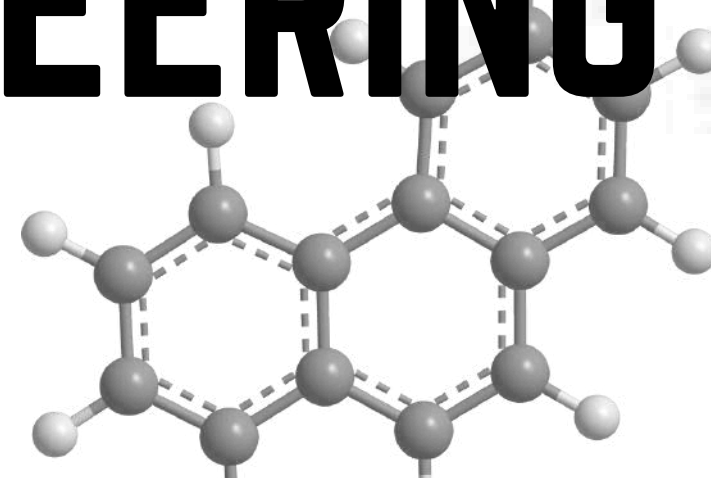




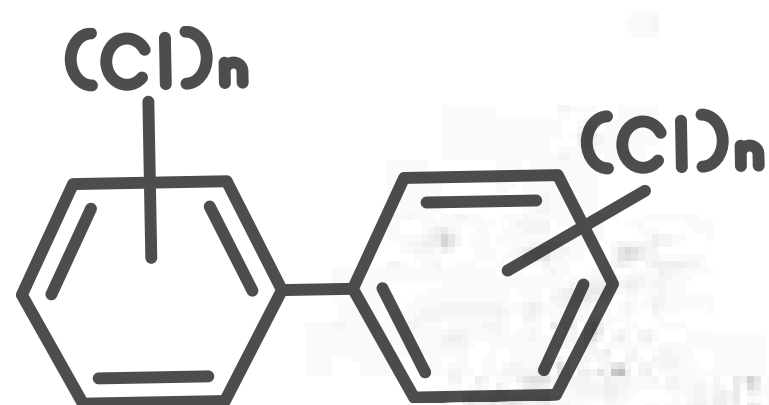
**S**  **CE** | Sri Venkateswara  
College of  
Engineering



