



SRM

INSTITUTE OF SCIENCE & TECHNOLOGY
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Chemical Chronicle

NEWSLETTER

Volume 1, Issue 1 (July to December 2021)



DEPARTMENT OF CHEMICAL ENGINEERING

College of Engineering and Technology

SRM Institute of Science and Technology,

Kattankulathur - 603 203, Chengalpattu District, Tamil Nadu, India

<https://www.srmist.edu.in/engineering/department-of-chemical-engineering/about-the-department>

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About the Department

The Department of Chemical Engineering was started in the year 1995 offering B. Tech. degree programme in Chemical Engineering as one of the core departments of SRM Engineering College under the University of Madras. The department started offering a post-graduate programme, M. Tech. (Chemical Engineering) since 2002-2003. From the academic year 2003-2004, the department started functioning under SRM Institute of Science and Technology. The department now offers B. Tech. (Chemical Engineering), M. Tech. (Chemical Engineering) and Ph.D. (part time and full time) under SRM Institute of Science and Technology. So far, 23 batches of B. Tech. students and 18 batches of M. Tech. students have graduated from this department with meritorious performance. Presently, the department has 15+ Ph.D. scholars working on various socially relevant projects.

Vision of the Department

To utilize Chemical Engineering and Technology and ensure overall socio-economic growth, welfare, and progress of Indian society and the World-at-large by supporting Academia, Industries through Research and Development, Consultancy and graduating high-quality Chemical Engineers

Mission of the Department

- To facilitate high quality education, well grounded in the fundamental and applied areas of engineering necessary for learners to contribute effectively to chemical and allied industries
- To educate, prepare, inspire and mentor learners with the technical and professional skill-set necessary to excel as professionals, grow in their careers and contribute to chemical engineering science and technology
- To inculcate social-responsibility in learners and train them to contribute effectively to science and society

**Message from the Chairperson
School of Bioengineering**



Dr. M. Vairamani
Chairperson, School of Bioengineering, CET, SRMIST

I am happy to know that the Department of Chemical Engineering, School of Bioengineering, SRM Institute of Science and Technology has initiated to bring out a newsletter, "***Chemical Chronicle***". The Department of Chemical Engineering is a lively department at SRMIST and this newsletter presents the achievements of the undergraduate and postgraduate students, research scholars and faculty. By projecting the milestones of the department, the competitive spirit among students and faculty increases several folds so that they strive to perform better in all aspects of academia and research. This will also inspire young minds to learn about current breakthroughs in Chemical Engineering and related fields, and come up with novel concepts for study and validation. It provides an opportunity for faculty members and students from other disciplines to learn more about the research activities of the Department of Chemical Engineering, thereby promoting multidisciplinary research.

I congratulate the team responsible for bringing out the newsletter "***Chemical Chronicle***" and wish this endeavour all the best.

From the HoD's desk



Dr. Ashish Kapoor
Head of the Department, Chemical Engineering

Dear Reader,
Greetings!

I am delighted to present the inaugural issue of '*Chemical Chronicle*', highlighting the activities, achievements, and accomplishments of the Department of Chemical Engineering. This newsletter brings to you the highlights of the department activities such as research contributions, awards/prizes won, conferences, workshops, technical talks organized, and the recent placement records of our students.

The contributing sectors for India to become '*ATMANIRBHAR*' are essentially manufacturing and service sectors and encompasses agriculture and industrial sectors requiring support from water, energy and environment. I am proud to say that our department has been pursuing research in all these areas. We have collaboration with industries and premier research institutes including NIOT, Chennai and academic institutes like IIT Madras and NIT Trichy. Our students are encouraged to interact with various departments to achieve their project objectives.

The online mode of teaching has its own share of merits and de-merits. In spite of the hurdles of the online system of education, the faculty have tried to interact, engage and involve the students in all the aspects of the curriculum. The students and faculty have adjusted well to the online mode and ensured the continuous progress of the department. In the last two years where the pandemic created a havoc in the academic programs, our faculty have put in their maximum efforts to ensure that the students get sufficient knowledge and information equivalent to what the students would get in classroom teaching. I am proud to say a few journal articles co-authored by our B. Tech. students have been published in high impact journals.

