CATALYST

2025

FROM THE PRINCIPAL'S DESK

Dr. G.T Thampi

Professor and Principal
Thadomal Shahani Engineering College

Forward: Riding the Wave of Innovation – Chemical Engineering in the AI Age and Beyond

Welcome, aspiring chemical engineers, to the latest edition of our annual magazine! As you flip through these pages, I urge you to look beyond the immediate and envision the thrilling future that awaits you in the field of chemical engineering. The landscape of our discipline is undergoing a profound transformation, driven by unprecedented technological advancements and a global imperative for sustainability.

We stand at the precipice of a revolution, one where Artificial Intelligence is no longer a futuristic concept but a powerful tool actively reshaping industrial processes. For you, the next generation of chemical engineers, this translates into immense opportunities in AI-driven process control. Imagine optimizing reactor conditions with real-time data analysis, predicting equipment failures before they occur, and achieving unprecedented levels of efficiency and safety. Similarly, AI in quality control offers the promise of superior product consistency and reduced waste through intelligent monitoring and predictive analytics. Furthermore, the very nature of research in chemical engineering is being redefined by AI's ability to rapidly analyze vast datasets, simulate complex reactions, and accelerate the discovery of new materials and processes. Embrace these tools, for they will empower you to innovate at a pace previously unimaginable

But the horizons of opportunity extend far beyond the digital realm. The world faces critical challenges, and chemical engineers are uniquely positioned to provide the solutions. The urgent need for a sustainable future has opened up exciting avenues in product development for emission control. Think of advanced catalysts, novel sorbents, and intelligent systems designed to drastically reduce industrial pollutants. The burgeoning field of carbon capture presents a grand challenge and a grand opportunity – developing efficient and scalable technologies to mitigate climate change.

Moreover, the global energy transition is creating new frontiers. Hydrogen cells, with their promise of clean energy, demand innovative chemical engineering solutions for production, storage, and utilization. And as we look to harness the power of our planet, the nascent field of tidal energy generation offers a fascinating space for chemical engineers to contribute to material science, corrosion control, and process optimization in harsh marine environments.

The opportunities are vast, diverse, and deeply impactful. They demand not just a strong foundation in chemical engineering principles, but also a curious mind, a willingness to embrace new technologies, and a commitment to solving real-world problems. Develop your computational skills, cultivate an understanding of data science, and never stop exploring the interdisciplinary connections that will define the future of our profession.

This magazine is a testament to the vibrant intellectual curiosity within our department. Let it inspire you to seize these evolving opportunities, to be at the forefront of innovation, and to contribute to a future that is smarter, cleaner, and more sustainable. The world awaits your ingenuity.

FROM THE HEAD OF DEPARTMENT

Dr. Nita Mehta

Head of Department
Department of Chemical Engineering

It gives me immense pleasure to pen this message for Catalyst, our annual technical magazine that reflects the vibrant academic and co-curricular spirit of the Chemical Engineering Department at TSEC. This year has been a remarkable journey of innovation, collaboration, and student-driven excellence, made possible through the combined efforts of our dedicated faculty, alumni, and the ever-enthusiastic IIChE-TSEC student chapter.

Looking back, we've had a year brimming with opportunities for growth, learning, and connection. CheMystery 2024 kicked things off with an innovative blend of scientific inquiry and detective intrigue, challenging our students to unravel complex puzzles with a chemical twist. It was fantastic to witness their problem-solving skills and critical thinking in action.

Our annual symposium, Chemergence 2024, truly lived up to its slogan, "Innovating Chemistry, Engineering the Future." This event successfully bridged the gap between academia and industry, offering invaluable real-world exposure to our students. With its focus on Green Innovation for a Sustainable Future, Chemergence reignited the passion of our aspiring engineers through insightful collaborations, engaging competitions, practical mock interviews, and inspiring lectures from leading industrial experts.

The Alumni Meet 2024 was a particularly heartwarming occasion. It was a joy to see our chemical engineering alumni reconnect with old friends and faculty, share their invaluable experiences, and relive cherished memories. Their continued connection and support are a cornerstone of our department's strength.

The intellectual rigour was on full display at the prestigious Prof. N. R. Kamath Quiz ChEQ 2025. This intercollegiate quiz competition showcased the exceptional knowledge, speed, and strategic thinking of chemical engineering students from various colleges affiliated with Mumbai University, IITB, and ICT. Congratulations to all who participated and excelled!

Finally, Project Demo Day 2025 provided an excellent platform for our students to showcase their innovative projects through engaging poster presentations. The involvement of our alumni, now industry experts, as judges added an invaluable layer of real-world feedback and mentorship to this event.

None of these successes would have been possible without the collective effort and unwavering commitment of many individuals. I extend my sincere appreciation to our dedicated IICHE Teacher Coordinator, Dr. Praseeda Nambisian, for her tireless efforts in guiding our student body. A special mention goes to Dr. Trupti Dharamrao, the convenor of ChEQ, for organising such a stimulating competition.

I also want to express my deepest gratitude to all the actively involved staff members whose hard work often goes unseen but is crucial to the smooth execution of every event. And to our enthusiastic IICHE student team, your energy, creativity, and dedication are truly the driving force behind the vibrancy of our department. Your efforts make a tangible difference, and I am incredibly proud of every one of you.

This past year has been a testament to our collective commitment to excellence in chemical engineering. Let us continue to inspire, innovate, and achieve even greater heights in the years to come.

FROM THE TEACHER COORDINATOR

Dr. Praseeda Nambisan

Teacher Coordinator
Department of Chemical Engineering

A Year of Innovation, Connection & Celebration

This academic year has been nothing short of extraordinary for our IIChE Committee. We began with CheMystery, a one-day precursor event that ignited curiosity and set the stage for learning through playful chemistry challenges. Building on that excitement, we launched into Chemergence, our flagship two-day festival. The symposium blended technical rigor with creative flair—an immersive experience that brought together students, faculty, and industry.

A highlight of Day 2 of Chemergence was the warmly received Alumni Meet, where past graduates—now thriving chemical engineers and entrepreneurs—mentored and networked with current students. This interaction offered invaluable professional insight and inspiration.

Our Committee also had the distinct privilege of hosting the N. R. Kamath Memorial Intercollegiate Quiz Competition, a prestigious event that convened bright minds from across institutions to test their mettle in chemical engineering trivia—honoring the legacy of Prof. N. R. Kamath.

As the academic year drew to a close, we showcased the culmination of our students' ingenuity during Project Demo Day, where teams presented their academic-year projects. It was a proud moment—witnessing research, innovation, and collaboration come to life before peers and faculty.

"I deeply appreciate the unwavering support and collaborative spirit of my fellow teachers—your guidance and teamwork made every event possible."

None of this would have been possible without the boundless enthusiasm and dedication of our student committee, whose energy fueled every event. I extend heartfelt thanks to our Principal, Dr. G. T. Thampi, and our Head of Department, Dr. Nita Mehta, for their unwavering guidance and support throughout the year.

To our outgoing student committee: I wish you all the best in your future endeavors. To the new committee: may you continue this legacy of excellence and camaraderie. I hope every member not only enjoyed the journey but emerged with stronger skills, richer connections, and memories to cherish.
Together, we've set a high bar—let's keep raising it, year after year!

FROM THE CHAIRPERSON

MR. SOHAM JOSHI

"When I first entered college, I had no idea what IIChE was. The pandemic had delayed our admission, and CHEMERGENCE'22 had already passed us by. One day, our seniors walked into the classroom, calling out names of those interested in joining. That spontaneous moment marked the beginning of my IIChE journey as an Assistant Technical Officer. Initially, everything felt unfamiliar—working with seniors, taking on responsibilities. But all doubts vanished once I experienced the joy of successfully organising events. That feeling of accomplishment sparked a dream: I wanted to lead this committee
one day.
On 20th March 2024, that dream became reality as I took on the role of Chairperson for CHEMERGENCE'24.

Leading a 36-member team, most of whom hadn't worked together before, was a challenge. Yet from our very first event, CHEMYSTERY, I saw immense potential in the group. The dedication, creativity, and spirit of collaboration made the journey fulfilling. CHEMERGENCE'24 pushed us to our limits—we planned and executed eight events in under three weeks. Each detail was carefully refined through numerous meetings and brainstorming sessions. Hosting the alumni meet and the 17th Prof. N. R. Kamath Memorial Quiz further added to our responsibilities, but we managed them all with dedication and teamwork. I'm deeply grateful to our HoD, Dr. Nita Mehta mam, teacher coordinator Prof. Praseeda Nambisan mam, our faculty, and my core team—Vice-Chairperson Moha Kulkarni and Secretary Akruti Sali—for their constant support. Most importantly, thank you to the entire team whose energy made this tenure unforgettable.

Being the Chairperson was one of the most demanding roles I've ever taken on—but also the most rewarding. This journey has shaped me in ways words can't fully express. It has taught me lessons far beyond measure, and I am truly grateful for the opportunity and the trust everyone placed in me. As I now pass the baton to the next committee, I do so with immense pride and deep gratitude. I am confident that the legacy we've built will continue to grow, and that CHEMERGENCE will reach even greater heights in the years to come."

VICE CHAIRPERSON

MS. MOHA KULKARNI

" I always had a vision or rather, a dream of becoming the Chairperson or Vice-Chairperson for the tenure of 2024–25, ever since my time as the Publicity Head during my tenure of 2023–24. As this truly memorable journey of being the Vice-Chairperson of the IIChE committee comes to an end, I am filled with pride and gratitude for everything we have achieved together.

This journey was never about a single individual; it was a collective effort. Every department within the committee worked tirelessly, whether it was for Precursor or Chemergence, and I couldn't be more proud of each and every member. Your dedication, hard work, and unwavering spirit have been the backbone of our success.

Serving as VCP not only helped me grow in confidence but also made me believe in myself more deeply. It taught me the true essence of team management and the importance of resilience; that no matter how difficult a situation may seem, there is always a way forward.

Handling a committee was never going to be an easy task, something my seniors had often reminded me, but the trust I had in myself and my team made all the difference. Every successful event this year was a testament to our combined efforts, our trust, and our shared vision.

I owe a special thanks to our HoD, Dr Nita Mehta Ma'am, whose tireless efforts, constant motivation, and unwavering faith in us made all our events more successful. Her invaluable guidance, whether it was in securing sponsorships or offering critical suggestions, was a source of strength throughout this journey. A heartfelt thank you to our Teacher Coordinator, Prof. Praseeda Nambisan Ma'am, for her incredible dedication to the committee. Her continuous support, belief in our capabilities and insightful guidance inspired us to aim higher and deliver better with every event.

Last but not least, a big thank you to all our respected faculty members for their constant encouragement, support, and presence throughout all our activities. I am more than grateful for this wonderful opportunity. Looking back, I am filled with happiness and pride for having taken the step forward to become the VCP of this incredible committee. As I move forward, I carry with me countless lessons, memories and a profound belief in the power of teamwork and leadership."

"True leadership lies in guiding others to success — in ensuring that everyone is performing at their best, doing the work they are pledged to do, and doing it well."
~Bill Owens

SECRETARY

MS. AKRUTI SALI

“ Looking back on my term as Secretary of IIChE-TSEC, the journey still feels almost surreal. What began as an entirely new experience - stepping into responsibilities, understanding the dynamics of ChEMERGENCE, and learning how to coordinate on such a large scale - slowly transformed into one of the most enriching chapters of my life. At first, everything was unfamiliar, but that very newness gave me a fresh perspective and made the role even more meaningful. I had the privilege of witnessing the entire process unfold from behind the scenes, where true teamwork and dedication take shape.

