event / Details	Funding / Support
Dr. Asha Rani M.A.	Organising Chair	IEEE IAS NE-IECCE Students Symposium	—
Dr. Debayan Sarkar	Session Chair	IEEE IAS NE-IECCE Students Symposium (Poster Presentation)	—
	★ Best Paper Award	IEEE IAS NE-IECCE	—
Dr. Sreejith S.	Session Chair (Special Session 5: AI & ML for Smart, Resilient & Sustainable Energy Systems)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Dr. R. Dey	Session Chair (Special Session 5: AI & ML for Smart, Resilient & Sustainable Energy Systems)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Dr. Nabanita Adhikary	Session Chair (Special Session Track 5: Computational Intelligence, Cyber Security & IoT Applications for Energy Efficiency & Conservation)	IEEE IAS NE-IECCE Oral Paper Presentation	—
Dr. Tanmoy Malakar	Session Chair (Special Session Track 4: Energy Conversion & Management for Sustainable Smart Energy Systems & Rural Electrification)	IEEE IAS NE-IECCE Oral Paper Presentation	—

Name	Role / Contribution	Event / Details	Funding / Support
Dr. Partha Kayal	Recipient of NSP fellowship of Slovak Republic for research mobility visit at University of Žilina, Slovakia during May-June, 2025.		
Dr. B. Ganguly	Session Chair (Special Session Track 5: Computational Intelligence, Cyber Security & IoT Applications for Energy Efficiency & Conservation)	IEEE IAS NE-IECCE Oral Paper Presentation	—
	★ Best Paper Award	IEEE IAS NE-IECCE	—
Dr. Sreenu Sreekumar	International Travel Support	Attended ICECET 2025, Paris, France	ANRF, GoI
	Session Chair (“Energy”)	ICECET 2025, Paris, France	—
	Organizing Member	<i>Bhutan-India Friendship Workshop</i> on “Empowering Climate Action: AI, IoT, Robotics & Artistic Fusion for a Sustainable Indo-Bhutan Future” (Organizers: JNEC Bhutan, NIT Silchar, CST Bhutan, IIT Guwahati, NIT Sikkim)	India-Bhutan Foundation (IBF) – ₹8 Lakhs (Approved)
			

Name	Role / Contribution	Event / Details	Funding / Support
Dr. Ambrish Devanshu	Supervised M.Tech Scholar	Scholar received a Travel Award (cash prize + certificate of appreciation) for paper presentation	IEEE Conference NE-IECCE 2025 (02–04 July 2025)
	Session Chair	Chaired a session at IEEE Conference ICECET 2025, Paris, France (03–06 July 2025)	
	Book Publication (Editor)	<i>Electric Vehicle Propulsion Drives and Charging Systems</i> (CRC Press, Taylor & Francis)	Included in major libraries: IIT Delhi Central Library, RMIT Vietnam (Royal Melbourne Institute of Technology), Thammasat University Digital Library, Bangkok, Thailand
	Book Publication	<i>Recent Advancements and Emerging Technologies in Multi-level Inverters</i> (River Publishers)	Indexed on IEEE Xplore
			

8) ANY OTHER RELEVANT DETAILS OF THE DEPARTMENT THAT CAN BE INCLUDED IN THE NEWSLETTER

• **Indo-French Joint PhD Programme:**

A joint Indo–French PhD programme between the Department of Electrical Engineering, NIT Silchar and Université de Reims Champagne-Ardenne (URCA),

France, was approved by the **Chairman, Senate in July 2025**. The proposal has been forwarded to the **Ministry of Education** for signing an MoU between the two institutes. This is a **landmark achievement** for the Department and the Institute, as such an initiative is being realized for the **first time**. Under this scheme, the enrolled PhD scholar will:

- Spend **18 months at URCA, France**, with full stipend support from the host university.
- Complete the remaining duration at **NIT Silchar**, with stipend provided by the institute as per Group-A norms.
- **New M.Tech. Programme (Power Electronics & Drives):**

A new **M.Tech. programme in Power Electronics & Drives (PED)** was inaugurated and commenced on **11th August 2025**.



Inauguration of new M.Tech PED classroom

Speech by HoD EE inside PED classroom





Presence of esteemed professors EED



All faculty EE Dept. during inauguration



Inside the new MTECH PED classroom



Inside the new MTECH PED classroom

*****END*****