I take this opportunity to thank the students, parents, alumni, research scholars, faculty, and the non-teaching staff of the Department of Chemical Engineering, for being a part of this incredible journey and solicit your support in all our future endeavours to carry the department to a higher pedestal. I am thankful to the management for providing a conducive environment to synergise our strengths towards fulfilling the objectives of the department and the institute as a whole. I am sure this compilation consisting of our efforts will help to periodically review, retrospect and plan to improve our performance in a better manner.

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Publications

The faculty members along with their students have published 25 papers in refereed journals during the period, July to December 2021. The Department of Chemical Engineering congratulates its faculty members and students for their efforts towards contribution for paper publication in peer reviewed journals.

Number of Publications for the period July to December 2021	25
Number of Science Citation Indexed (SCI) Publications	22 (88 %)
Highest Impact Factor	10.558
Average Impact Factor	4.958

- [1] Adithya Sridhar, Ashish Kapoor, P. Senthil Kumar, P. Muthamilselvi, S. Balasubramanian, S. Prabhakar, "Conversion of food waste to energy: A focus on sustainability and life cycle assessment", *Fuel*. 302 (2021) 121069. <https://doi.org/10.1016/j.fuel.2021.121069>. (SCI, IF : 6.609)
- [2] Adithya Sridhar, K. Deepa, Ashish Kapoor, S. Prabhakar, "Extraction and detection methods of microplastics in food and marine systems: A critical review", *Chemosphere*. 286 (2022) 131653. <https://doi.org/10.1016/j.chemosphere.2021.131653>. (SCI, IF : 7.086)
- [3] K. Suresh, Ashish Kapoor, D. Venkatesan, K. Sofiya, S. Balasubramanian, "Process design scheme on the feasibility of 1-decanol as a solvent in liquid-liquid extraction to recover anhydrous citric acid from water", *Journal of Physics: Conference Series*. 1979 (2021). <https://doi.org/10.1088/1742-6596/1979/1/012007>. (Scopus, SNIP: 0.464)
- [4] Pamula Sri Sruthi, S. Balasubramanian, P. Senthil Kumar, Ashish Kapoor, P. Muthamilselvi, Meenu Mariam Jacob, S. Prabhakar, "Eco-friendly pH detecting paper-based analytical device: Towards process intensification", *Analytica Chimica Acta*. 1182 (2021) 338953. <https://doi.org/10.1016/j.aca.2021.338953>. (SCI, IF : 6.558)

- [5] Othmani, S. Magdoui, P. Senthil Kumar, **Ashish Kapoor**, P.V. Chellam, Ö. Gökkuş, "Agricultural waste materials for adsorptive removal of phenols, chromium (VI) and cadmium (II) from wastewater: A review", **Environmental Research**. 204 (2022). <https://doi.org/10.1016/j.envres.2021.111916>. (SCI, IF : 6.498)
- [6] **D. Nanditha**, **M. P. Kavin Kalyaan**, **Ashish Kapoor**, **S. Prabhakar**, "Influence of N-Butanol Composition on Membrane Performance in Coagulation Bath for Membrane Distillation", **Journal of Physics: Conference Series**. 2007 (2021). <https://doi.org/10.1088/1742-6596/2007/1/012043>. (Scopus, SNIP: 0.464)
- [7] **Jadhav Pankaj Nagnath**, **Delphy Davis**, **P. Ovia**, **S. Samdavid**, **K. Deepa**, "Boltzmann equation for the modelling of formation of silver nanoparticles using trisodium citrate as the reducing agent", **Bulletin of Materials Science**. 44 (2021) 1–6. <https://doi.org/10.1007/s12034-021-02542-y>. (SCI, IF :1.783)
- [8] **S. Kiruthika**, **S. Samdavid**, R. Jeyalakshmi, **M. P. Rajesh**, "Investigation of hydrodynamics of inverse fluidized bed reactor (IFBR) for struvite (NH₄MgPO₄·6H₂O) recovery from urban wastewater", **Chemical Papers**. 76 (2022) 361–372. <https://doi.org/10.1007/s11696-021-01863-w>. (SCI, IF : 2.097)
- [9] **K. Selva Ganesh**, **Adithya Sridhar**, **S. Vishali**, "Utilization of fruit and vegetable waste to produce value-added products: Conventional utilization and emerging opportunities-A review", **Chemosphere**. 287 (2022) 132221. <https://doi.org/10.1016/j.chemosphere.2021.132221>. (SCI, IF : 7.086)
- [10] **K. Selvam**, **K. Suresh**, **B. Karunanithi**, "Assessment of the flow behavior of power-law fluids in spinnerets", **Chemical Engineering Research and Design**. 176 (2021) 134–145. <https://doi.org/10.1016/j.cherd.2021.09.029>. (SCI, IF : 3.739)