Every step in this journey came with its own learning curve. From planning events and coordinating with multiple teams to managing logistics and drafting what felt like countless messages, the process demanded both consistency and adaptability. It was intense, sometimes overwhelming, yet always exciting. Each challenge - whether it was meeting tight deadlines, managing unexpected hurdles, or balancing academics with responsibilities - pushed me to grow in ways I had never anticipated.

ChEMERGENCE’24, along with our year-round activities, became a reflection of the creativity, dedication, and unity of our team. What struck me the most was not just the grand scale of the events, but the way everyone came together to manage minute details and tackle last-minute issues with composure. The true highlight of this journey was teamwork - the quiet, everyday collaboration that kept everything moving forward.

I remain deeply grateful to Dr. Nita Mehta, our HOD, whose unwavering encouragement gave us confidence, and to Prof. Praseeda Nambisan, our Teacher Coordinator, whose constant support and belief in us kept the team motivated. Their guidance was a steady source of reassurance throughout the year.

This role was not always filled with big, dramatic moments, but it consistently reminded me of the importance of being dependable. It taught me that leadership is not only about visibility but also about being quietly effective and reliable when it matters most. The friendships built, the memories created, and the lessons learned will remain with me long after the title of “Secretary” has passed on. I will always cherish this experience as one of growth, gratitude, and genuine fulfillment.“

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IIChE MRC

Indian Institute of Chemical Engineers Mumbai Regional Center

The Indian Institute of Chemical Engineers is not merely an organisation. It is an evolving intellectual ecosystem, one that unites academic minds, research pioneers, and industry trailblazers under a common banner of innovation, knowledge, and responsibility. It exists for those who believe that chemical engineering is more than just formulas and flowcharts. It is a tool for impact, a discipline that bridges theory and transformation, and a profession that holds the power to shape society on both molecular and monumental levels.

At its core, IIChE is a confluence of energies. It draws together the rigor of the classroom, the experimentation of the laboratory, and the realities of industry, creating a space where ideas are not just exchanged but activated. Whether you are a student learning the fundamentals of mass transfer or a professional optimising industrial processes, the Institute offers a platform that stretches far beyond individual ambition. It cultivates a shared purpose, one that places ethical advancement, societal contribution, and scientific excellence at its heart.
The Institute's commitment to learning is not bound by formal education alone. It hosts seminars, publishes academic journals and monographs, confers awards, conducts examinations, and supports pathways for professional certification—all with the intention of elevating the field. It does not merely respond to the needs of the moment but anticipates future challenges, aligning its programs with the evolving needs of society, industry, and the environment.

To be a part of IIChE is to step into a living conversation about what chemical engineering can do, and more importantly, what it should do. It is to join hands with a community that does not shy away from complexity, but approaches it with curiosity, discipline, and the desire to serve. It is a quiet yet persistent force that continues to redefine what it means to be a chemical engineer in a world that demands both innovation and integrity.

Executive Council - IIChE - Mumbai Regional Centre

Prof. Sanjay Mahajani	Hon. Chairman
Shri Jagdish Nageshri	Hon.Vice Chairman
Shri Dhawal Saxena	Hon. Secretary
Shri Mahendra Patel	Hon. Treasurer
Dr Pradnya Ingle	Hon.Joint Secretary
Shri Rajesh Jain	Hon.Joint Treasurer
Dr. M.P. Jain	Member
Dr. Alpana Mahapatra	Member
Dr. T.L. Prasad	Member
Dr. Aparna Nitin Tamaskar	Member
Dr. Debashis Raha	Member
Shri Ankur Chaturvedi	Member
Shri Akash Shinde	Student Co-ordinator
Prof. Sunil Potale	Co-opted Member
Dr. Parasu Veera Uppara	Co-opted Member
Dr. Rahul Nabar	Co-opted Member

IIChE TSEC

IIChE Student Chapter TSEC

IIChE-TSEC is the official student chapter of the Indian Institute of Chemical Engineers at Thadomal Shahani Engineering College, operating under the Mumbai Regional Centre. As the only student body in TSEC dedicated solely to chemical engineers, it serves as a focused platform for academic growth, industry exposure, and professional development.

The chapter actively connects students with experts from the chemical engineering world through seminars, workshops, and technical events. With strong support from the Department of Chemical Engineering, it promotes meaningful interaction between students, industry professionals, and academic institutions. One of its key initiatives, ChEMERGENCE, is an annual technical symposium that challenges students to apply their knowledge beyond the classroom. It encourages innovation, teamwork, and a deeper understanding of real-world chemical engineering problems.

At its core, IIChE-TSEC is committed to helping students grow into confident, capable professionals. It creates an environment where learning extends beyond theory, and where curiosity leads to practical insight and long-term impact.

Executive Council - IIChE - Student Chapter TSEC (2024-2025)

Mr. Soham Joshi	Chairperson
Ms. Moha Kulkarni	Vice Chairperson
Ms. Akruti Sali	Secretary
Ms. Diya Maniyar & Mr. Arinjay Lokhande	Treasurer
Ms. Nida Baig, Ms. Maithili Khamkar, Ms. Komal Parab	CTOs
Ms. Shreya Shirkar & Mr. Raj Yadav	Event Heads
Mr. Hrishikesh Garale & Mr. Dhruv Jain	Public Relation Officers
Ms. Riya Khandelwal, Ms. Sanika Jondhale, Mr. Nolan Periera	Logistics Heads
Ms. Riya Gondhali	Head of Content
Mr. Varad Gokhale	Social Media Head
Ms. Urmi Pokharkar	Design Head
Ms. Krisha Mulgaonkar	Creative Head
Mr. Soham Karle, Mr. Aaron Sam John, Mr. Guarang Pitale, Mr. Pramarth Kaptain	ATOs
Ms. Maansi Chouhan & Mr. Sahil Boricha	Event Managers
Ms. Saumya Kurup, Mr. Malap Kothari, Mr. Ronak Mota, Mr. Gaurav Kadule, Mr. Hrudaansh Shah	Publicity Team
Ms. Khushi Maurya, Ms. Mehak Jain, Mr. Om Pawar, Mr. Salus Mendes	Social Media Team
Mr. Tanish Waghmare & Mr. Archit Pavale	Photography Heads

Committee Members

IIChE Student Chapter TSEC

Soham Joshi

Moha Kulkarni

Akruti Sali

Diya Maniyar

Arinjay Lokhande

Nida Baig

Maithili Khamkar

Komal Parab

Shreya Shirkar

Raj Yadav

Hrishikesh Garale

Dhruv Jain

Riya Khandelwal

Sanika Jondhale

Nolan Periera

Riya Gondhali

Varad Gokhale

Urmi Pokharkar

Committee Members

IIChE Student Chapter TSEC

Krisha Mulgaonkar

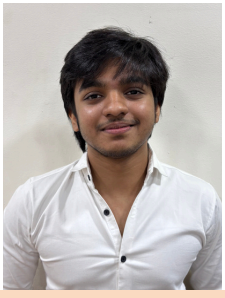
Soham Karle

Aaron Sam John

Gaurang Pitale

Pramarth Kaptain

Maansi Chouhan



Sahil Boricha

Saumya Kurup

Malap Kothari

Ronak Mota

Gaurav Kadule

Hrudaansh Shah

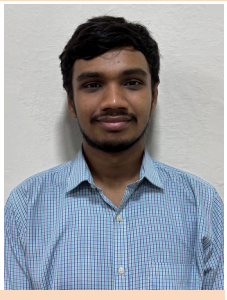
Khushi Maurya

Mehak Jain

Om Pawar

Salus Mendes

Tanish Waghmare



Archit Pavale

Department of Chemical Engineering, TSEC

Since its inception in 1983, the Department of Chemical Engineering at Thadomal Shahani Engineering College has consistently nurtured excellence, establishing itself as a powerhouse of innovation, academic depth, and professional credibility. Over the years, it has evolved into a space where science meets strategy, and students grow into engineers equipped not just with technical prowess, but with the mindset to lead change.

With strong ties to the chemical and process industries, the department actively fosters industry-academia collaboration through guest lectures, expert talks, national-level conferences, internships, and industrial visits. These engagements expose students to domains like biochemical engineering, environmental safety, sustainable energy systems, and advanced process control—ensuring their learning is always grounded in relevance.

The department's graduates are highly sought-after across both core sectors and global companies. From process giants like Tata Chemicals, Reliance Industries, Toyo, Tecnimont, and ThyssenKrupp, to consultancies like Aker Solutions and Jacobs, to high-tech spaces like Google, alumni continue to carry forward the department's spirit of excellence wherever they go. Driven by a commitment to continuous growth, ethical leadership, and societal contribution, the department remains a vibrant hub for ambitious learners ready to shape the future of chemical engineering.

Department of Chemical Engineering

Dr. Nita Mehta	Associate Professor & HOD
Dr. Anita Kumari	Professor
Dr. Ramesh Bhande	Associate Professor
Mr. Prasad Parulekar	Associate Professor
Mr. Ravindra Joshi	Assistant Professor
Mrs. Sangita Borkar	Assistant Professor
Dr. Trupti Dharmarao	Assistant Professor
Dr. Nitin Pereira	Assistant Professor
Dr. Praseeda Nambisian	Assistant Professor
Mrs. Mannat Khanwani	Assistant Professor
Mr. Bharat Honmane	Assistant Professor

IDEAS & LESSONS

The faculty at TSEC Engineering continues to be the cornerstone of academic progress, and this segment offers a closer look into their world. Through these interviews, we explored their approach to teaching their journey in education and their continued role in shaping the next generation of engineers. Their presence goes far beyond the classroom. Whether it's academic mentoring project guidance or curriculum development, their involvement stays consistent and impactful. They remain active in research, adapt to evolving industry needs and maintain a learning environment that is both structured and forward-thinking.

As this edition comes to a close, it highlights not only the work done inside classrooms but the intent and care that powers it. It celebrates the faculty who continue to teach, guide, and inspire with clarity, consistency and commitment.

Department of Chemical Engineering

Q. How can chemical engineers contribute to cleaner energy transitions?

Prof. Ramesh Bhande

Chemical engineers are vital to the clean energy transition through the following key contributions:

- Develop renewable energy by designing processes for biofuel production, improving hydrogen generation via green methods and developing materials for solar energy systems.
- Energy Storage Innovation: Engineers enhance battery technologies and create efficient thermal energy storage systems to stabilise the renewable power supply.
- They develop carbon capture technologies and convert captured CO_2 into useful products, supporting a circular carbon economy.
- By improving energy efficiency, retrofitting systems, and recovering waste heat, they reduce industrial emissions and energy use.
- Chemical engineers work with stakeholders to assess lifecycle impacts, model energy systems, and implement scalable, sustainable solutions.

Q. What interdisciplinary collaborations are becoming most critical for chemical engineers to drive innovation?

Sustainability means using resources wisely for current and future generations. Chemical engineers play a vital role by collaborating across disciplines - **"संगच्छध्वं संवदध्वं"** (collaboration leads to greater outcomes).

Why interdisciplinary collaboration is critical:

- Sustainability & Environment

Chemical engineers, with environmental experts, develop green processes, biodegradable products, and better waste management.