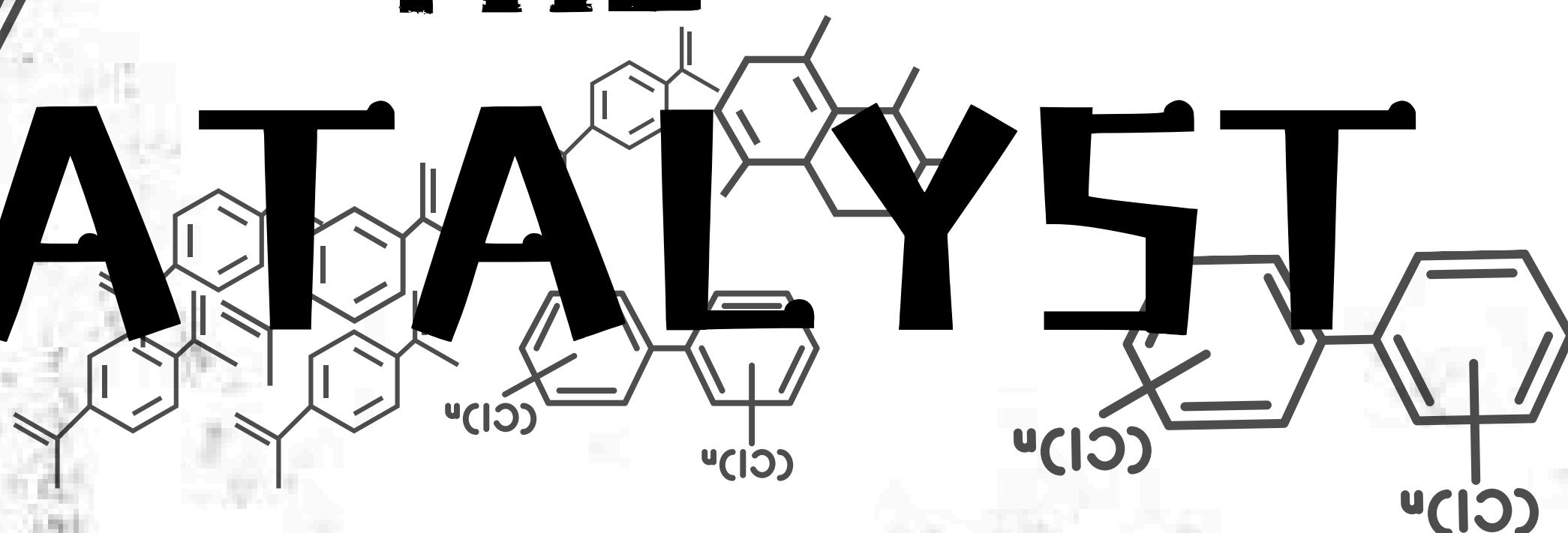
# DEPARTMENT OF CHEMICAL ENGINEERING



MONTHLY NEWSLETTER



# THE CATALYST



**"ACCELERATING IDEAS INTO ACTIONS"**

---

**Volume: 3, Issue: VIII, August 2024**





# TABLE OF CONTENTS

<b>About The Department.....</b>	<b>1</b>
<b>Vision</b>	
<b>Mission</b>	
<b>Programmes Offered.....</b>	<b>2</b>
<b>B.Tech. Chemical Engineering</b>	
<b>M.Tech. Chemical Engineering</b>	
<b>Ph.D. Chemical Engineering</b>	
<b>Continuing Education.....</b>	<b>5</b>
<b>Value Added Education.....</b>	<b>8</b>
<b>Research Outcomes.....</b>	<b>12</b>
<b>Outline Of Achievements.....</b>	<b>13</b>
<b>Extra Curricular Activities.....</b>	<b>14</b>
<b>Interaction With Alumni.....</b>	<b>17</b>
<b>Glance to Infrastructure.....</b>	<b>19</b>
<b>Editorial page.....</b>	<b>20</b>

## ABOUT THE DEPARTMENT

Sri Venkateswara College of Engineering (SVCE) is one of the premier technical institutions in Tamilnadu. The College is situated on the Chennai – Bengaluru National Highway. The college offers 12 UG programs and 7 PG programs. SVCE is an ISO 9001:2015 certified institution and Accredited by NAAC with A+ grade. For more details visit: [www.svce.ac.in](http://www.svce.ac.in).

Department of Chemical Engineering came into existence in the year 1994 with the B.Tech programme. The Department has highly qualified and experienced faculty with modern infrastructure facilities. The department offers B.Tech, M.Tech and Ph.D programmes in Chemical Engineering. The B.Tech Chemical Engineering programme is accredited by the **National Board of Accreditation (NBA)** till June 2025.

The IChE- SVCE Student chapter has been bestowed with best Student Chapter Award of Ambuja and Pidilite Industries award for 15 times. The department organizes a National Level Technical Symposium “PANSOPHY” every year and also organizes Short Term Training Programs / Faculty Development Programs / Seminars / Workshops / Guest Lectures and National Conferences periodically. Two patents and projects from various funding agencies viz. BRNS, TNSCST, AICTE - MODROBS, AICTE - RPS, IChE have been granted to our faculty and students to enhance the research and technical skills.

## VISION

To attain comprehensive recognition in research and training students for developing a value based sustainable society on both National and global platforms by fostering creative minds for academic and research excellence with highly futuristic facilities and potential support.

## MISSION

**Empowering Excellence:** To establish a cutting-edge infrastructure that supports and propels internationally acclaimed research, fosters creativity, and cultivates an entrepreneurial spirit.

**Continuous Improvement:** To empower individuals by nurturing their innovative capabilities, equipping them with essential skills and attributes to innovate and meet the evolving needs of society.

**Lifelong Support:** To provide high-quality technical education with hands on experience that prepares students for successful careers in the chemical and allied industries, enabling them to excel both national and global scales.





## PROGRAMMES OFFERED

### B. Tech CHEMICAL ENGINEERING

#### PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

**PEO 1:** Equip students with the necessary skills and knowledge to prosper in their career in Chemical Engineering and related domains.

**PEO 2:** Encourage students to pursue advanced learning and engage in research with internationally acclaimed institutions and foster professional growth.

**PEO 3:** Empower students with leadership qualities to succeed in diversified fields with ethical administrative acumen and adapt to the rapid technological advancements and innovations.

#### PROGRAM OUTCOMES (POs)

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design / development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.



8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## **PROGRAM SPECIFIC OUTCOMES (PSOs)**

1. Apply the knowledge of science and mathematics in the field of various transport processes to accomplish the contemporary needs of chemical and allied industries.
2. Execute the chemical engineering principles and modern engineering tools to conduct experiments or design a system for developing quality chemical processes by considering the cost, safety and environmental aspects.

## **M. Tech CHEMICAL ENGINEERING**

## **PROGRAM EDUCATIONAL OBJECTIVES (PEOs)**

**PEO1:** Function effectively to solve complex industrial problems using Chemical engineering concepts and also in expanding areas of Energy and Environmental industries.

**PEO2:** Pursue their careers in Research and Development towards an advanced degree in Chemical engineering and allied technical discipline.

**PEO3:** To become Professional Leaders in the complex work environment.



## PROGRAM OUTCOMES (POs)

1. Independently carry out research /investigation and development work to solve practical problems.
2. Write and present a substantial technical report/document.
3. Demonstrate a degree of proficiency over the area as per the specialization of the program. The proficiency should be at a level higher than the requirements in the appropriate bachelor program
4. Potential to analyze solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety.
5. Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
6. Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

## PROGRAM SPECIFIC OUTCOMES (PSOs)

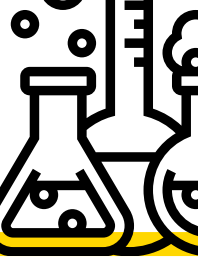
**PSO1:** Apply the knowledge of science and mathematics in the field of various chemical engineering processes to accomplish the contemporary needs of chemical and allied industries.