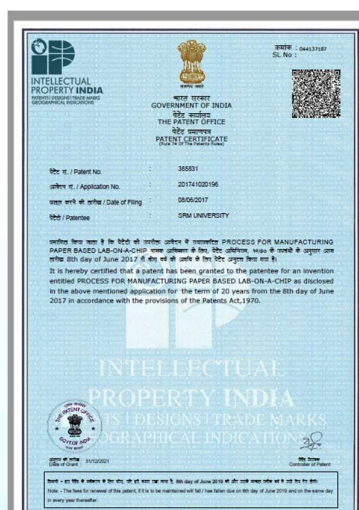
- [11] E. Kavitha, E. Poonguzhali, D. Nanditha, Ashish Kapoor, G. Arthanareeswaran, S. Prabhakar, "Current status and future prospects of membrane separation processes for value recovery from wastewater", *Chemosphere*. 291 (2022) 132690. <https://doi.org/10.1016/j.chemosphere.2021.132690>. (SCI, IF : 7.086)
- [12] Adithya Sridhar, P. Muthamilselvi, P. Senthil Kumar, Ashish Kapoor, L. Xiao, "Progress in the production of hydrogen energy from food waste: A bibliometric analysis", *International Journal of Hydrogen Energy*. (2021). <https://doi.org/10.1016/J.IJHYDENE.2021.09.258>. (SCI, IF : 5.816)
- [13] Adithya Sridhar, P. Muthamilselvi, Ashish Kapoor, S. Prabhakar, "Valorization of food waste as adsorbents for toxic dye removal from contaminated waters: A review", *Journal of Hazardous Materials*. 424 (2022) 127432. <https://doi.org/10.1016/J.JHAZMAT.2021.127432>. (SCI, IF : 10.558)
- [14] K. Bogeshwaran, K. Sathish Kumar, B. Karunanithi, M. Srividhya, G. Gopi, "Adsorption of Brilliant Blue and Malachite Green by Nano-graphene Exfoliated from Waste Batteries", *Chemical Engineering and Technology*. 44 (2021) 1877–1889. <https://doi.org/10.1002/ceat.202100213>. (SCI, IF : 1.728)
- [15] C. Murugan, R. Sharmiladevi, K. Guruprasad, M. Rajesh Kumar, S. Yuvaraj, S. Anandhakumar, "COVID-19: A review of newly formed viral clades, pathophysiology, therapeutic strategies and current vaccination tasks", *International Journal of Biological Macromolecules*. 193 (2021) 1165–1200. <https://doi.org/10.1016/J.IJBIOMAC.2021.10.144>. (SCI, IF : 6.953)
- [16] Adithya Sridhar, Ashish Kapoor, P. Senthil Kumar, P. Muthamilselvi, S. Balasubramanian, Dai-Viet Nguyen Vo, "Lab-on-a-chip technologies for food safety, processing, and packaging applications: a review", *Environmental Chemistry Letters*. 20 (2021) 901–927. <https://doi.org/10.1007/s10311-021-01342-4>. (SCI, IF : 9.027)