- Health & Biotechnology

Partnering with biomedical engineers leads to innovations in drug delivery and bio-based materials.

- AI & Data Science

Working with AI experts enables smarter, more efficient industrial processes.

By working with other fields, chemical engineers can create sustainable, innovative solutions that benefit society.

Prof. Prasad Parulekar

Q. : Looking at the recent advancement and the need for being sustainable, how do you think the food technology sector will change in the upcoming years ?

Prof. Ravindra Joshi

Food industries will strive to attain sustainability through:-

- Using renewable energy sources to produce electricity and steam
- Efficient pollution control measures
- At the formulation level, emphasis will be on the reduction of harmful preservatives and other additives
- A major portion of pollution is from food packaging. More biodegradable and long-lasting packaging solutions will be developed.
- Food transport consumes more energy. In the coming years, locally sourced food will be processed locally, and transport over huge distances will become uneconomical.
- On the farming side, usage of pesticides-herbicides-fungicides etc, will be reduced, and better alternatives will be found.

Q. How does the understanding of cavitation lead to designing of more robust and efficient processing equipment across industries?

What is Cavitation?

Cavitation—formation and collapse of vapour bubbles - causes damage like erosion and pitting. Understanding it helps design stronger, more efficient equipment.

How Understanding Cavitation Leads to Innovation and Efficiency:

- Durability

Redesigning components reduces cavitation zones, leading to longer life and lower maintenance.

- Efficiency

Cavitation-aware designs improve fluid dynamics, reduce power loss, and enhance energy efficiency.

- Industry Innovations

Used in marine propellers, supercavitating vehicles, ultrasonic food processing, and cleaner chemical processes.

- Materials & Coatings

Advanced coatings and materials minimise cavitation damage.

- Conclusion

By controlling cavitation, industries achieve smarter designs, greater efficiency, and lower costs.

Prof. Sangita Borkar

Q. How is interfacial engineering creating entirely new types of materials with tailor surfaces properties for application in areas like advanced options and high performing coatings ?

Prof. Trupti Dharmarao

Interfacial engineering allows precise tuning of surface characteristics like adhesion, reactivity, and reflectivity, independent of the core material. It improves performance in applications such as corrosion-resistant coatings, efficient catalysts, and advanced optical devices. Modifying surfaces at the nanoscale enables more selective and active behaviour - especially valuable in catalysis and energy applications. Applicable in optics, energy, electronics, and manufacturing - offering solutions like self-cleaning surfaces and better light control, this process offers Cross-Industry Versatility. With growing demand for eco-friendly, high-performance materials, interfacial engineering is central to next-generation material design.

Q. How do you think the integration of diverse scientific disciplines will further transform chemical engineering research and it's practical application in coming decades ?

With growing market demands, the integration of diverse disciplines will accelerate chemical engineering advancements, enabling more sustainable and efficient solutions in energy, materials, and biotechnology.

- Role of Chemical Engineering in Sustainability:

Combining chemical engineering with environmental science, renewable energy, and materials science will lead to greener processes, better waste management, and efficient resource use.

- Innovation in Materials

Collaboration with materials science and nanotechnology will enhance materials development.

- Biotechnology & Medicine

Integration with biotechnology and medicine will advance pharmaceuticals, diagnostics, and tissue engineering.

- AI & Data Science

AI and data analytics will help optimize designs, simulate processes, and predict material properties.

- Conclusion

Integration will drive sustainable, innovative solutions for society.

Prof. Mannat Khanwani

Q. Explain the concept of circular economy. Discuss the contribution of chemical engineers in enabling a circular economy with special reference to the Indian chemical industry.

Prof. Nitin Pereira

A circular economy minimizes waste and maximizes resource use by keeping products in circulation through reuse, recycling, and remanufacturing. Chemical engineers play a crucial role by designing processes that recover valuable materials, develop bio-based and biodegradable products, improve energy efficiency, and enable renewable energy and carbon utilization. They also promote circular business models by creating durable, reusable products and extracting value from waste streams. In India, circular economy practices are growing across the chemical industry: waste valorization (plastic to fiber, agri-waste to biofuels), advanced recycling of PET and plastics, product life extension (reuse of solvents, remanufacturing of equipment), use of bio-based feedstocks, and green chemistry initiatives at institutes like NCL Pune and IIT Guwahati. Companies are also innovating in sustainable packaging (e.g., Tata Chemicals with recyclable PE-PE films). With policy support, India's circular economy could generate $2 trillion and 10 million jobs by 2050 while strengthening global leadership in sustainability.

CheMystery

Crack the code of chemistry in the greatest heist ever - can you unravel the mystery and recover the missing pieces, where every element tells a story?

CheMystery was a thrilling, chemistry-themed escape room hosted by the IIChE Student Chapter of TSEC on August 31, 2024. Set in the Chemical Engineering Department at TSEC, the event challenged teams to solve chemistry-based puzzles and trace clues to uncover the culprit behind the theft of sensitive research, blending science with espionage under high-stakes pressure.

With a prize pool of ₹15,000, the competition was fierce, pushing participants to apply their chemical knowledge and logical thinking collaboratively. The event was a resounding success, leaving participants with an unforgettable, educational, and engaging experience.

WINNERS

1st Prize

Asad Ansari, Swaraj Pai, Manav Thaker

2nd Prize

Maanav Shah, Jatin Gola, Sharvari Indalkar

3rd Prize

Jahanvi Bhosale, Arpana Ulenga, Aaradhya Paradkar

4th Prize

Veeksha Shah, Advik Pillai, MO Arif

5th Prize

Nihaal, Abhishek, Nidhi

ChEMERGENCE 2024

Innovating Chemistry, Engineering the Future

20th September - 21st September

THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

INTRODUCTION TO GREEN INNOVATION

In an era marked by climate change, resource scarcity, and environmental degradation, the call for sustainable development has never been louder. At the forefront of this global shift stands Chemical Engineering, a discipline uniquely positioned to drive impactful change through innovation. Rooted in scientific precision and engineering excellence, chemical engineers are now pioneering solutions that prioritize environmental stewardship without compromising industrial growth.

Our exploration of the theme "Green Innovation for a Sustainable Future" delves into how eco-conscious design, renewable energy, circular economy models, and cleaner production methods are redefining the industry. It is a journey toward a world where technology and nature coexist harmoniously, powered by the ingenuity and responsibility of the next generation of chemical engineers.

EVOLVING REVOLUTION

THE PAST: FOUNDATIONS & EARLY INNOVATIONS

1

Our journey begins by delving into the historical foundations of Chemical Engineering. We'll witness the birth of unit operations, which laid the groundwork for separating, mixing, and transforming raw materials into valuable products. From distillation columns to chemical reactors, the early innovations set the stage for what would become a cornerstone of modern industry.

THE PRESENT: INTEGRATION OF ADVANCED TECHNOLOGIES

2

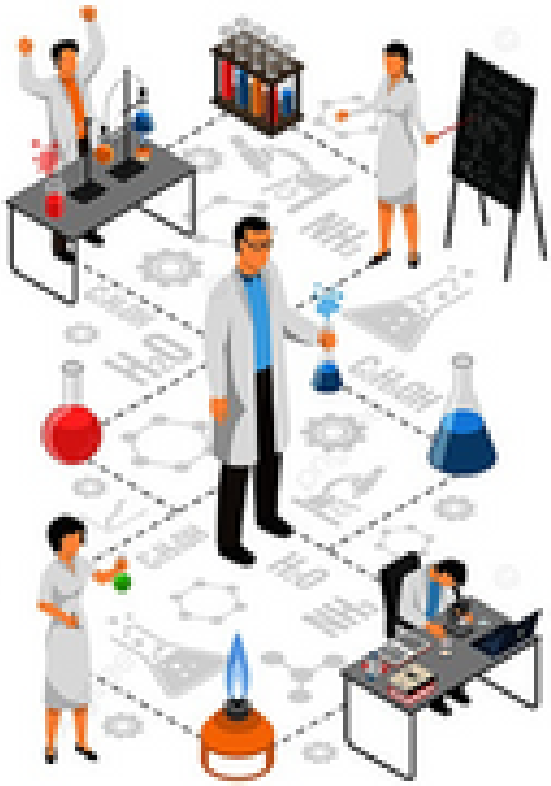
As we move forward, we'll find ourselves in the present, where cutting-edge technologies have become essential to the practice of Chemical Engineering. Computational modelling, artificial intelligence, and automation have revolutionized the way we design processes, predict outcomes, and optimize operations. We'll explore how these technologies not only increase efficiency but also enable us to tackle complex challenges with unprecedented accuracy.

THE FUTURE: INNOVATIONS ON THE HORIZON

3

Peering into the future, we'll uncover the exciting frontiers that lie ahead for Chemical Engineering. Nanotechnology, biotechnology, renewable energy solutions, and sustainable manufacturing techniques are poised to redefine the landscape once again. Our journey will reveal how these innovations promise to shape a world where chemical processes are not only efficient and profitable but also environmentally conscious and socially responsible.

ABOUT CHEMERGENCE



Chemergence is the annual symposium hosted by the Department of Chemical Engineering, TSEC, crafted to inspire innovation, curiosity, and collaboration among budding engineers from across the country.

With a blend of technical brilliance, industrial relevance, and creative problem-solving, it creates a vibrant platform where students explore breakthroughs, present bold ideas, and compete in these thoughtfully designed events.

From high-energy debates to research showcases, Chemergence becomes a space where the chemical engineering community comes alive, pushing boundaries and building connections that go beyond the classroom.

Chemergence continues to evolve as a space where ambition feels electric and ideas carry weight. It draws sharp minds from across institutes not just to compete but to contribute meaningfully to conversations around emerging technologies, sustainability, and real-world challenges.

CHEMIC-CON

1

CHEMICAL FUSION: SOLUTIONS THROUGH INSIGHT!

A dynamic platform that brings together industrial professionals to share insights, exchange ideas, and brainstorm innovative solutions to current and future challenges in the field of Chemical Engineering. Chemic-Con, a key segment of ChEMERGENCE'24, served as a panel discussion featuring distinguished experts who explored the theme: "The Role of Chemical Engineers in Achieving Net-Zero: Challenges and Opportunities". The panel addressed how the chemical engineering community can contribute toward a sustainable, low-carbon future, and tackled issues ranging from energy efficiency to decarbonization strategies and process innovations.

Our Panelists for this year's Chemic-Con were:

- **Mr. P.V. Balaramakrishna:** Mr. Balaramakrishna is the General Manager at L&T and brings with him rich expertise in the energy and hydrocarbon sectors. He has led numerous critical projects, offering innovative and strategic solutions to complex industry challenges. His visionary leadership fosters a culture of excellence and collaboration, significantly advancing progress in the field.

- **Mr. Sanjay Mahajani:** A renowned academician, Mr. Mahajani is a professor at IIT Bombay and currently serves as the Chairperson of IIChE MRC. He is celebrated for his contributions to education and research in Chemical Engineering. His commitment to fostering innovation continues to inspire students and peers across the academic and professional spectrum.

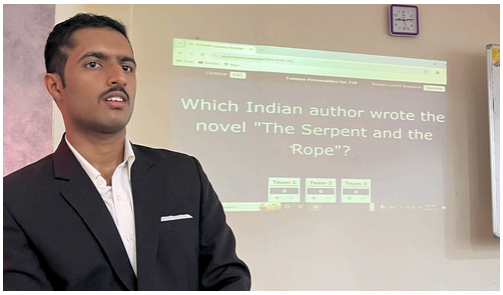
- **Ms. Prexa Shah:** As the Sustainability Lead at Godrej Industries Limited, Ms. Shah is a seasoned professional with expertise in manufacturing, project management, and sustainability. She has spearheaded several climate action initiatives, including decarbonization strategies and emissions management, particularly in energy-intensive industries. Her work reflects a deep commitment to sustainable industrial practices.

