ASSAM ENGINEERING COLLEGE

DEPARTMENT OF CHEMICAL ENGINEERING

NEWSLETTER

7TH EDITION

JANUARY 2026

JALUKBARI, GUWAHATI-13, ASSAM, INDIA

From Principal's Desk

It gives me immense pleasure to present the 7th edition of the Annual Newsletter of the Chemical Engineering Department. This edition reflects the department's sustained pursuit of academic excellence, innovation, and holistic development, while highlighting the remarkable achievements and initiatives undertaken during the year.

I commend the faculty members and students for their dedication and collaborative efforts in upholding the department's legacy of excellence. I extend my best wishes to the entire team and look forward to their continued success and meaningful contributions in the years ahead.

Dr. Bipul Talukdar
Principal, Assam Engineering College

From HOD's Desk

It gives me immense pleasure to present the 7th edition of the Annual Newsletter of the Department of Chemical Engineering, Assam Engineering College. This Newsletter serves as a reflection of the diverse activities and achievements of our department. Our department is committed to creating an atmosphere that fosters creativity, critical thinking and innovation, ensuring that our students are well prepared for the industry's growing demands.

The past year has been one of growth, with notable contributions to academic excellence and sustainability. I congratulate all the faculty members and students for their hard work and dedication.

A special thanks to the editorial team for their brilliant efforts in putting this newsletter together. Let us continue to strive for excellence in the years ahead.

Best wishes,
Dr. Kabita Chakrabarty.

Dr. Kabita Chakrabarty
HOD, Chemical Engineering

About The Department

Established in 1963 as the fourth department of Assam Engineering College, the Department of Chemical Engineering is the oldest of its kind in Northeast India. Currently, the department has 62 students in the Second Semester, 73 in the Fourth Semester, 76 in the Sixth Semester, and 62 in the Eighth Semester of the B.Tech degree program. Additionally, the department offers a doctoral program supported by state-of-the-art laboratory facilities

The Chemical Engineering faculty is dedicated to excellence in teaching, research, and student development. With a strong track record of academic and professional success, graduates hold key positions in sectors such as petroleum, coal, gas, fertilizer, chemicals, IT, and government organizations. The department has enhanced its infrastructure with support from the Ministry of HRD, NEQIP, TEQIP, MODROBS, and other sources. It has also partnered with Pinnacle Healthcare Consultants to address environmental pollution control, particularly biomedical waste management, and collaborated on joint projects with institutions like MHRD, IITs, and ASTU. With NRL funding, a new analytical facility featuring instruments like TGA, HPLC, and LPSA is being set up in the Department, opening new avenues for research and development.

The Department of Chemical Engineering has consistently maintained NBA accreditation and is presently accredited by the National Board of Accreditation till July 2028. It is also closely associated with the IIChE (Indian Institute of Chemical Engineers), with faculty holding lifetime memberships and many students enrolled as members. Committed to excellence, the department continues to strive for greater achievements and aims to produce high-quality, capable chemical engineers to meet the growing demands of the industry.

Vision, Mission & PEO's of the Department

VISION

To be a department of repute by imparting sustainable quality education and research, with the objective of producing technical manpower who can address the challenges of the chemical and allied industries with societal ethics.

MISSION

- **Provide quality education at the undergraduate level and produce competent professionals.**
- **Prepare students for advanced learning in Chemical Engineering and its allied fields.**
- **Prepare students with up-to-date technical knowledge through industry-institute interaction.**
- **Inculcate professional, environmental and social values in students so as to groom them into individuals who would strive to contribute towards building a better society.**

PEO

- **Graduates will be able to pursue careers in Chemical Engineering and related fields of engineering such as Petroleum & Petrochemical Sectors, Environmental, Material Science, Energy etc.**
- **Graduates will be able to identify and formulate engineering and design related problems and provide appropriate solutions in social, environmental and economic context.**
- **Graduates will be motivated for life-long independent learning through advanced degrees, certifications and handling innovative project schemes.**

Events held in Department

One – Week Short Term Course (STC) On Sustainable Energy Technologies

A one-week Short Term Course (STC) on Sustainable Energy Technologies was successfully conducted during December 01–05, 2025 at the Department of Chemical Engineering, Assam Engineering College, with AEC acting as the nodal centre in collaboration with NITTTR Chandigarh. The ICT-based interdisciplinary programme focused on green energy needs and emerging sustainable energy technologies, covering areas such as renewable energy, biofuels, electric vehicles, smart grids, energy auditing, and sustainable buildings.