**PSO2:** Usage of modern engineering tools to design and conduct experiments to develop quality chemical processes by considering the cost, safety and environmental aspects.

## Ph. D. CHEMICAL ENGINEERING

Ph.D. in Chemical Engineering is being offered in Chemical Engineering department since 2011. Our department has been recognized as a research center by the Centre of research, Anna University, Chennai. Our department is equipped with sophisticated facilities such as High-Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), Atomic Absorption Spectroscopy (AAS), and a UV Vis spectrophotometer, pilot plant scale equipments, etc. to promote research activities. In our research centre, full time and part time reasearch scholars are pursuing their doctoral programme in Chemical Engineering.





## CONTINUING EDUCATION

- **Bureau of Indian Standards (BIS)** organized an annual convention for the Head of the Departments and Deans of the Chemical Engineering and Chemistry Department of their MoU partner institutes. As SVCE is one among their MoU partner institutes **Dr. R. Govindarasu**, Head of the Department, Department of Chemical Engineering participated in the covention held on 23.08.2024 and 24.08.2024, at Dharamshala, Himachal Pradesh.







## CONTINUING EDUCATION

- **Dr. M. Srividhya**, Assistant Professor, Department of Chemical Engineering, attended a faculty development program on Technological advancements in synthesis of novel materials organized by Chaitanya Bharathi Institute of Technology, Hyderabad during 05.08.2024 to 10.08.2024.