- **Mr. Dhaval Shah:** Mr. Dhaval Shah is a highly accomplished professional in the chemical and allied industries. With a strong background in industrial operations and sustainable practices, he has been instrumental in driving process innovations that align with global net-zero goals. His insights added significant value to the panel's discussion on real-world challenges and solutions.

JEOPARDY

2

CHEMICAL JEAOPARDY: QUICK THINK, WIN BIG!



Returning by popular demand after its debut last year, Jeopardy challenged participants with an electrifying quiz experience that combined knowledge, strategy, and speed. The event followed the classic Jeopardy format where participants chose questions from different categories with varying difficulty and point values. Topics ranged from core chemical engineering concepts to real-world industrial applications and general science trivia, making it a well-rounded challenge for sharp minds. The buzzers, the race against time, and the suspense of "Daily Doubles" kept both contestants and audience on edge. Participants showcased not only their subject knowledge but also the ability to think tactically under pressure — a true test of a chemical engineer's mental agility.

WINNERS

First Position (TSEC)
Divyansu Bhalotia, Raviraj Khandekar, Swaraj Pai

Second Position (TSEC)
Jeet Raval, Keyur Gala, Palak Waghela

Third Position (TSEC)
Dhanik Prajapat , Svanand Pitale, Mayuresh Pilke

THE BAIT

3

SPEAK . CHALLENGE . CONQUER!

A platform for fierce intellectual exchange, The Bait brought together eloquent speakers and sharp thinkers for a battle of wits. This debate-style event allowed participants to express their stance on controversial and thought-provoking topics from the world of science, technology, sustainability, and engineering ethics. Whether defending their viewpoint or challenging that of their opponents, each team demonstrated research, persuasion, and presence of mind. The event structure included opening arguments, cross-questioning, and rebuttals judged by a panel of experts. The Bait encouraged students to explore multiple perspectives, formulate coherent arguments, and hone their public speaking skills — essential qualities for tomorrow's thought leaders in engineering.

Judges:
Aanansh Prasad

WINNERS

First Position (TSEC)
Divyansu Bhalotia, Diya Maniyar, Riya Gondhali

Second Position(TSEC)
Atharv Jindal, Premraj, Yash Thakkar

CHEMICAL FEUD

4

ELEMENTAL FACE-OFF: THE INTELLECTUAL SHOWDOWN!

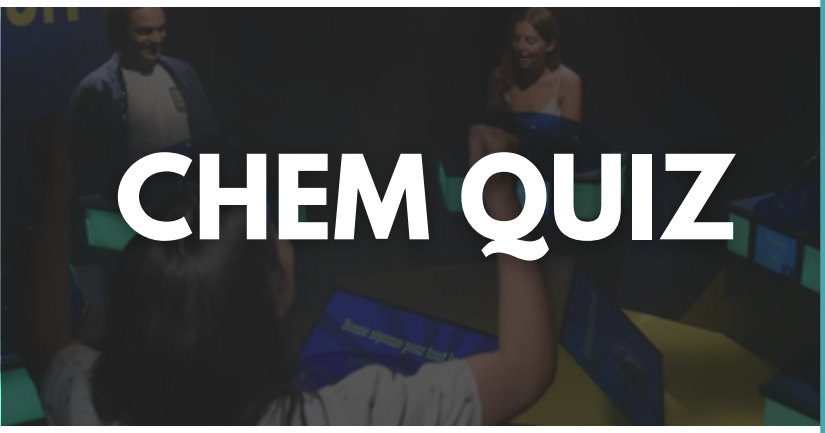
Chemical Feud was a buzzer-based team event that tested participants' understanding of chemical concepts in a fun and competitive format. Inspired by the game show “Family Feud,” teams faced off by answering chemistry-related questions based on survey-style answers. The event combined speed, strategy, and teamwork, creating an engaging atmosphere for both participants and the audience.

WINNERS

First Position(TSEC)
Aadithya Premraj, Jatin Gola, Atharva Jindal

Second Position(TSEC)
Divyansu Bhalotia, Asad Ansari, Raviraj Khandekar

Third Position(TSEC)
Sia Shetty, Yash Thakkar, Arya Patil



CHEM QUIZ

5

FUELING CURIOSITY, ONE CHEMICAL QUESTION AT A TIME!

Chem Quiz tested participants on core chemical engineering principles, real-world scenarios, and scientific reasoning through multiple competitive rounds. The final rounds were hosted by Quiz Master Mr. Prateek Bhagat, whose engaging presence and challenging questions elevated the excitement. The event witnessed enthusiastic participation, with teams competing neck-to-neck to claim the title of quiz champions.

WINNERS

First Position(TSEC)
Harsh Kadam, Viraj Dalvi, Devraj Raikar

Second Position(TSEC)
Basit Mahiskar, Swaraj Pai, Sumit Panickar

Third Position(TSEC)
Asad Ansari, Raviraj Khandekar, Manav Thaker

CHEM-X

6

FUTURE-DRIVEN CHEMICAL INSIGHTS.

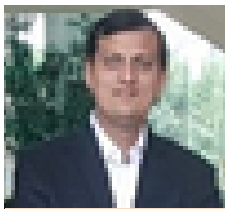
ChemX is a flagship speaker session of ChEMERGENCE that bridges academia and industry through inspiring talks from experienced professionals. This year's session featured two dynamic speakers who shared insights on innovation, sustainability, and the evolving role of chemical engineers.

SPEAKERS

Mr. Vinay Parab

Mr. Vinay Parab, Deputy General Manager at Worley, India, has over 21 years of experience in Process Engineering. He leads the CCUS Community of Excellence and has worked extensively on carbon capture, refineries, and oil & gas projects. A TSEC alumnus and chartered engineer, Mr. Parab spoke on "Chemical Engineers at the Core of the Energy Transition," emphasizing the critical role of engineers in decarbonization and sustainable energy.

Mr. Harsh Bhatt, founder of ChEMERGENCE and a 2008 TSEC graduate, has led specialty chemicals ventures at SimpliFly, Zetwerk, and Omya. With a strong background in applied chemistry and leadership training from MITx and Hive, he delivered a talk on "Recent Innovations in Chemical Engineering," focusing on emerging technologies and entrepreneurial approaches to industry challenges.



Mr. Harsh Bhatt

MOCK INTERVIEWS

7

BOOST YOUR INTERVIEW SKILLS WITH TAILORED MOCK SESSIONS.

Mock Interviews, one of the newest additions to ChEMERGENCE'24, aimed to bridge the gap between academia and industry. Designed to simulate a real-world hiring scenario, participants were interviewed by a panel of seasoned professionals including **Mr. Sushil Khitani, Mr. Dhaval Wagh, Ms. Hetal Panchal, Ms. Dipti Samel, and Mr. Devkrishna Godhaniya.** Candidates were assessed on their subject knowledge, communication, problem-solving skills, and professional demeanor. Feedback was provided individually to help students identify their strengths and areas of improvement. This event received overwhelming appreciation for its practical relevance, providing attendees with invaluable insight into interview dynamics and helping them prepare for future career opportunities.

ALUMNI MEET

8

RECONNECT, REMINISCE, REIGNITE!

The Alumni Meet brought together former students from diverse batches, creating a vibrant platform to reconnect, share experiences, and celebrate the legacy of our institute. The event featured engaging interactions, nostalgic moments, and inspiring stories from alumni who have excelled in various fields. Their valuable insights and guidance motivated the current students, fostering a spirit of learning and networking. The evening concluded with warmth, laughter, and a renewed bond between the past and present.


ChEMERGENCE
2021


ChEMERGENCE
2021

Indian Institute of
Chemical Engineers
Mumbai Regional Center

N R Kamath Memorial Quiz '25

15th March 2025

THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

CHAIRMAN (EC) IIChE-MRC's MESSAGE

It is my pleasure to present the report of the N. R. Kamath Chemical Engineering quiz (ChEQ -2025) jointly conducted with Thadomal Sahani Engineering College (TSEC), Mumbai. Started in 2006, NRK quiz has been a regular event of IIChE-MRC. The objective of this trophy is to inculcate among students a competitive spirit, and fight for their respective colleges. The entire event has a well laid out protocol evolved over the years. Every college nominates one team based on the internal assessment. It is a proud moment for the participating students and they come well prepared. IIChE MRC forms a committee of experts which, over a period of a few weeks, brainstorms over the possible questions and the structure of the quiz. The members sign a non-disclosure agreement and maintain complete confidentiality. The questions are shared with the quiz masters one day in advance for their comments and minor modifications, if any.

The quiz is held in in the organizing college. It is conducted over multiple rounds and the proceeding is witnessed by the faculty and students from all the colleges. The overall atmosphere is full of joy, enthusiasm and anxiety. The event serves well to strengthen the bond with the chemical engineering profession at an early age.

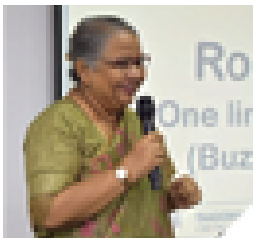
ChEQ has a long history and its routes in some class room fun activities by Late Prof. Raghunathan of IIT Bombay in 1980s. The activity then took birth as a formal annual quiz event of IIChE-MRC, in which IITB and UDCT students used to participate enthusiastically. The prestigious quiz was named after late Prof. N. R. Kamath -a renowned personality in chemical engineering community. Prof. N. R. Kamath had a unique distinction of serving as faculty and head in both UDCT and IITB. The quiz got discontinued for some reasons before it was revived in 2006 by IIChE-MRC when the rotating trophy was introduced. Ever since it is being held regularly barring two years of COVID.

I am happy to inform you that this year's event was also very successful and was organized very well by TSEC. It was a well-attended event. I had an opportunity to experience and enjoy every aspect of it from start to end. It was like going back to my student days.

I thank all the sponsors, the organizers (TSEC), the questions committee, the quiz masters and last but not the least, all the students who attended the event.
My hearty congratulations to the winners!