Eminent academicians and industry experts delivered technical sessions, ensuring strong academic and practical exposure.Faculty members, PhD scholars, and technical staff from engineering colleges and polytechnics across Assam participated, with a total of 41 participants.

The programme was locally coordinated by Dr. Plaban Bora as Local Coordinator and Ms. Mousumee Das as Local Co-Coordinator. The successful conduct of the STC highlighted the Department of Chemical Engineering, AEC as an active contributor to capacity building and sustainable energy education in the region.

IDEATHON: Awareness Workshop: 'Entrepreneurship & Innovation as Career Opportunities

The IDEATHON (Awareness Workshop on 'Entrepreneurship & Innovation as Career Opportunities') has been conducted for the 3rd and 5th semester students of Department of Chemical Engineering during 10 - 16 November, 2025 as per the guidelines of the Institution Innovation Cell of AEC. The sessions were conducted by the department IIC Coordinators Dr. Plaban Bora and Dr. Kakali Priyam Goswami. A total of 123 students actively participated in the workshop and submitted ideas on entrepreneurship and innovation.

Memorial Homage to 'Heartthrob' Zubeen Garg

The Department of Chemical Engineering organized a memorial homage program on September 20, 2025, following the demise of the Musical Maestro Zubeen Garg on September 19, 2025. Students, faculty members, and office staff of the college gathered to honor the life and legacy of the renowned Assamese artist. The Principal of Assam Engineering College, Dr. Bipul Kumar Talukdar, along with faculty members and students of the department, offered floral tributes as a mark of respect. The session reflected on Zubeen Garg's immense contribution to Assamese music and culture, highlighting his role as a voice of the people. Speakers recalled how his music resonated across generations and social boundaries. The homage served as a moment of collective remembrance and cultural reflection within the department, reinforcing the importance of preserving regional art and heritage.

Talk on Environmental Values and Ethics

The Training and Placement Cell, Dr. Satyajit Bhuyan and Dr. Ashim Kumar Basumatary, both TPOs, along with their team, in collaboration with the Department of Chemical Engineering, Assam Engineering College and Bhaktivedanta Institute, Kolkata, organized a talk on "Environmental Values & Ethics" on October 30, 2025.

Held at the Seminar Hall of the Training and Placement Cell, the session aimed to sensitize students towards ethical responsibility in addressing contemporary environmental challenges. The talk featured eminent speakers Sri Vasudeva Rao, President of Bhaktivedanta Institute, Sri Varun Agarwal, Director of Bhaktivedanta Institute, and Prof. Ramagopal V. S. Uppaluri from IIT Guwahati. The session inspired students to integrate ethical engineering practices with sustainability, encouraging environmentally responsible choices in both personal and professional life.

Expert Talk on Intellectual Property Rights and IP Management

An Expert Talk on Intellectual Property Rights (IPRs) and IP Management for Startups was successfully conducted on 2 May 2025 under the Institution's Innovation Council, AEC, in association with the Department of Chemical Engineering, with Dr. Ashim Kumar Basumatary serving as The Coordinator for the talk. The offline session focused on the significance of IPRs in fostering innovation and supporting startup ecosystems. It provided valuable insights into IP protection, management strategies, and commercialization prospects. Students and faculty members actively participated, making the session highly engaging and informative.

FACULTY PUBLICATIONS AND ACADEMIC ENGAGEMENTS

1. **A. K. Basumatary,** Sustainable Utilisation of Areca Nut Husk for the Production of Activated Carbon and Its Use in Wastewater Treatment, Souvenir cum Technical Volume, World Water Day, ISBN: 978-81-981586-9-7, 22 March 2025.

2. **B. Kaibarta**, Polyaniline/Acetylene Black Binary Nanocomposites for High-Performance Supercapacitor Electrode, Future Batteries, 2025; 5, 1 February.