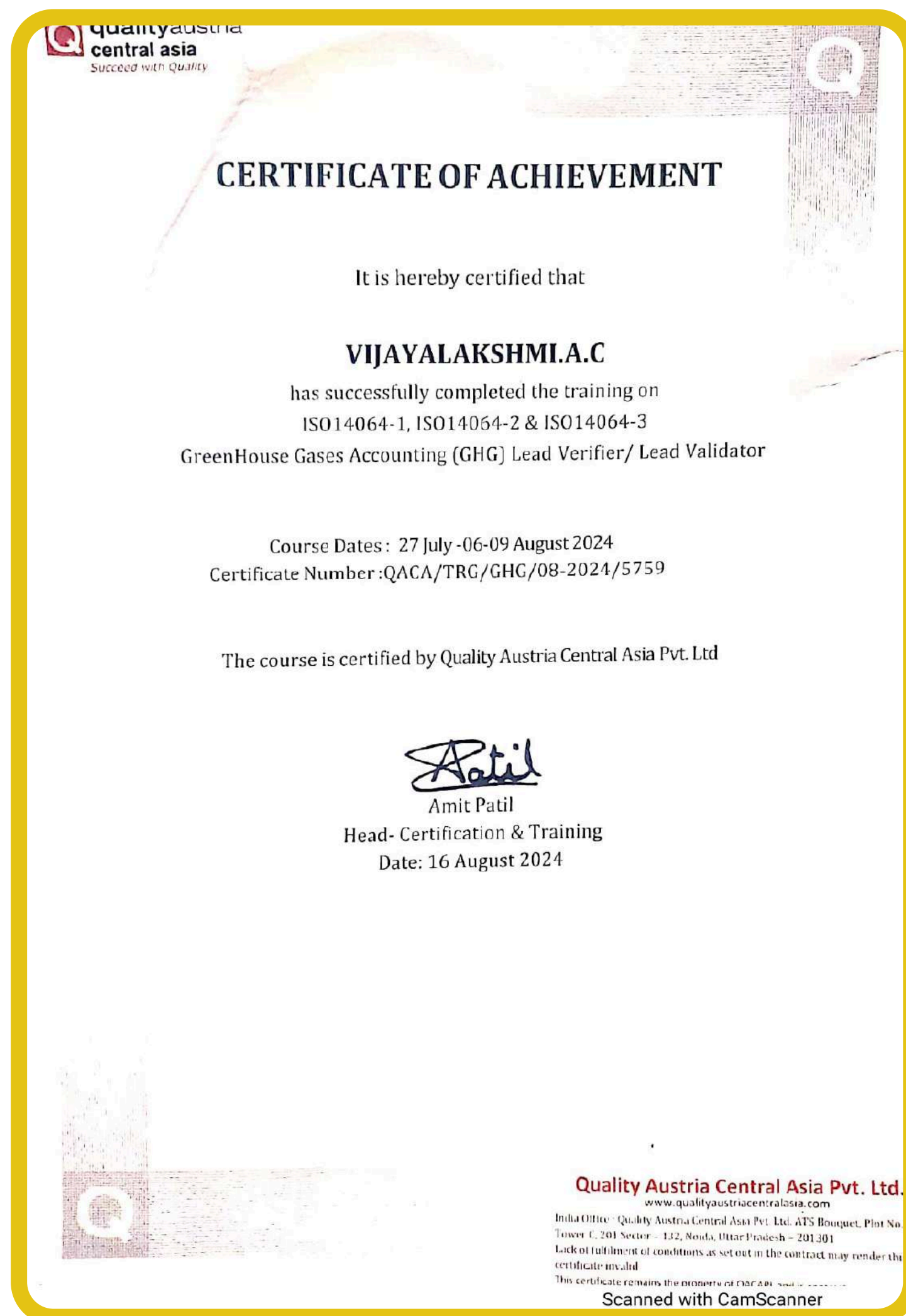


- **Ms. Ranjani R, Mr. Sai Sidharth A, Ms. Purna Unnath N**, IV Year, Chemical Engineering students have presented an idea titled “Redox flow battery for backup grid energy storage” under the mentorship of **Dr. Philip Bernstein Saynik**, Assistant professor in Yukti Lab to Market held in SVCE on 01.08.2024 as a part of IITM PALS activities.
- **Ms Vanisuvathsala S V, Ms Vidhyavarshini K, Mr Siva K**, IV Year Chemical Engineering students have presented an idea titled "Microplastics removal using nanoclusters and hyaluronic acid infused IPN hydrogels" under the mentorship of **Mr. N. Arun Prem Anand**, Assistant professor in Yukti Lab to Market held in SVCE on 01.08.2024 as a part of IITM PALS activities.

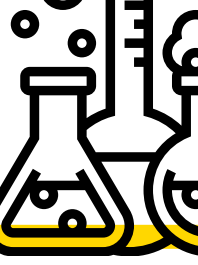


## CONTINUING EDUCATION

- **Mrs. A. C. Vijayalakshmi**, Assistant Professor, Department of Chemical Engineering, completed the ISO 14064-1, ISO 14064-2, ISO 14064-3 Green House Gases (GHG) accounting as a part of ISO 14K EMS Lead Verifier Training Course. This course is certified by Quality Austria Central Asia Pvt. Ltd.







## VALUE ADDED EDUCATION

- On 07.08.2024, Department of Chemical Engineering, SVCE organized a one day first aid training program and chemical lab safety in association with Youth Red Cross (YRC) - SVCE unit. In the session, the basics of first aid, CPR techniques, etc. were briefed by experts from IRCS-TN, Chennai. Participants actively engaged in hands-on training for emergencies such as accidents, cardiac events, chemical hazards, and gained essential first aid skills. The first aid training program emphasized preparedness and community service among students.



- Hands - on training program on Chemical Laboratory Safety was conducted by **Mr. M. Lakshmi Narayan**, SGM – SHE; HR, Stead fast safety solutions, Chennai on 07.08.2024 to III year and IV year Chemical Engineering Students in the afternoon session of the one day first aid training and chemical lab safety program.







Sri Venkateshwara college of engineering  
 Lat 12.989204° Long 79.971584°  
 07/08/24 01:41 PM

- **Ms. Ranjani, Ms. Saranya, Mr. Ramanamoorthy and Mr. Sai Sidharth** of IV Year Chemical Engineering participated in the PALS – IITM Event, held at Central Lecture Theatre, IIT Madras on 31.08.2024.



Chennai, Tamil Nadu, India  
 X6QJ+VV4, Indian Institute Of Technology, Chennai, Tamil Nadu 600036, India  
 Lat 12.989546°  
 Long 80.232269°  
 31/08/24 03:57 PM GMT +05:30



Chennai, Tamil Nadu, India  
 148, Alumni Ave, Indian Institute Of Technology, Chennai, Tamil Nadu 600036, India  
 Lat 12.989688°  
 Long 80.231913°  
 31/08/24 03:57 PM GMT +05:30

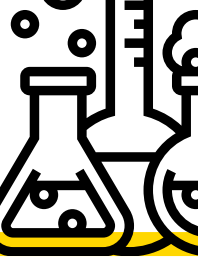


## INDUSTRIAL VISITS

- II Year Chemical Engineering Students underwent Industrial Visit to Indian Oil Corporation - Lube oil Plant at Tondiarpet, Chennai, on 09.08.2024, accompanied with **Dr. M. Srividhya** and **Mr. M. Ananda Boopathy** Assistant professors, Department of Chemical Engineering.







- III and IV Year Chemical Engineering students underwent Industrial Visit to CBS Chemicals, Thirumazhisai SIDCO, Thirumazhisai on 28.08.2024 accompanied with **Mr. N. Arun Prem Anand**, Assistant professor, Department of Chemical Engineering.



- III Year Chemical Engineering Students underwent Industrial Visit to Manali Petrochemicals Limited, Manali on 29.08.2024 accompanied with **Ms. A.C. Vijayalakshmi** and **Dr. G. Manikandan**, Assistant professors, Department of Chemical Engineering.