Prof Sanjay M Mahajani
Institute Chair Professor, Department of Chemical Engineering, IIT Bombay Prof. - in - Charge, IIT Bombay Research Hub for Green Energy and Sustainability Chairman (EC)
Indian Institute of Chemical Engineers- Mumbai Regional Centre (IIChE-MRC)

THE QUIZ MASTERS



Prof Elizabeth J Biju
Former Head of Department-
Chemical Engineering Thadomal
Shahani Engineering College

Prof Sujit Jogwar
Department of Chemical
Engineering Indian Institute of
Technology- Bombay

Pratik Bhagat
Senior Principal Process
Engineer NPCC Engineering Pvt.
Limited

INAUGURAL SPEAKERS AT NRK '25

Prof Sanjay M Mahajani
Institute Chair Professor, Dept of
Chemical Engineering, IIT- Bombay
Chairman (EC), IIChE-MRC
Inaugural Speaker

Anagha Dalal
Department Manager-Process
Burns and McDonnell
EngineeringIndia Pvt Ltd F
Co-Opted Member, IIChE-MRC
Inaugural Speaker

Swapnil Chonkar
Manager Ingenero
Inaugural Speaker

WINNERS

THE WINNING TEAM

Aditya Mahaldar,
Aditya Parsekar, Pranjal Tandon
-Indian Institute of Technology- Bombay

1ST RUNNER UP TEAM

Arya Mahajan, Olwinton Winson Pais,
Rahul Mishra
-Bharati Vidyapeeth College of Engineering-
Navi Mumbai

2ND RUNNER UP TEAM

Atharva Kadu,
Narendra Patil, Jayesh Shah
-Institute of Chemical Technology- Mumbai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MAVERICS


RAPID FIRE ROUND
THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE


TSEC


TSEC

Thadomal Shahani Engineering College

Department of Chemical Engineering

IIC - IICHE

Presents

PROJECT DEMO DAY

Department of Chemical Engineering, Thadomal Shahani Engineering College (TSEC), in alliance with the Indian Institute of Chemical Engineers (IIChE) conducted Project Research Review in the form of a Poster Presentation on 11th and 12th April 2025 at TSEC. A poster presentation is a way to express understanding of a particular research in a short and concise manner. It forms a very important part of professional workplace skills. It helps to improve communication skills and the ability to express technical views.

It was a two-day event. On the first day, student posters were evaluated by their Internal Guide and external guide, both faculty members. Each student group was given 10 minutes to explain their research idea, followed by a question-answer session. On the second day, External Judges were invited to assess the posters. The judges were mainly TSEC alumni working in industry. A brief profile of the judges is included in this report.

A total of 189 students (51 groups) participated in this activity from SE, TE, and BE classes of the Department of Chemical Engineering, TSEC. 18 groups from SE, 15 groups from TE and 18 groups from BE. The list of student groups along with their research topics is represented in Appendix A1, A2 & A3.
All the students showed lot of enthusiasm during this event and were also very open to suggestions from their guides and the judges. This is represented in Appendix A4.
At the end of the second day, certificate prizes were awarded to the top three posters from each SE, TE and BE class. A snapshot of the certificate prize receiving event is represented in Appendix A5.

We are very thankful to our. Principal Prof. G.T. Thampi for motivating us to conduct such an event. Also very thankful to the Head of Department, Dr. Nita Mehta, for guidance and thank you to all faculty and students who participated in this activity.

The Panel of Judges:

- Nitin Thakur, Founder & CEO, AB Engineers
- Chirag Shirodkar, Process Engineer, TechnoForce Solutions
- Ankit Jain, Sr.Manager, Sales & Marketing, Reliance Industries Ltd.
- Vidhi Shah, Technical & Research Director, Sparklez Inks
- Karthik Sathanur, Process Safety Enginee, NPCC Engineering Pvt.Ltd.
- Devkrshna Godhania, Head of Engg & Procurement, Bertrams India Pvt.Ltd.
- Harshita Asrani, Process Engineer, Toyo Engineering India Ltd.

SE WINNERS

- 1st Prize **"Redefining energy: Sustainable Hydrocarbon Production Through Fischer-Tropsch Technology"**

Svanand Mandar Pitale, Urmi Laxman Pokharkar, Dhanik Hareshwar Prajapat, Jivan Raghu Pukale

- 2nd Prize **"Carbon Capture Methodologies"**

Archit Kedar Pavale, Nolan Maxon Pereira, Mayuresh Namdev Pilke, Gaurang Yatin Pitale

- 3rd Prize **"Sustainable Packaging"**

Armaan Rafiq Soratiya, Yash Amit Talawadekar, Arya Dayanand Tandel, Paras Jayant Thakur

TE WINNERS

- 1st Prize **"Sustainable Green Solvents in Chemical Processes"**

Riya Rajendra Khandelwal, Atul Shashikant Konde, Moha Sunil Kulkarni, Ashish Anil Kumar

- 2nd Prize **"A comparison between Uranium and Thorium-based Nuclear Reactors"**

Aditya Sanjay Vijayakar, Tanish Sachin Waghmare, Raj Chandrabhan Yadav, Vedant Mahendra Yadav

- 3rd Prize **"Trace the Carbon: A path to Sustainability"**

Swayam Rajesh Prabhu, Sanjana Bhimaram Prajapati, Adityaprasad Nikunjan Sahu, Akruti Ravindra Sali

BE WINNERS

- 1st Prize **"Nitration reaction in continuous flow reactor"**

Mahiskar Abdul Basit, Mistry Manas Sanjog, Panickar Sumit, Shah Karan

- 2nd Prize **"Synthesis of Cobalt Phthalocyanine and scale up studies"**

Gupte Surin Upendra, Hegiste Mrunmayee Harish, Sahasrabudhe Ira Abhijit

- 3rd Prize **"Esterification in simulated moving bed reactor"**

Kasar Sahas Satish, Tejani Ronit Satyen, Agarwal Kashish Girish

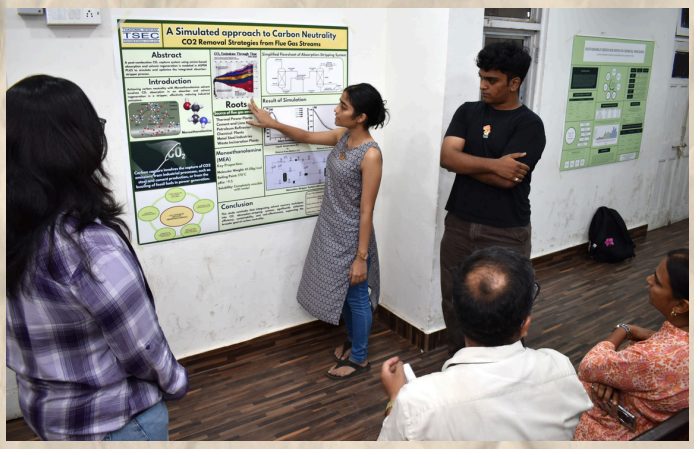
FOURTH YEAR

THIRD YEAR

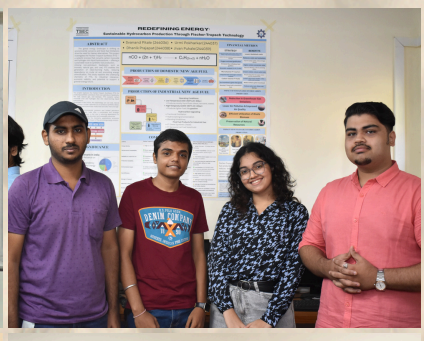
SECOND YEAR

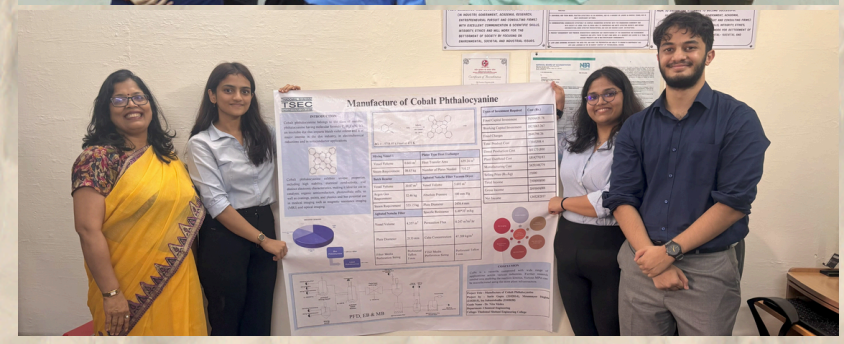

Waste Cooking Oil as a Biodiesel Source
TSEC

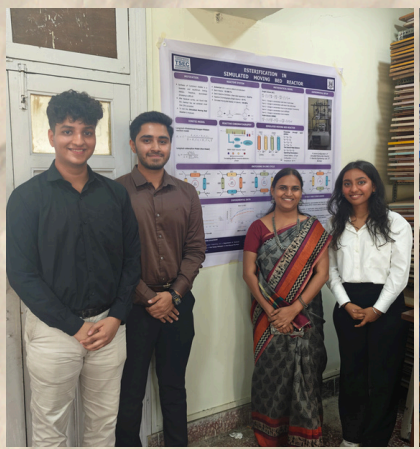

WASTE MANAGEMENT
TONS


TSEC
A Simulated approach to Carbon Neutrality
CO2 Removal Strategies from Flue Gas Streams
Abstract
Introduction
Roots
Result of Simulation
Conclusion


NITROGEN CAPTURE BY CRYOGENIC DISTILLATION
ABSTRACT
ADVANTAGES


REDEFINING ENERGY
Sustainable Hydrocarbon Production Through Plasma-Enhanced Technology


TSEC
Manufacture of Cobalt Phthalocyanine


TSEC


Waste Heat To Power


EXTRACTION OF NICKEL FROM SPENT CATALYST

BE CONVOCATION

The BE Convocation Ceremony 2023–2024 at Thadomal Shahani Engineering College marked a proud milestone for the graduating batch of Chemical Engineers. With degrees conferred amidst an atmosphere of celebration, the event recognized not only academic achievements but also the perseverance, dedication, and spirit of the students. Faculty, families, and peers joined together to applaud the graduates as they stepped into their professional journeys, carrying forward the values and legacy of TSEC.

BE FAREWELL

The BE Farewell 2024–2025 lit up TSEC with cheers, memories, and heartfelt goodbyes. A perfect blend of nostalgia and celebration, it marked the Chemical Engineering batch's grand send-off into the future.