3. **P. Bora**, Antioxidant, Antimicrobial and In Silico Investigations on Pyrolytic Bio-Oil from Invasive Stachytarpheta jamaicensis, Environmental Science and Pollution Research (Springer Nature), 2025; 32, 15 July.

4. **P. Bora**, Microbial Fuel Cell as a Power Source of Unified Power Quality Conditioner, in Recent Advances in Energy Transitions Towards Sustainable Development, CHEMCON 2023, Springer Proceedings in Materials, 2025; 67.

5. **B. Kaibarta**, Polyaniline/Acetylene Black/OMMT Ternary Nanocomposite as a Bifunctional Material for Environmental Remediation and Energy Storage, Best Poster Award, 18th International Conference on Polymer Science and Technology (SPSI MACRO 2025), IIT Kharagpur Research Park, Kolkata, India, 15–18 December 2025.

6. **A. K. Basumatary**, Introduction to Ancient Indian Technology, NPTEL–SWAYAM, 12-week course, January–April 2025; certification examination conducted in April 2025.

7. **A. K. Basumatary**, Environmental Quality Monitoring & Analysis, NPTEL–SWAYAM, 12-week course, January–April 2025; certification examination conducted in April 2025.

PLACEMENT SCENARIO

44% of students were placed from the Batch of **2021-2025** during the last academic year in reputed organizations like **Numaligarh Refinery Limited, Vedanta, Dalmia Bharat Group, Oil India Limited, Hindustan Unilever Limited, Brahmaputra Cracker** and **Polymer Limited** etc. Additionally, 6 passed out students were placed at the **Numaligarh Refinery Limited** during the session 2024-25.

The Growing Burden of Urban Waste: Understanding Solid Waste Management in Guwahati

Anubhabi Borthakur
8th Semester, Chemical Engineering, Batch 2026

Guwahati, the gateway to Northeast India, is known for its rapid urban growth, vibrant culture, and natural beauty. Yet behind the scenic Brahmaputra banks lies a pressing urban challenge that deserves urgent attention: how the city generates, manages, and struggles to handle solid waste.
Growing up in Guwahati, I have witnessed firsthand how waste-from our homes, markets, and streets—has increasingly overwhelmed the city's infrastructure. What used to be manageable has now turned into an urban crisis, affecting public health, aesthetics, ecology, and overall quality of life.

Understanding the Scale
Guwahati's population has grown rapidly and with this growth comes a proportional rise in solid waste generation. Estimates suggest that Guwahati produces over 600–700 metric tonnes of waste daily, a number increasing every year due to rising consumption, urbanization, and changing lifestyles.
Unfortunately, the rise in waste generation has not been matched by efficient waste management systems leading to widespread garbage accumulation, frequent complaints from citizens and a complex cycle of environmental and health issues.

The Core of the Problem
A key issue lies right at the household level-where waste originates. Ideally, households should segregate waste into biodegradable (wet) and non-biodegradable (dry) categories. However, in practice, segregation is largely absent in most neighbourhoods. Reasons include:

- Lack of awareness about segregation importance.
- Absence of easy-to-use systems for households.
- Behavioural habits that have not yet adapted to structured waste practices.

The knock-on effect is that mixed waste reaches the collection vans, making recycling difficult or impossible and overburdening downstream systems. This defeats the purpose of any further segregation or treatment down the line.

Municipal Rules: Progressive in Design, Challenged in Execution
The Guwahati Municipal Corporation (GMC) has established rules aligning with national waste management guidelines, including targeted segregation, scheduled door-to-door collection, and designated dumping sites, as per Solid Waste Management Rules, 2016. In theory, these rules should enhance efficiency and reduce public health hazards.
Yet, implementation remains inconsistent. Many localities still lack systematic door-to-door collection, and irregular pickups have become common. Enforcement of household segregation rules is weak, and citizens often dump waste on roadside corners when pickup is delayed or absent.
This has two broad consequences:

- Informal open dumping, which creates unsightly mounds and fosters scavenging by animals.
- Open burning, causing conversion of solid waste pollution to air pollution.