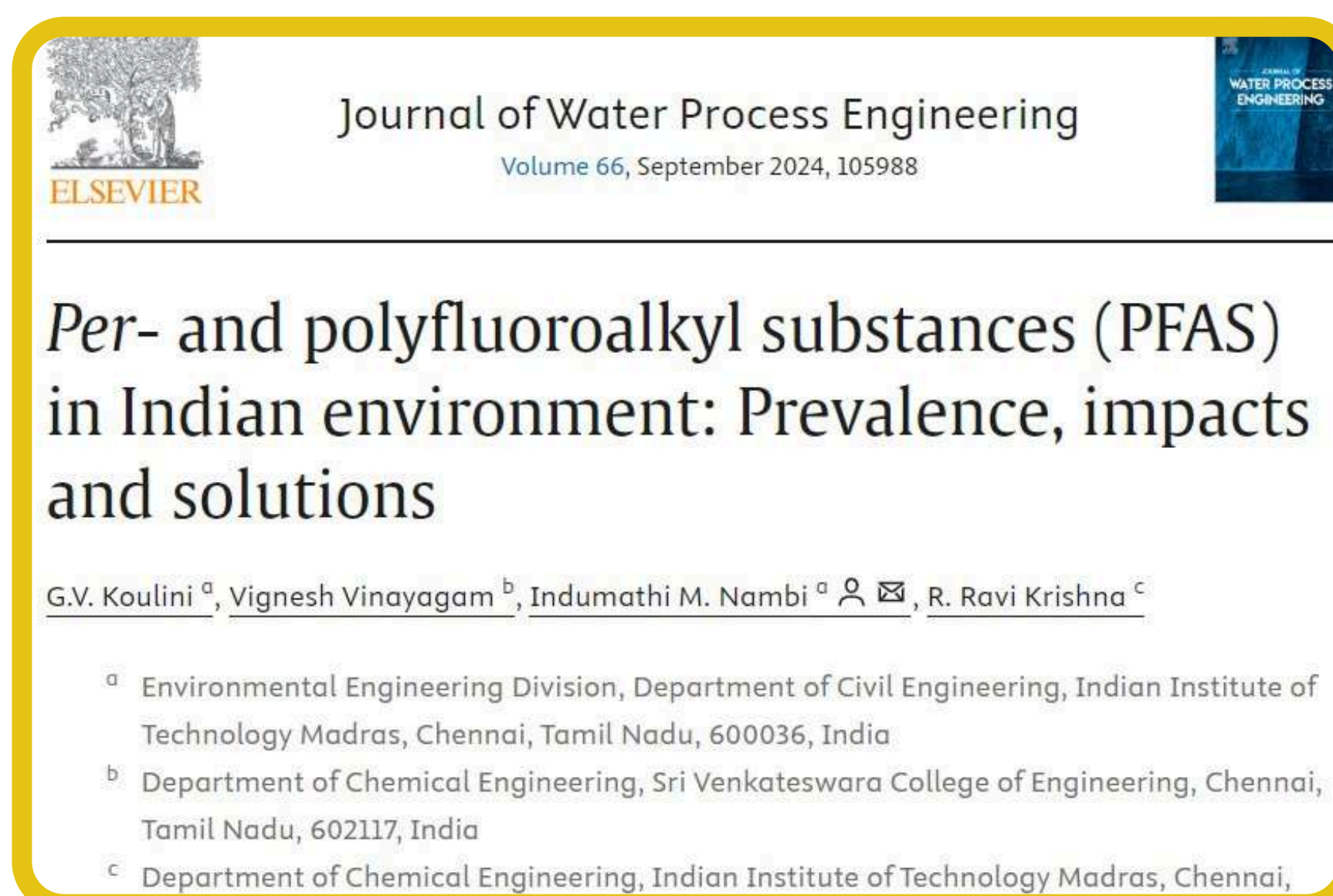


## RESEARCH OUTCOMES

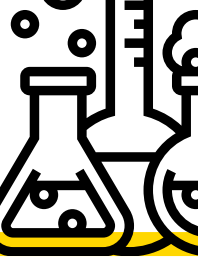
- **Dr. N. P. Kavitha**, Assistant Professor, Department of Chemical Engineering published a paper titled “Cellulose nanofibril separator from *Coffea arabica* waste for super capacitor applications” in Journal of Industrial Crops and Products, Vol.214, August 2024.



- **Mr. V. K. Vignesh**, 2024 batch student, Department of Chemical Engineering published a paper titled “Per- and polyfluoroalkyl substances (PFAS) in Indian environment: Prevalence, impacts and solutions” in Journal of Water Process Engineering, Vol.66, August 2024.







## OUTLINE OF ACHIEVEMENTS

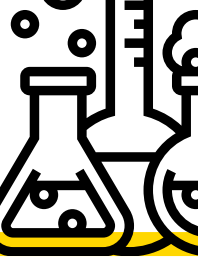
- **Mr. Hisanth V**, III year Chemical Engineering student, won the **II Prize** in the Essay Writing Competition on the theme "Innovations Driving Sustainable Development in India: A Vision for the Next 25 Years" as part of the 78th Independence Day Celebrations held on 13.08.2024, organized by IIC SVCE.