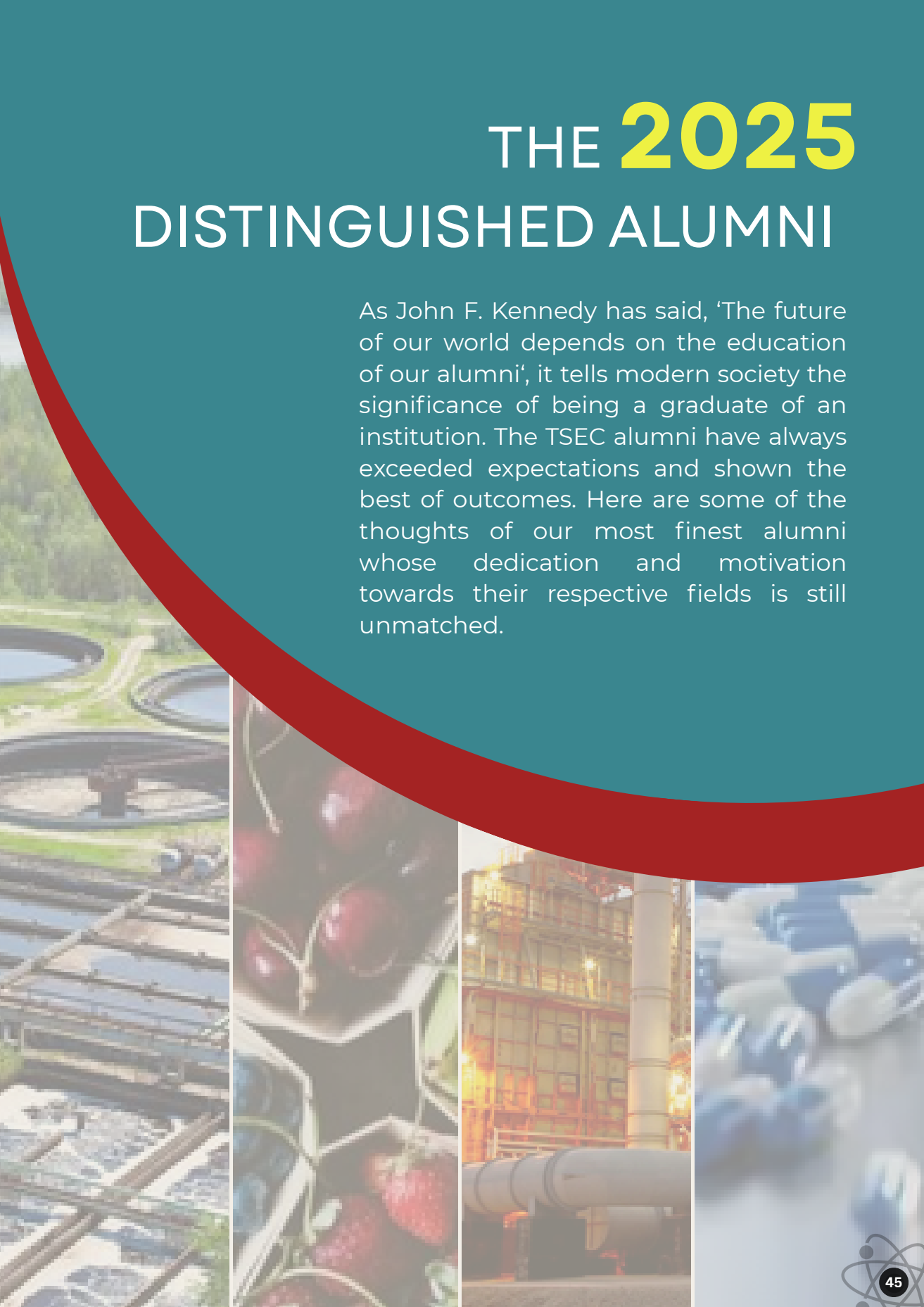







THE 2025 DISTINGUISHED ALUMNI

As John F. Kennedy has said, 'The future of our world depends on the education of our alumni', it tells modern society the significance of being a graduate of an institution. The TSEC alumni have always exceeded expectations and shown the best of outcomes. Here are some of the thoughts of our most finest alumni whose dedication and motivation towards their respective fields is still unmatched.



Vinay Parab

BE' 03 Chemical Engineering
SME - CCUS, Worley, India

The Evolving Role of Chemical Engineers in Sustainable Development Technology Solutions

The global push toward the energy transition is prompting a steady shift in the energy and chemical sectors. For chemical engineers, this means adapting and applying our expertise in new and evolving contexts to support decarbonization efforts efficiently and sustainably.

Throughout my professional journey in the Oil & Gas and Refining industries, I developed valuable expertise and a deep understanding of industry operations. Over time, as global attention increasingly grew toward addressing climate change and advancing environmental sustainability, I felt a strong sense of responsibility as a Process engineer to contribute more directly to delivering a more sustainable future. This perspective motivated me to transition my career from conventional oil and gas to technologies that support sustainable development - a field that continues to be shaped by technological innovation, complex policy challenges, and the potential for long-term impact.

Chemical Engineer's role across the energy landscape

Chemical Engineers play an integral role across the energy transition value chain, from upstream production and midstream transportation to downstream refining and processing.

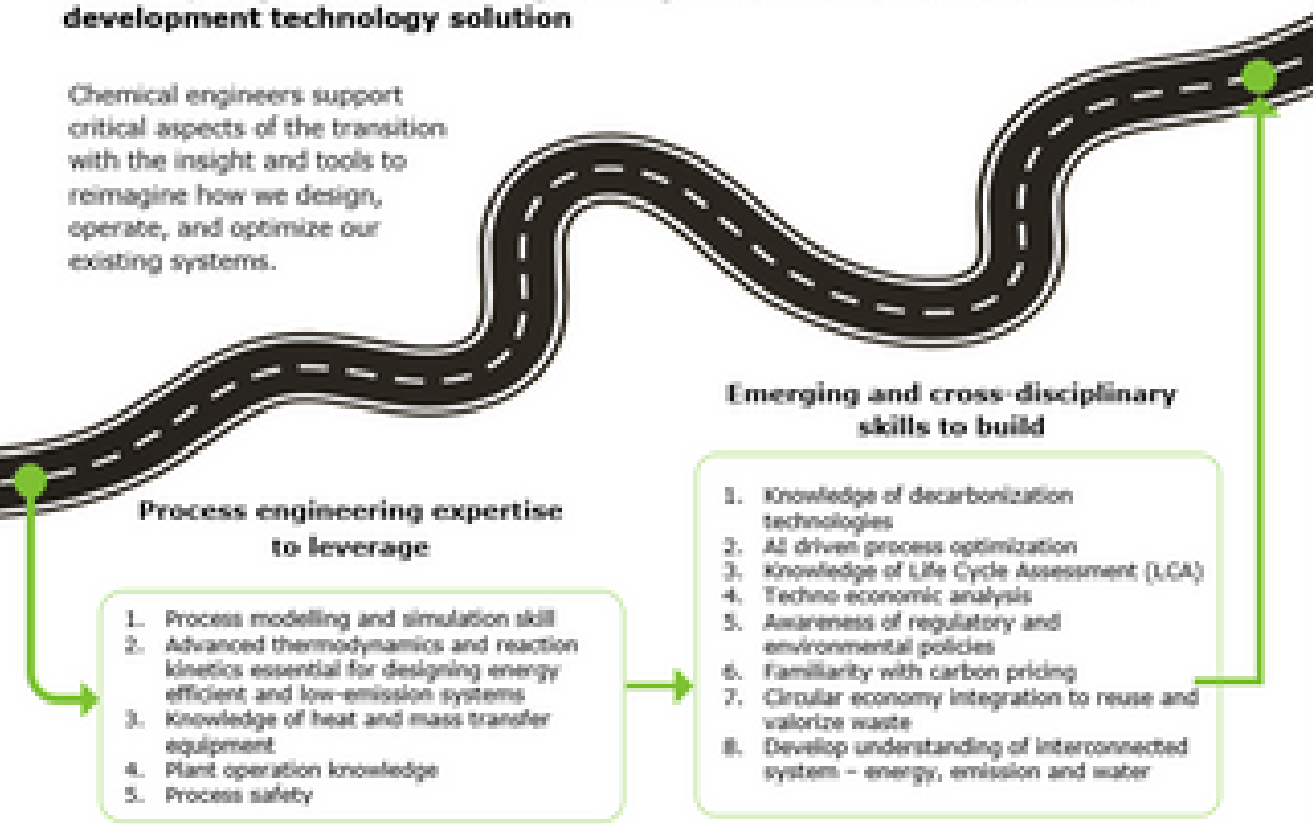
Decarbonizing industrial operations

1. Process optimization of existing plants to improve energy efficiency and reduce emissions
2. Implementing carbon capture in hard-to-abate industries
3. Driving process intensification to reduce energy use and material waste
4. Creating circular economy pathways by designing processes that recycle waste streams into value-added products
5. Exploring negative emission technologies
6. Performing lifecycle and techno-economic assessments to guide sustainable design choices
7. Using AI and digital twins to simulate, and optimize complex energy systems

Enabling low-carbon energy systems

1. Designing and optimizing processes for green hydrogen, synthetic fuels, and bioenergy
2. Scaling up renewable energy technologies
3. Developing and improving energy storage systems

Roadmap to guide chemical engineering career focused on sustainable development technology solution



Chemical engineers bring a unique combination of molecular-level understanding and large-scale systems thinking, which is needed to address complex, emissions-intensive processes. For young engineers interested in careers focused on decarbonization, building a strong foundation in core technical knowledge, alongside cross-disciplinary systems thinking, and an innovation driven mindset will be key to contributing meaningfully to this evolving space.

- Vinay Parab
SME - CCUS, Worley, India

Dhaval Shah

BE' 03 Chemical Engineering
Head of Global Innovation Center

1. How important is resource efficiency in modern process industries, and how can students contribute to sustainable engineering practices early in their careers?
Management of resources is one of the most important aspects of the modern process industry. The overall resource efficiency has different levels of impact in different industries.
The easiest way to understand the impact is converting it into tangible or financial terms. That way the magnitude of impact is clearly understood. Especially fresh graduates, who have the most flexible mindset can do so by
- Focusing on education and their practical experience gained during their internships or technology symposiums,
- Participating in relevant projects at work
- Adopting sustainable mindsets in their work
- Finding opportunities to work on green technologies
- Embrace sustainable design principles
- Advocate for change within their workplaces

2. Can you explain how process optimization helps improve resource efficiency in a plant?
Process optimisation inadvertently leads to better utilisation of available resources and/or freeing up resources (both human and equipment) for enhancing the capacities (debottlenecking). We optimise the process to improve the quality or increase the capacity or reduce the specific consumption of raw materials and/or utilities, thus improving the ORE or Overall resource efficiency in the plant

3. What are some KPIs you regularly monitor in quality assurance?
The most important KPIs of Quality Assurance are
- Customer satisfaction (or complaints) – Probably the most important KPI, as the business is driven by the customer, and a happy customer leads to success and growth
- Cost of Quality – The cost incurred to achieve the desirable quality, as any business will survive only if it manages to provide better quality at lower costs
- On-time delivery of Solutions and/or Resolution time for complaints/defects – For any defect or complaint, it is important to provide solutions within a specific time frame to make the solution meaningful.

4. Have you worked on any projects that significantly cut down resource usage?
There are a bunch of projects that we have worked on which are debottlenecking or Optimisation projects. A simple example of these types of projects are energy integration projects which lead to reduced consumption of energy / fuel or similar resources.

5. What's the relationship between quality control and long-term process efficiency?
Quality Control may or may not have a direct impact on the process efficiency but quality assurance leads to revised processes which will end up helping improvement in long term process efficiency

6. How do you conduct a process audit or root cause analysis in your line of work?
There are standard procedures for conducting process audits and/or root cause analysis. Some of the basic tools used for these are:
5 Whys – Asking Why 5 times (asking why each time you answer the question to a previous why question
Fish bone (Ishikawa) diagram – This tool if used correctly will lead to comprehensive discussions on aspects of the process issues/failures and therefore accurate root cause analysis and solutions

7. What tools or methodologies do you rely on for continuous improvement?
In continuation with the previous answer, there are more tools/methodologies which we use for continuous improvement. Some of them are:
PDCA (Plan – Do – Check – Act) cycle – This is one of the most frequently used tools for continuous improvement in the process industry
VSM (Value Stream Mapping) - It helps identify waste and opportunities for streamlining the process
Kaizen – It is a philosophy of continuous improvement that emphasizes small, incremental changes. It promotes a culture of continuous improvement all through the organisation and empowers employees to identify and implement changes.
Other tools include Lean, Six Sigma, 5S, Gemba etc.

8. What advice would you give to students aiming for roles in QA or optimization?
Start from the basics. The major solutions are obtained by adhering to the basics and ensuring the focus is on arriving on solutions which are practical and achievable. Solutions cannot be theoretical or academic but are based on theory with a practical application.

Harsh Bhatt

BE' 08 Chemical Engineering
CEO of ESG Resin Private Limited

Dear chemical engineering students, it's an honor to share my journey with you through your college magazine. With over 17 years in applied chemistry, material sciences, and chemical engineering, I've transitioned from a corporate leader at companies like BASF and Omya to co-founding ESG Resin Private Limited, a company dedicated to sustainable specialty chemicals. My mission is to innovate responsibly, addressing global challenges with solutions that balance performance, cost, and environmental impact. I hope my answers to your questions inspire you to explore the exciting world of chemicals and make a difference!