Guwahati's expanding dumping sites have become a worrying feature. These sites bring with them multiple health and environmental hazards. Water contamination as leachate percolates into soil and water bodies. Breeding grounds for disease vectors such as rats, mosquitoes, and flies. Direct human exposure, particularly for children and waste workers.
The situation also exacerbates during monsoon seasons, where water-logged waste becomes an even greater public health hazard

Role of Technology and Public Engagement
As a Chemical Engineering student, I see opportunities where technological and scientific interventions can make a real difference. These include:

- Waste-to-energy conversion units, capable of treating organic and non-recyclable fractions.
- Bio-methanation, where wet waste can be converted to biogas and compost.
- Advanced sorting stations using mechanical and optical systems for better recycling rates.

However, technology alone cannot solve the problem. Community awareness, education, and behavioural change are equally critical. The success of any modern waste management framework begins with informed citizens who understand their role in reducing waste at the source.
Addressing solid waste management requires collective action such as segregation of waste at home before disposal, reduce single-use plastics and adopt composting at small scale household level.

Through this study, I have come to understand that solid waste management in Guwahati is as much a behavioural challenge as it is a technical one, with gaps beginning at the household level. While municipal initiatives provide a foundation for improvement, their effectiveness depends on consistent public participation and responsible segregation at source. I believe that with increased awareness, scientific intervention, and collective civic responsibility, Guwahati can move towards a cleaner, healthier, and more sustainable urban future.

Where Time Moves Gently

A Collective Reflection by Students of Assam Engineering College

-Ananya Sharma, Dikshita Kalita, Ritisha Sabhapandit, Saranan Borah, Tanbir Tonoi Kashyap
4th Semester, Chemical Engineering, Batch 2028

BEST SOCIAL INTERNSHIP PROJECT

Some places speak without words. They teach without instructions and leave an impact long after one has walked away. Our social internship was one such experience—quiet, reflective, and deeply human.

Stepping away from our usual academic routine, we entered a space where life moved at a gentler pace and every moment seemed to carry meaning. This journey led five students from Assam Engineering College to Sarothi Old Age Home in Jorhat, where we spent our days observing, listening, and learning beyond the limits of classrooms.

Sarothi was established in 2012 under the Islamic Women Welfare Association with the aim of providing shelter, care, and dignity to underprivileged elderly women from all backgrounds. With support from various organizations and individuals, including contributions from ONGC Assam Asset, the home has grown steadily over the years. Today, it stands as a place of safety for elderly women who are often without family support or security. Notably, Sarothi is Upper Assam's first old age home, and its work and vision have also been featured in The Telegraph newspaper.

What stood out most was how, despite being founded by an Islamic association, Sarothi embraced all cultures, traditions, and beliefs with remarkable openness.

Religion here was not a dividing line but a shared space of respect. Unity quietly outshone every individual faith. What we felt most strongly was not difference, but the presence of pure, innocent hearts living together in harmony.

Life at Sarothi followed a simple and calming rhythm. Days began early with personal care, followed by meals, light activities, and long moments of quiet. Within the same space, residents followed their own spiritual practices. Some prayed softly, others observed their faith differently, yet all coexisted naturally. It was here that we truly understood the meaning of acceptance—when we saw elderly women reading the Bible, passages from the Mahabharata, and other religious texts each morning, side by side. A Namghar too stood within the premises, where one could offer prayers. In those moments, faith felt less like ritual and more like shared humanity.

Healthcare formed an important but unobtrusive part of daily life. Regular medical visits and health camps ensured that residents' needs were attended to. Under guidance, we assisted in basic tasks such as checking blood pressure and blood sugar levels, distributing medicines, and helping with eye drops. These small acts showed us how essential attentive care is in old age—and how deeply such care is rooted in patience and compassion.

The most meaningful part of our experience, however, was the time spent with the residents. Conversations moved slowly, filled with memories of childhood, family, work, and loss. One encounter that stayed with us was with an elderly woman nearly ninety-four years old, who spoke vividly about the freedom struggle. She shared that she had once seen Gandhiji and softly sang songs from that time. In that moment, history felt alive, carried gently through her voice.

We came to understand that the residents' greatest need was not assistance, but companionship. Often, simply listening, sharing silence or sitting beside them was enough. Our presence, though brief, mattered more than we had imagined.

As our days passed, our perception of ageing began to change. We saw strength, patience, and quiet dignity where we had expected fragility. The residents accepted each day with grace, teaching us the importance of slowing down and truly being present.