- **Mr. Tharun P**, **Mr. Sharanth P** and **Mr. Nandha balan T**, II Year Chemical engineering, won **I prize** in Chemi Ratzel (quiz), CHEMSPARX '24 a student symposium held at St. Joseph's College of Engineering, Chennai on 31.08.2024.







- **Ms. Sanjana Shree**, a IV Year Chemical Engineering student at SVCE, received a placement offer from Schneider Electric with a CTC of 5.5 lakhs through the campus placement drive! This is a fantastic achievement, and it reflects her hard work and dedication. Wishing her great success in her future endeavors at Schneider Electric!



## EXTRA CURRICULAR ACTIVITIES

- **Mr. Bharathkumar C**, III Year, Chemical Engineering student, participated in Pyramid formation event during Independence Day celebrations on 15.08.2024 at SVCE.







- **Ms. Nirmala Devi P**, III Year, Chemical Engineering student, participated in dance competition during Independence Day celebrations on 15.08.2024 at SVCE.





- **Ms. Lavania P**, III Year, Chemical Engineering student, participated in speech competition during Independence Day, celebrations on 15.08.2024 at SVCE.



- **Mr. Bharathkumar C** and **Mr. Janakiraman V**, III Year, Chemical Engineering students, participated in Independence Day celebrations parade held on 15.08.2024 at SVCE.