1. How did your exposure to product development using resins influence your perspective on the evolving role of chemical engineers in materials science?

My journey in polymer product development has shown me that chemical engineers are no longer just process optimizers; we are architects of materials that shape industries. Working on polyurethanes, alkyd, and polyester resins at companies like BASF and now at ESG Resin, I've seen how our work directly impacts automotive, consumer durable goods, coatings, adhesives, and composites used in everything from cars to sustainable buildings. This exposure taught me that chemical engineers must blend chemistry, physics engineering to create materials that meet performance demands while reducing environmental footprints and enhancing sustainability.

For example, developing our ESGAL® range of alkyd resins required understanding how molecular structures affect properties like gloss and durability, while also ensuring low volatile organic compound (VOC) emissions to meet regulatory standards. This holistic and interdisciplinary approach has redefined my view: chemical engineers are now innovators at the forefront of materials science, driving solutions for a circular economy. Students, embrace this multidisciplinary role—your ability to connect science with societal needs will make you invaluable.

2. What drew you to the field of polymers and resin development?

I did not know anything about polymers when I graduated from TSEC. But as I worked at BASF in the polyurethanes segment, I understood how materials and the science of engineering materials are fascinating, and they are the unsung heroes of modern life. From the paint on your walls to the composites in aircraft, these materials enable functionality and aesthetics. What truly hooked me was the innovation potential. Resins, for instance, can combine natural oils with synthetic polymers to create coatings with excellent flexibility and water resistance. The challenge of tweaking formulations to balance cost, performance, and sustainability is like solving a complex puzzle. My passion grew as I worked on sustainable solutions at BASF and now at ESG Resin, where we prioritize eco-friendly resins. To you, students, I say: find a field that challenges your creativity— materials offer endless possibilities to innovate and impact lives.

3. Can you explain the life cycle of a new polymer-based product from idea to launch?

Creating a new polymer-based product, like an alkyd resin, is a thrilling journey that blends science, teamwork, and market insight. Here's how it typically unfolds:

- Ideation: It starts with identifying a need—say, a low-VOC coating for eco-friendly paints. At ESG Resin, we brainstorm with customers and R&D teams to define performance goals, like enhanced durability or faster drying times.
- Research and Formulation: In the lab, we experiment with raw materials (e.g., polyols, fatty acids, and anhydrides) to design a resin. This involves synthesizing small batches, testing properties like viscosity and adhesion, and iterating based on results.
- Scale-Up: Once a formulation works, we scale it to pilot plants, ensuring consistency under industrial conditions. This step often reveals challenges, like controlling reaction heat during polyesterification.
- Testing and Validation: The resin undergoes rigorous performance tests (e.g., corrosion resistance, gloss) and regulatory checks for environmental compliance. Customer trials provide feedback for fine-tuning.
- Commercial Launch: After optimization, we manufacture at full scale, collaborate with marketing to position the product, and support customers with technical guidance.

This process can take 1-3 years, requiring patience and collaboration. Students, dive into projects that mimic this cycle—your hands-on experience will prepare you to turn ideas into reality.

4. What are the biggest performance challenges when formulating resins?

Formulating resins like alkyds is a balancing act. The biggest challenges include:

- Achieving Desired Properties: Customers demand resins with specific traits, like high gloss, flexibility, and chemical resistance. For instance, adjusting the ratio of glycerol to phthalic anhydride affects drying time and hardness. Getting this right requires precise molecular engineering.
- Consistency Across Batches: Scaling from lab to industrial production can introduce variations due to raw material quality or reactor conditions. Ensuring uniformity is critical for customer trust.
- Environmental Compliance: Modern resins must minimize VOCs and use renewable raw materials without sacrificing performance.
- Durability vs. Cost: High-performance resins can be expensive, so we optimize formulations to meet budgets while maintaining quality.

These challenges are opportunities to innovate. Students, hone your problem-solving skills—whether through lab experiments or simulations, your ability to tackle trade-offs will set you apart.

5. How do environmental concerns influence polymer product development today?

Environmental concerns are reshaping polymer development, and rightly so. Regulations like the EPA's restrictions on VOCs and consumer demand for sustainable products push us to rethink traditional formulations. At ESG Resin, sustainability is our core mission. Here's how it influences our work:

- Bio-Based Materials: We use renewable resources like vegetable oils in our ESGAL® resins, reducing reliance on fossil-based inputs.
- Low-VOC Formulations: By designing resins with minimal solvent use, we comply with strict environmental standards and improve indoor air quality for end-users.
- Recyclability and Biodegradability: We explore polyesters that degrade naturally or can be recycled, supporting a circular economy.
- Energy Efficiency: Optimizing reaction conditions to lower energy consumption during resin synthesis reduces our carbon footprint.

These efforts require creativity and collaboration with suppliers, customers, and regulators. Students, the future of chemical engineering lies in sustainable innovation—start exploring green chemistry now to lead this transformation.

6. What trends do you foresee in the polymer industry in the next 5 years?

The polymer industry is poised for exciting changes, driven by technology and sustainability. Here are key trends I see over the next five years:

- Bio-Based and Circular Polymers: Demand for resins made from renewable sources (e.g., plant-based oils) or recycled materials will surge.
- Smart Polymers: Polymers with responsive properties, like self-healing coatings or temperature-adaptive materials, will gain traction in automotive and aerospace sectors.
- Digitalization in R&D: Machine learning and simulations will accelerate resin formulation, reducing trial-and-error. This is a game-changer for cost and speed.
- Regulatory Push for Sustainability: Stricter global regulations will drive low-VOC and biodegradable polymers, reshaping markets.

Students, these trends offer immense opportunities. Build skills in data science, sustainability, and interdisciplinary collaboration to shape the future of materials.

7. How do R&D teams balance innovation with cost in commercial product development?

Balancing innovation and cost is a constant challenge in R&D, but it's also where chemical engineers shine. At ESG Resin, we use these strategies:

- Customer-Centric Design: We align innovation with customer needs to avoid over-engineering. For example, if a paint manufacturer needs a cost-effective resin with moderate durability, we prioritize that over premium features.
- Iterative Prototyping: We test small batches early to identify cost-effective raw materials, like using local bio-based oils instead of imported ones.
- Process Optimization: Streamlining synthesis—like reducing reaction time or energy use—lowers production costs without compromising quality.
- Open Innovation: Collaborating with universities or startups brings fresh ideas at lower costs.
- Lifecycle Cost Analysis: We evaluate long-term benefits, like a resin's durability reducing maintenance costs, to justify initial investments.

Students, learn to think like entrepreneurs. Your ability to innovate within budget constraints will make you indispensable in industry or startups.

8. What are some lesser-known but crucial skills in your field?

Beyond technical expertise, these lesser-known skills are vital in the polymer and resin industry:

- Cross-Functional Communication: Explaining complex chemistry to marketing teams or customers requires clarity.
- Systems Thinking: Understanding how a resin fits into a product's lifecycle—from raw materials to disposal—ensures sustainable solutions.
- Adaptability: The ability to quickly adapt to new technologies and market demands is essential for success.
- Empathy in Leadership: Leading R&D teams means understanding diverse perspectives.
- Commercial Acumen: Knowing market trends and customer budgets shapes viable innovations.

Students, cultivate these soft skills alongside your technical ones. Join student chapters, organize events, or intern at startups to build them early. Your passion and adaptability will drive your success.

Closing Message

To all you aspiring chemical engineers, the world needs your creativity and courage. Whether you're fascinated by polymers, sustainability, or process design, your work can solve pressing challenges like environmental degradation and resource scarcity. Start small—experiment in labs, collaborate with peers, and dream big. Your journey in chemical engineering is just beginning, and we are all excited to see the impact you'll make!

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Pratik Bhagat

BE' 11 Chemical Engineering
Senior Principal Process Engineer - NPCC Engineering Pvt.Ltd

1. Can you share your journey into Process Engineering? What inspired you to choose this field?
During my final year of chemical engineering, I was applying to various campus placement jobs to secure my employment as well as revising my course content to qualify for the GATE exam. And a day arrived when I visited Aker Powergas Pvt.Ltd, Mumbai office, to appear for a campus interview.
I was very fascinated by the office premises, working environment and more than that, the technical competencies of people who took my interview. I think it was a day that inspired me in a true sense to enter the world of EPC. Today, after 14+ years of Process Engineering experience, I am extremely happy and proud of this decision where I contributed to a variety of Plant Designs from Onshore to Offshore facilities.
When I look back, I am grateful to Aker Solutions, GS Engineering & Construction, NPCC Engineering Pvt. Ltd. (NEL), TSEC, IIChE MRC and S B Technologies for giving a platform with constant encouragement to excel more..

2. How has your role evolved over the years from a junior to a senior position?
As a Graduate Engineering Trainee (GET) at Aker Solutions, initially I was worried about my career path and how long I would go in this chosen field. The main reason is being surrounded & competed by the other candidates of prestigious universities like ICT, ITs, etc. But gradually I realized that a key to success is 99% of your "ATTITUDE" and 1% of "INTELLIGENCE". I picked up this key and started using it while executing all tasks assigned to me. Today, I am a Lead Process & Safety Engineer, and I am not surprised by this fact but happy to be recognized timely.

3. Have you led any innovations or optimizations that significantly improved a plant's performance?
I have contributed to several articles in international magazines on the subject of "Air Cooled Heat Exchanger", "Alarm Rationalization", etc., which are well appreciated by readers for the content and guidance to Process Engineers.
Apart from this, I presented several Technical Papers on Project Management Techniques during the EPC India Conference, discussing the Productivity & Operational Efficiency Improvements at the workplace.

4, How is digitalization or Industry 4.0 impacting process engineering in your opinion?
Digitalization or Industry 4.0 is there to accelerate the Process Engineering work activities and certainly not to replace them.
Having a sound knowledge and competency in Robotic Automation tools will give good confidence, as well as it will leave a positive impact on the project.

5. What, according to you, should be a process engineer's mindset to develop a sustainable and feasible chemical process?
Firstly, someone must have a command of the basics and fundamentals.
Thorough knowledge of chemical technology roots, accompanied by automation skills, someone can contribute towards developing a sustainable and feasible chemical process.

6. What steps are being taken in your industry to reduce environmental impact?
From myside, I am practising "Paperless" activities since many years at my workplace.
For reading, checking documents or drawings, or circulating any document to other disciplines, I stopped using a Print media and comfortably going with a "Digital" way.
Even I stopped using a Diary/ Notepad and started using my "i-Pad" few years back.
In my past employment, I initiated a "Clean-up Desk" drive through which lots of unused papers were trashed which were piled-up since many years.
Apart from this, we keep celebrating World Environment Day through Tree Plantation, Awareness drives, Floor Talks etc.

7. What qualities do you believe are essential to become a successful senior process engineer?
• Leadership: Taking lead for any assigned group task.
• Pro-active: Be pro-active in terms of asking for a new assignment or completing any activity on time.
• Learning Mindset: Keep the positive attitude towards Learning and be curious as well as patient.