When it was the time to leave, the farewell was unexpectedly heavy. Some of the grandmothers held our hands and asked us to come again, wondering aloud why we were leaving so soon. Their words revealed a deep vulnerability and made us realise how much our presence had meant.

We did not come here merely to complete a social internship and move on. Our time at Sarothi did not end with the submission of a report or the ticking of a requirement. Instead, it opened something within us. It made us want to continue exploring such spaces, places where empathy is practiced quietly and humanity is lived every day.

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We arrived as students fulfilling an academic responsibility, but we left as listeners, learners and more thoughtful individuals. Sarothi gave us more than an experience. It gave us perspective. As students of engineering and science, we are often trained to think in terms of logic, data, and reasoning. Our days are usually filled with formulas, calculations, and structured problem-solving. Yet this internship offered us something equally important—a pause.

It gave us the space to reflect not just on society, but on ourselves. As the future generation of the country, we were confronted with a reality that often goes unnoticed: the quiet neglect of the elderly, shaped by changing social structures, the shift from joint families to nuclear households, professional commitments, and the relentless pace of modern life. Witnessing this firsthand urged us to introspect deeply. It reminded us that progress is incomplete if it leaves compassion behind, and that understanding human realities is as essential as mastering technical knowledge.

This journey reminded us that learning does not always happen through lectures or examinations. Sometimes, it happens in quiet rooms, shared silences, folded hands in prayer and stories that stay with us long after time moves on

PERSPECTIVES:
A Conversation with Er. Ajit Roy

This article offers insight into the professional journey of Er. Ajit Roy, General Manager (Technical Services), Indian Oil Corporation Limited (IOCL), Guwahati Refinery, and a distinguished alumnus of Assam Engineering College. Through his responses, he reflects on his academic foundations, professional challenges, and perspectives on energy transition, digitalisation, and the evolving role of chemical engineers, while also sharing practical guidance for students and his vision for the future of his alma mater.

1. What led you to choose chemical engineering as a career, and which skills or knowledge areas have contributed most to your professional growth?

Assam has long been synonymous with petroleum, which inspired my aspiration to work in the oil and gas sector. During my formative years, I believed that chemical engineering was the most suitable discipline to realise this ambition. Today, as the world stands at the cusp of a major energy transition with increasing emphasis on sustainability and environmental responsibility, I am convinced that choosing chemical engineering was the right decision, as demand for this discipline is only expected to grow further.
I believe in teamwork sans individual high-handedness. I understand this trait, which I learnt during various activities at AEC college and hostel, helped me in my professional career.

2. Can you describe a challenging project, setback, or difficult decision from your academic or professional journey? How did you handle it, and what lessons did you take away from the experience?

I still recall my final-semester project, where meeting tight deadlines demanded intense focus, while simultaneously managing other subjects and coping with uncertainties about the future. At times, this was mentally challenging, but the experience taught me the importance of effective time management.
Years later, at Indian Oil Corporation Limited, I was involved in several high-pressure project activities in a running refinery unit, each constrained by stringent safety and operational requirements. The key lesson reinforced was that in real plant environments, practicality, safety, and teamwork take precedence over theoretical perfection—a perspective I had first begun to develop during my AEC days.

3. How important is it for young chemical engineering graduates to stay updated with current trends in chemical engineering, particularly developments in the energy sector? How can they do this effectively?

It is extremely important, especially with rapid changes in energy transition, emissions norms, and digitalisation. In a rapidly changing world, adaptability is the key to staying technically relevant. Young engineers can stay updated through technical journals, industry webinars, PSU/energy-sector reports, and by continuously upgrading soft skills alongside core engineering knowledge.

4. What guidance would you offer to chemical engineering students who aspire to build a career in the industry?

Build strong fundamentals, develop process thinking, and cultivate patience. The industry values engineers who understand plant realities, safety, and reliability—not academic calculations alone.

5. From your experience in the petroleum industry, where do you feel academic training falls short, and how can students begin preparing better during their college years?

Academics often lack exposure to real plant constraints like safety interlocks, equipment limitations, and operational trade-offs. Students should pursue internships, plant visits, and learn basic process simulation tools during college.

6. Apart from academics, which skills or college experiences do you believe are most important for long-term professional success? How can students make the best use of their time in college?