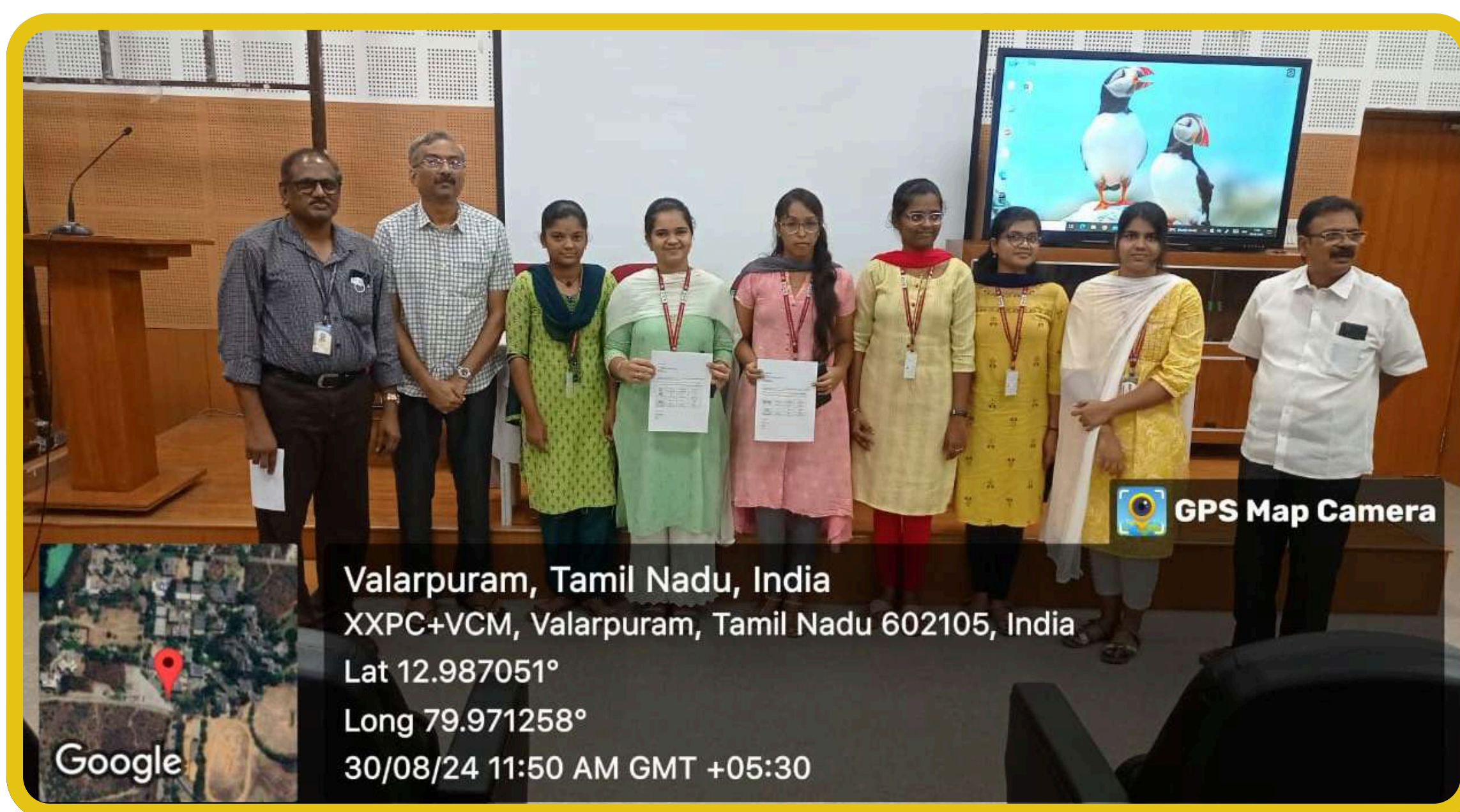




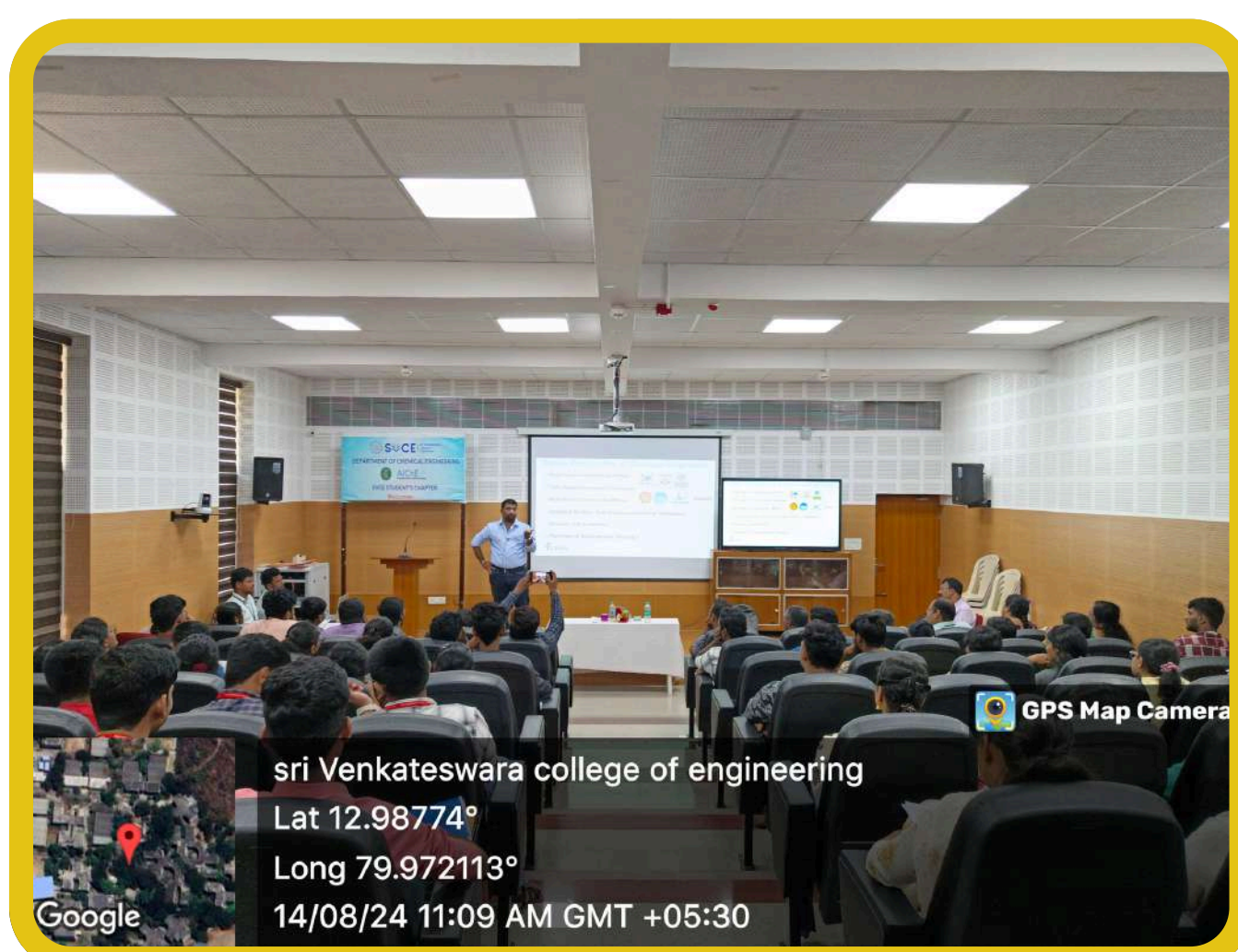
# INTERACTION WITH ALUMNI

## ALUMNI ACTIVITIES

- **Ms. Dharshitha** and **Ms. Jayashree**, II Year Chemical Engineering students were awarded the tuition fee scholarship for girl students instituted by the **1985-89** alumni batch by clearing the interview held on 10.08.2024



- A Guest Lecture on “Career and Research Prospects for Chemical Engineers” was delivered by **Dr. IR. Prasaanth Ravi Anusuyadevi** an alumuns of 2012 batch, Post Doctoral Researcher and Materials scientist, Delft University of Technology, Netherlands on 14.08.2024 to III year and IV Year Chemical Engineering Students.