8. What advice you would like to give to young engineers entering the field today?
While leading a team of Process Engineers having freshers to experienced candidates, I observed at many instances, they are un-willing to work an extra mile or work over weekends.
I strongly believe that More you stay longer in field, more attitude you will gain".
Therefore, my advice to young engineers is: To make yourself "Available" whenever there is a work need. First 3-5 years of your career is a time to put all efforts in understanding the work ethic, knowing the execution strategies, and developing your skillsets.
But many youngsters channelize their energy in activities which are not linked to their career's goals.
Remember: "Those who recognize their abilities and areas of interests early, climb-up the stairs very quickly".

9. How do you stay up to date with new technologies, regulations and methologies?
I love representing my organization in global knowledge sharing platforms.
As far as possible from the busy schedules, I keep participating in the conferences, attending expert talks, and visiting expos which keep me updated with new technologies, regulations and methologies.

10. What does the future of process engineering look like to you?
Future Process Engineer must have a knowledge of Process Controls, Technical Safety, Robotic Automation & Project Management.
He/ she should be ready to accelerate the work schedules while maintaining the quality requirements in delivery.

GUEST LECTURES

- TSEC Alumni Webinar Series Session - 1

“Management Masters Programs and Admissions” by Mr. Divesh Chellandi.

- TSEC Alumini Webinar Series Session - 2 on the topic

“Statistics in Chemical Engineering” by Mr. Kapil Nichani.

- TSEC Alumini Webinar Series Session - 3

“Sustainability and Climate Change” by Mr. Abhishek Shukla.

- Expert’s Session on **“How to write a research article?“** was conducted by Dr.R.Sugumar.
- Expert’s Session on **“Job prospects in Chemical Engineering“** was conducted by Mr. Sanjay Dalvi.
- Expert’s Session on **“Careers in Consulting“** was conducted by Mr. Charanjeet Alisinghani.

- Process Engineering Lecture Series Session - 1

“Overview of Utility Systems” by Mr. Sushil.I.Khitani.

- Process Engineering Lecture Series Session - 2

“Overview of Process Engineering and Project Execution” by Mr. Vinay Parab.

- Process Engineering Lecture Series Session - 3

“Overview of Heat Exchangers” by Mr. Pratik Bhagat.

DEPARTMENTAL PUBLICATIONS

- **Dr. Nita Mehta**

1. Jadhav, Y.; Mehta, N. Comprehensive Review on Flaxseed : A Nutraceutical Wonder. Int. J. Multidiscip. Res. 2024, 6 (3), 1–19. https://doi.org/DOI 10.36948/ijfmr.2024.v06i03.23872
2. Bhabar, M. A.; Dalvi, V.; Mehta, N. Simulation of Extractive Distillation Using Chem Sep. Int. J. Eng. Res. Technol. 2024, 13 (10). https://doi.org/10.17577/IJERTV13IS100106.
3. Shetty, P.; Mahajan, V; Mehta,N. Optimising Ethylene Production through Thermal Cracking: a Comprehensive Study. Industrial Engineering Journal 2024, 53 (12), 86–96.http://www.journal-iiieindia.com/1_dec_24/13.3_dec.pdf (ugc care)

- **Dr. Ramesh Bhande**

"Manufacturing Of Fragranced Cream", Industrial Engineering Journal ,ISSN: 0970-2555 ,Volume : 53, Issue 8, No.4, August : 2024

- **Prof. Prasad J. Parulekar**

1. Prasad J. Parulekar; Siddhi Jadhav, Research on Methanol Carbonylation: A Comprehensive Analysis of Acetic Acid Synthesis and Production", International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Volume 14, Issue 01, January 2025; DOI: 10.17577/IJERTV14IS010055.
2. Prof. Prasad J. Parulekar,Mr. Manav Shah, Miss. Sharvari Indalkar, Mr. Jatin Gola, "Storage Systems for Hydrocarbons", Mukt Shabd Journal (MSJ), ISSN: 2347-3150, Volume XIII, Issue 10, October 2024; DOI:10.0014.MSJ.2024.V13I10.0086781.261864

- **Prof. Ravindra R. Joshi**

1. "Esterification of lignin-derived phenolic compound eugenol to eugenol benzoate using acidic deep eutectic solvent as a catalyst", Chemical Papers, DOI:10.1007/s11696-024-03762-2
2. "Biobased synthesis of butyl levulinate from levulinic acid by using CTAB-based hydrophobic deep eutectic solvent as a catalyst", Biomass Conversion and Biorefinery, DOI:10.1007/s13399-024-06429-w
3. "Upgradation of hemicellulose-derived furfuryl alcohol to butyl levulinate by using magnetic acidic deep eutectic solvents as catalysts", Catalysis Today, DOI:10.1016/j.cattod.2025.115276

- **Dr. Trupti Dharmarao**

1. "Pulsed Light: Emergence of Novel Non-Thermal Technology for Preservation of Fruits and Vegetables", Food Physics, DOI 10.1016/j.foodp.2024.100022
2. Vridhi Varliani, Ronit Tejani, Trupti Dharmarao, Process Simulation of Tertiary Amyl Methyl Ether using DWSIM International Journal of All Research Education & Scientific Methods, Volume 12 Issue 10, October 2024
3. Dr Trupti Dharmarao, Ms. Ira Sahasrabudhe, Mr. Surin Gupte, Review of Membrane-Based Solvent Extraction, International Journal of All Research Education and Scientific Methods (IJARESM), Volume 13, Issue 3, March 2025

STUDENT ACHIEVEMENTS

- Maanav Shah from BE secured Gold in Table Tennis at Shazam'24, conducted by TSEC Students' Council in September 2024.
- Maanav Shah from BE secured Gold at KJSCE in Table Tennis Singles in January 2025.
- Maanav Shah secured Gold at the KJSCE Skream event in Teams in January 2025.
- Maanav Shah secured Gold at VJTI Entusia Fest Teams in February 2024.

- Urmi Pokharkar, Saumya Kurup and Ronak Mota from SE secured third position in Salt Act, Arise fest conducted by the chemical engineering department of Bhartiya Vidyapeeth College in January 2025.
- Archit Pavale from SE participated in Student Outreach Program as Head of Planning and Coordination in March 2025
- Maithili Khamkar from TE secured second place in poster presentation in Prakalp 2025 conducted by MIT college, Pune

- Swaraj Pai from BE secured 3rd Rank in Shazam Chess'24 conducted by TSEC student council
- Swaraj Pai from BE secured 3rd Rank in Checkmate Chess '24
- Swaraj Pai from BE secured 1st Runner up in Mithibai Intercollege Chess Tournament '24
- Bhumi Namdeo Gaingade from SE secured 2nd place (Team) at the Street Play Event in Antaragnee conducted by IIT Gandhinagar in Feb 2025

- Mansi Kishore Gada from SE participated as Co-convener at SOP in March 2025
- Mohammed Ali Dahoodwala from SE participated as Head of Public Relations at SOP in March 2025
- Tanmayee Sawant from SE participated as Head of Data Management at SOP in March 2025
- Anuradha Yadav from SE particiated as Supporting Head Logistics at SOP in March 2025
- Sudakshina Vishwakarma from SE participated Head of Logistics at SOP in March 2025
- Selika Pereira from FE secured an award - Tsec Band AABSHAR(team) at Rock ki Mehfil, BSHEI

BE AWARDS

- Sharvari Indalkar, Mrunmayee Hegiste, Maanav Shah, Swaraj Pai from BE received “Principal’s Excellence” award
- Aranav Poddar, Kashish Agarwal, Viraj Dalvi, Surin Gupte, and Divyansu Bhalotia from BE received the “Hall of Fame” award
- Vridhi Varliani, Prachi Rode, Ira Sahasrabudhe, Atharva Jindal, Mohd Asad Ansari from BE received Ambassadors Award

- Jatin Gola and Yash Thakkar from BE received Leadership Award
- Aranav Poddar from BE received Student Councils Award
- Harsh Kadam, Shreya Shikhare, Soham Joshi and Aditya Vijaykar from TE received award for Batch Toppers for Sem 3 and Sem 4
- Surin Gupte, Sharvari Indalkar, Viraj Dalvi, Mohd Asad Ansari from BE received award for Batch Toppers for Sem 5 and Sem 6

GATE Achievers

- Mohammed Asad Ansari secured an All India Rank 124 in GATE'24
- Manav Thaker secured an All India Rank 521 in GATE'24
- Sahas Kasar secured an All India Rank 640 in GATE'24
- Raviraj Khandekar secured an All India Rank 983 in GATE'24
- Sumit Panicker secured an All India Rank 983 in GATE'24

Higher Studies

- Vridhi Varliani is pursuing PG studies at the University of Massachusetts
- Surin Gupte is pursuing PG studies at Purdue University
- Mrunmayee Hegiste, Yash Thakkar, pursuing PG studies at the University of Southern California
- Ira Sahasrabudhe is pursuing PG studies at North Carolina State University
- Mohammed Asad Ansari is pursuing PG studies at IIT Bombay
- Ronit Tejani is pursuing PG studies at the Technical University of Denmark
- Aamir Palsara is pursuing PG studies at Texas A&M University
- Sahas Kasar, Manav Thakar, pursuing PG studies at IIT Madras
- Devang Gada, Darsh Chotalia, Rhea Dhanuka, pursuing PG studies at ICT Mumbai
- Sia Shetty is pursuing PG studies at IIM Raipur

Placements

- Sharvari Indalkar, Jatin Gola joined Technip Energies India Ltd
- Aadithya Premraj joined Jaro Education
- Kashish Agarwal joined NPCC Engineering Pvt Ltd
- Viraj Dalvi, Shivam Jadhav, Harsh Divedia, Natasha Kairamkonda joined Reliance Industries Ltd
- Durva Mohite joined Voltas
- Om Pawar joined Worley

- Sumit Panickar joined Aker Solutions
- Ajinkya Joshi, Tirth Solanki joined Speciality Chemicals and Polymers
- Devika Gharge, Sejal Nimbare joined Ratnamani Metals and Tubes Ltd
- Divyansu Bhalotia joined Tecnimont
- Devraj Raikar joined Aarti Pharmalabs
- Harsh Mayne joined Galaxy Surfactants
- Abdul Basit Mahiskar joined Shroff Engineering Consultants
- Aranav Poddar joined Avalon Global Research
- Aayush Misal, Pranoti Sawant, Atharva Gidde, Aroush Pawaskar joined Ion Exchange Ltd
- Maanav Shah joined Godrej Consumer Products Ltd
- Swaraj Pai joined AB Engineers
- Prachi Rode joined Effwa Infra & Research Ltd.
- Dharmik Gohil joined Aevitas Pharmagro Tech. Pvt. Ltd
- Ritika Yadav joined Sam Enviro
- Jajwal Parab joined Petrofac

THANKING THE TEAM

TEAM CHEMERGENCE'24

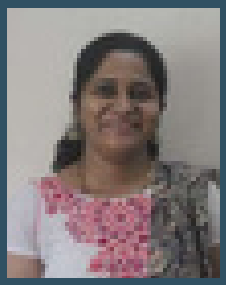
Chemystery

Chemergence

THE NON-TEACHING STAFF

LAB ASSISTANT

Mr. H. Jethani



Mrs. Deepti Pol

Mr. Rahul Singh

Ms. Vaishali Sangle

LAB ATTENDANT

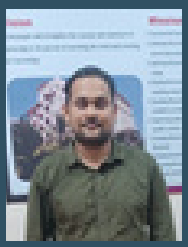
Mr. R. Dubey

Mr. A. Shukla

Mr. C. Tiwari

Mr. C. Chaubey

PEON



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