Communication, teamwork, discipline, and problem-solving under constraints are critical. Participating in technical clubs, internships, and group projects helps students develop these skills effectively.

7. Students today try to balance core chemical engineering with skills such as data analytics and sustainability. From your perspective, is it better to develop deep expertise in one area or build a broader, interdisciplinary skill set?

A strong core in chemical engineering is essential, but today's engineers benefit from interdisciplinary skills in data analytics, energy efficiency, and sustainability. Artificial Intelligence is no longer a Computer Engineers' exclusive domain, and every industry has adopted it.
Depth first, followed by breadth, works best.

8. Classroom learning often differs from real plant operations, especially in terms of safety and process constraints. How important is plant-level exposure for chemical engineers, and how can students start preparing for it during college?

Plant exposure is vital for understanding safety culture, operational discipline, and real-world decision-making. Students should seek internships, summer training, and familiarize themselves with PFDs, P&IDs, and safety systems early.

9. Given today's industry challenges and the increasing adoption of artificial intelligence, how do you see the role of chemical engineers evolving with sustainability, digitalisation, and India's energy transition? What capabilities will be most critical for future professionals?

Chemical engineers will play a central role in sustainability, digitalisation, and India's energy transition. Future professionals must combine process expertise with skills in emissions management, AI-enabled optimisation, and energy integration while maintaining a strong safety mindset.

10. As an alumnus of this institution, how would you like to see your alma mater grow and develop in the coming years, and how can alumni contribute to this progress?

As an alumnus of AEC, I would like to see my alma mater strengthen its focus on industry-relevant education, research, and innovation while preserving its strong academic foundation. Greater collaboration with industry, enhanced laboratory and digital infrastructure, and increased exposure to emerging areas such as sustainability, energy transition, and digital engineering will prepare students for future challenges. Alumni can contribute meaningfully by mentoring students, supporting internships and projects, sharing industry insights, and actively engaging in institutional initiatives that bridge academia and industry.

MORE THAN GARBAGE: IT'S ABOUT RESPONSIBILITY

-Mrigakhi Konwar, Mohit Sah, Abhinav Dowari, Kaustuv Kishore Gogoi, Kaustav Moni Dutta, Supriya Das
4th Semester, Chemical Engineering, Batch 2028

BEST SOCIAL INTERNSHIP PROJECT

What happens to the waste we casually discard every day? For most of us, it disappears from sight and thought. However, during our social internship at the Digboi Municipal Board, we learned that waste has a story—one that directly affects the environment, public health, and quality of life. This experience reshaped our understanding of sustainability, community responsibility, and the power of informed action.

The social internship began with a series of field visits that traced the journey of waste from collection to disposal and treatment. At the transport station, we observed how waste from different parts of Digboi is gathered and prepared for processing. A visit to the dumping site was particularly eye-opening, revealing the environmental consequences of unscientific disposal and highlighting the urgent need for improved waste management practices.

At the Solid Waste Management Plant, theory came alive. We explored the Vermi-Composting site, where biodegradable waste is converted into nutrient-rich compost through natural processes. The Faecal Sludge Treatment Plant (FSTP) demonstrated how proper treatment prevents groundwater contamination and protects public health. The Material Recovery Plant (MRP) showcased how recyclable materials can be segregated and reintroduced into the economy. Together, these units revealed both the strengths and limitations of municipal waste management in a growing town like Digboi.

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Beyond infrastructure, effective waste management depends on public participation. Our team surveyed 900 shops across Digboi, checking for the presence of dustbins, verifying trade licences, and observing disposal practices. These interactions exposed a clear gap between awareness and actual implementation.

Survey findings revealed that nearly 90% of the waste generated in the commercial areas was collected by the Municipal Board, while shopkeepers managed the remaining waste in a largely inefficient and unscientific manner. More critically, it was observed that less than 1% of the surveyed population practised proper segregation of dry and wet waste at source, indicating a major gap in public awareness and participation

Alongside surveys, we conducted waste awareness campaigns that engaged shop owners and residents in discussions on waste segregation at the source. Using simple language and practical examples, we explained how separating dry and wet waste can significantly reduce environmental damage and improve cleanliness.