## INTERACTION WITH ALUMNI



**Jow Raymund I,**  
Associate Process Engineer,  
JGC EPC Private Limited,  
B. Tech Chemical Engineering (2020-2024)

Dear Juniors,

As you embark your journey in Chemical Engineering, I want to share some thoughts from my own experience. The basics you learn now are incredibly important for your future. This will come to life as you come into industry. The path ahead is filled with challenges and opportunities, and the foundation you build now will be crucial for your future success. Grab opportunities at the first place when they come your way. Explore the world, don't hesitate to step out of your comfort zone and take on new challenges. The core principles of chemical engineering—thermodynamics, fluid mechanics, heat transfer, and mass transfer—are not just academic subjects but the bedrock upon which our profession stands. These fundamentals are the tools that enable us to design, analyze, and optimize processes that are safe, efficient, and sustainable. Always use textbooks! In the industry, the theoretical knowledge gained in college is put to the test. Whether it's designing a new reactor, troubleshooting a distillation column, or optimizing a heat exchanger, the basics are always at play. Understanding these principles allows us to innovate and improve processes, ensuring that we meet the ever-evolving demands of the market and regulatory standards. I am deeply grateful to my faculties and for their support throughout my college. They are the reason for many successful engineers. Utilize them and the facilities in the college. Wishing you the best for your careers.





## GLANCE TO INFRASTRUCTURE

The Sophisticated Instruments Laboratory in the Department of Chemical Engineering has been established with modern infrastructure and analytical instrumentation facilities, including Atomic Absorption Spectroscopy (AAS), High-Performance Liquid Chromatography, Gas Chromatography, and UV-Vis Spectrophotometry, to facilitate the analysis of different sample solutions as required for research. This laboratory was also funded by DST-SERB, New Delhi which supported enhancements in lab facilities.

The Atomic Absorption Spectroscopy (AAS) system is procured from Thermo Fisher Scientific India Pvt. Ltd., Chennai and is used by undergraduate and postgraduate Chemical Engineering students for sample analysis in their regular lab course as well as final-year project work. It is particularly useful for determining trace metals in water, soil, and air samples; measuring metal concentrations in biological samples; analyzing metals in various industrial materials; and checking metal contaminants in food and drinks.

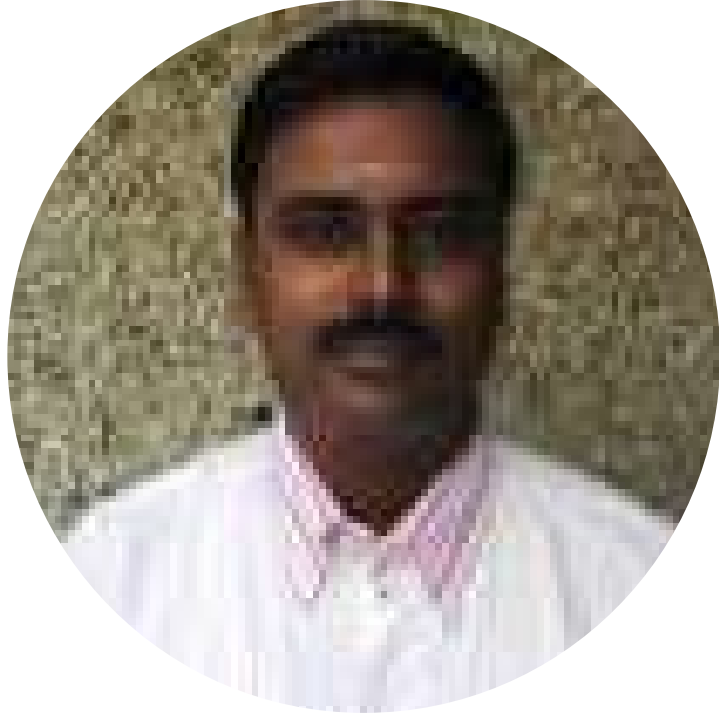


Atomic Absorption Spectroscopy (AAS) operates on the principle that ground-state atoms can absorb light of a specific wavelength. When a sample is introduced into the flame, it is atomized, creating free atoms. A light beam, produced by a hollow cathode lamp or electrodeless discharge lamp specific to the element of interest, passes through the atomized sample. The atoms absorb light at a characteristic wavelength, and the amount of light absorbed is measured. This absorption is directly proportional to the concentration of the element in the sample.





## EDITORIAL LEADS



**Dr. R. Govindarasu**

Head of The Department

Department of Chemical Engineering



**Mr. N Arun Prem Anand**

Assistant Professor

Department of Chemical Engineering

## STUDENTS EDITORIAL TEAM



**Mr. Vaiyapuri A N**

III / CHE



**Mr. Tharun P**

II / CHE



**Ms. Srishta M J**

II / CHE

## ABOUT US



[www.svce.ac.in/departments/Chemical Engineering](http://www.svce.ac.in/departments/Chemical%20Engineering)



Chemical Engineering SVCE



svce.chemical

## CONTACT US



hodch@svce.ac.in



+91-44-27152000; Extn: 550