Creativity played a key role through model making under the theme “Waste to Art.” Using recycled plastic bottles, we designed a water droplet-shaped model symbolising the value of every drop and the connection between clean surroundings, clean water, and a healthy life.

The model visually communicated the principles of Reduce, Reuse, and Recycle (3Rs and served as a constant reminder of sustainable practices within the community.

Despite challenges such as uncooperative shop owners, limited site access, and time and transport constraints, the internship strengthened our teamwork, adaptability, and problem-solving skills.

Most importantly, the internship taught us that when communities and institutions collaborate, even everyday waste can become the foundation for a cleaner and more responsible future. Overall, the internship highlighted that effective solid waste management is not merely an administrative function but a shared social responsibility. Strengthening public awareness and source segregation, alongside existing municipal infrastructure, is essential for achieving long-term environmental sustainability in urban areas like Digboi.

STUDENT ACHIEVEMENTS

TECHNICAL, CULTURAL & SPORTS ACHIEVEMENTS

1. **Ritisha Sabhapandit** won the "Spotlight Showdown" event organized by the Media Cell and Debating Society of Assam Engineering College. She also secured First Position in the Vocals category at Euphony, an all-Assam music competition organized by Symphonits, the music club of National Institute of Technology Silchar.
2. **Priyam Das** secured the Third Position in the Aeromodelling Workshop cum Competition held during Pyrokinesis'25 (27–28 February 2025). He also won the Consolation (Third) Prize in the Robo Race Competition conducted during Prajyukttam'25 at Assam Don Bosco University on 14 November 2025.
3. **Hema Das** received a High Commendation (IPC–Journalism) at AEC MUN 2025, held from 28 February to 1 March 2025. She was also selected for the Smart India Hackathon (SIH) 2025 National Grand Finals as a member of the team Out of deBox.
4. **Deepmoni Kalita** and **Nobojit Muchahary** were part of the Men's Volleyball Team that secured the First Position at IIT Spirit, held at Indian Institute of Technology Guwahati from 30 October to 2 November.
5. **Ankush Roy** won the Best Debater Award at an inter-college debate competition held at Pub Kamrup College on 21 August 2025. He also secured the Third Best Debating Team position at an inter-college debate competition organized by Kharupetia College on 11 October 2025.
6. **Beauty Puni Kalita** received the Creative Visionary Award along with a certificate of recognition for her role as the Coordinator of the Multi Skilling and Sustainability Centre during the academic session 2024–2025.
7. **Sneha Kumari** successfully cleared the NCC "B" Certificate Examination under the North Eastern Region Directorate, organized by the National Cadet Corps under the authority of the Ministry of Defence, and achieved a B Grade.
8. **Raj Kalita**, from Assam Engineering College, was awarded the Chief Minister's Green Fellowship (2024–25) by the Pollution Control Board Assam, Government of Assam.
9. **Utpol Saikia** qualified the GATE 2025 Examination in Chemical Engineering (CH), securing an All India Rank (AIR) of 2532.

NPTEL ACHIEVERS

1. **Elena Bardalai** achieved ELITE + Silver in Basic Environmental Engineering and Pollution Abatement and secured a position among the Top 2% (Topper).
2. **Saye Khain Hassan** achieved ELITE + Silver and secured the position of Topper in Mechanical Operations.
3. **Himjyoti Das** achieved ELITE + Silver in CFD Applications in Chemical Processes.
4. **Arindam Kalita** achieved ELITE (Topper) in Mechanical Operations and also earned ELITE in An Introduction to Cardiovascular Fluid Mechanics.
5. **Deepmoni Kalita** achieved ELITE in Polymer Process Engineering, Waste to Energy Conversion, Hydrogen Energy, and Fluid Flow Operations.
6. **Dikshita R. Dutta** achieved ELITE in Heat Transfer and Chemical Engineering Thermodynamics.
7. **Beauty Puni Kalita** achieved ELITE in Biomass Conversion and Biorefinery and successfully completed Aspen Plus Simulation Software: A Basic Course for Beginners.
8. **Utpreksha Kashyap** achieved ELITE in Interfacial Engineering.
9. **Abhinav Borthakur** achieved ELITE in Experimental Nanobiotechnology.
10. **Anirban Boruah** achieved ELITE in Chemical Process Safety.
11. **Simanta Karjee** achieved ELITE in Heat Transfer Operations.
12. **Mrinmoy Prasad** Dutta achieved ELITE in Fluid Flow Operations.
13. **Sneha Kumari** achieved ELITE in Polymers: Concepts, Properties, Uses and Sustainability.
14. **Utpol Saikia** achieved ELITE in Petroleum Reservoir Engineering.
15. **Nitisha Sarma** successfully completed Heat Transfer.
16. **Anchit Dutta** successfully completed Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems.
17. **Kuhi Das** successfully completed Heat Transfer Operations, Interfacial Engineering, and Computational Process Design.
18. **Himangshu Saikia** successfully completed Mechanical Operations.
19. **Anisha Gogoi** successfully completed Chemical Reaction Engineering - I

INSDUSTRY ACADEMIA INTERACTION

Visit to 13th India Industrial Fair 2025

A team of faculty members from the Department of Chemical Engineering, Assam Engineering College, namely Prof (Dr.) Bandana Chakrabarty, Prof (Dr.) Kabita Chakrabarty, Professor, Prof (Dr.) Ashim Kumar Basumatary, Professor and Dr. Plaban Bora, Assistant Professor visited the 13th India Industrial Fair 2025, held at Guwahati on 31st October 2025. The event was organized by Laghu Udyog Bharati (LUB). During the visit, the team interacted with several government organizations and Micro, Small & Medium Enterprises (MSMEs). The primary objectives included: Exploring possibilities for MoUs to facilitate Student internships, Industrial visits, Start-up mentorship, live projects, Research & Development collaborations and strengthening industry–academia relationships for the benefit of Chemical Engineering students. The visit to the India Industrial Fair 2025 was highly productive and beneficial. It opened avenues for multiple forms of collaboration, especially in the areas of internships, industrial visits, and R&D engagement. The Department of Chemical Engineering looks forward to formalizing these partnerships in the near future for the overall development of students and academic enhancement.

ADVANTAGE ASSAM 2.0

The Department of Chemical Engineering organized an academic and industrial exposure visit to the Advantage Assam Summit held on 25th–26th February in Guwahati. The visit was accompanied by Professor Ujwala Hujuri and Professor Plaban Bora, along with 15 final-year undergraduate students, with the objective of providing first-hand exposure to large-scale industrial initiatives, investment policies, and emerging opportunities in the Northeast region.

The summit brought together policymakers, industrial leaders, investors, and technical experts from sectors such as energy, petrochemicals, infrastructure, manufacturing, and sustainability.

Through technical exhibitions, interactive sessions, and industry presentations, students gained valuable insights into real-world applications of chemical engineering principles.

The visit strengthened the academic–industry interface and enhanced awareness of current industrial trends and skill requirements. Faculty members gained perspective on evolving technological priorities and potential academic collaborations, while students were able to connect theoretical knowledge with practical applications, policy frameworks, and large-scale project planning. Overall, the visit served as a meaningful experiential learning initiative, contributing to the professional preparedness and holistic development of the students.

LIST OF FACULTY

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- Ph.D in Chemical Engineering from IIT, Guwahati
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Chemical Engineering

EDITORIAL TEAM

Faculty in Charge

Dr. Ujwala Hujuri
Associate Professor
Chemical Engineering

Dr. Plaban Bora
Assistant Professor
Chemical Engineering

Students in Charge

Anubhabi Borthakur
8th Semester

Rupjyoti Nath
8th Semester

Anisha Gogoi
6th Semester

Ankush Roy
6th Semester

Ankita Gogoi
4th Semester

Hema Das
4th Semester

Nairhity Kashyap
4th Semester

IN LOVING MEMORY

RISHABH DIHINGIA

22.11.2003 — 16.01.2025

Student, Department of Chemical Engineering

Batch of 2023–2027

Gallery 2025

Orientation Program for the 1st NEP Batch on 5th August 2025

Tree plantation on World Environment Day 2025

Vishwakarma Puja celebration 2025

Homage to Zubeen Garg

NBA compliance Team expert visit

Teachers' Day Celebration

ChemQuiz 2025

8th sem viva voce examination

PhD defense seminar of Dr. Hemantajeet Medhi

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