- [17] Punitha Shanmugam, Kishore Pushparaj, **S. Anandhakumar**, S. Yuvaraj, “Investigation of UV light enhanced gas adsorption properties of CeO₂ Nanoparticles by Scanning Kelvin Probe system”, **Journal of Molecular Structure**. 1250 (2022) 131831. <https://doi.org/10.1016/J.MOLSTRUC.2021.131831>. (SCI, IF : 3.196)
- [18] Varsha Sharma, **S. Anandhakumar**, “Surface modification of bare copper grids with charged polymers: A simple alternative for carbon coated copper grids in transmission electron microscopy”, **Materials Letters**. 308 (2022) 131204. <https://doi.org/10.1016/J.MATLET.2021.131204>. (SCI, IF : 3.423)
- [19] Susmita Ekka, Sanjat Kumar Sahu, Sanjeev Dwivedi, **Sanjenbam Nirmala Khuman**, Shirsendu Das, Omkar Gaonkar, **Paromita Chakraborty**, “Seasonality, atmospheric transport and inhalation risk assessment of polycyclic aromatic hydrocarbons in PM_{2.5} and PM₁₀ from industrial belts of Odisha, India”, **Environmental Geochemistry and Health**. 1 (2021). <https://doi.org/10.1007/s10653-021-01128-1>. (SCI, IF : 4.609)
- [20] **K. Sofiya**, **G. Bharath Kumar**, “Study on the effect of dual solvent proportions on composition of Rosa x damascena concrete oil obtained using Soxhlet extraction method”, **Asian Journal of Chemistry**. 34 (2022), 78-84. <https://doi.org/10.14233/ajchem.2022.23451>. (Scopus, SNIP : 0.298)
- [21] Punitha Shanmugam, Guru Prasad Kuppuswamy, Kishore Pushparaj, Balamurugan Arumugam, **S. Anandhakumar**, S. Yuvaraj, “CeO₂ nanoparticles based extended gate field effect transistor for enzyme free detection of glucose”, **Journal of Materials Science: Materials in Electronics**. (2021). <https://doi.org/10.1007/s10854-021-07441-w>. (SCI, IF : 2.5)
- [22] M. Venkatesh Prabhu, S. Balasubramanian, **Ashish Kapoor**, Ketki Joshi, Keya Joshi Nasrin Shariffa, “Studies on the feasibility of bisphenol-A removal and its kinetics using *Pseudomonas aeruginosa* in both flask and an inverse fluidized bed reactor”, **Chemical Engineering Communications**. (2021). DOI: 10.1080/00986445.2021.2012462. (SCI, IF : 2.494)

- [23] **Paromita Chakraborty**, G.K. Bharat, O. Gaonkar, M. Mukhopadhyay, S. Chandra, .H. Steindal, L. Nizzetto, “**Endocrine-disrupting chemicals used as common plastic additives: Levels, profiles, and human dietary exposure from the Indian food basket**”, **Science of The Total Environment**. 810 (2022) 152200. <https://doi.org/10.1016/J.SCITOTENV.2021.152200>. (SCI, IF : 7.963)
- [24] K. Bogeshwaran, K. Sathish Kumar, **B. Karunanithi**, M. Srividhya, Shreya Suresh, Vinatha Viswanathan, Malarvizhi Angamuthu, “**Characteristic study of exfoliated graphene particles from waste batteries**”, **Brazilian Journal of Chemical Engineering**. 38 (2021) 915 – 927. DOI: 10.1007/s43153-021-00138-x. (SCI, IF: 1.232)
- [25] K. Bogeshwaran, K. Sathish Kumar, **B. Karunanithi**, M. Srividhya, G. Gowri, “**Exfoliation of Nanographene from Waste Batteries and Its Application in Methylene Blue Dye Removal**”, **Journal of the Chilean Chemical Society**. 66 (2021) 5358-5364. <http://dx.doi.org/10.4067/s0717-97072021000405358>. (SCI, IF: 1.034)

Patent Granted

Ashish Kapoor, S. Balasubramanian, G. Arun Kumar “**Process for Manufacturing Paper Based Lab-on-a-Chip**”, granted on 31.12.2021.



Guest Lectures Delivered

- [1] **Dr. Ashish Kapoor** contributed as a Resource Person and delivered an invited talk for AICTE Training and Learning (ATAL) Academy Sponsored Online Elementary - Five Day Faculty Development Programme (FDP) on **BioMEMS and Lab on Chip Technology for point of Care Applications**, organized by C. Abdul Hakeem College of Engineering and Technology, Vellore, TN, held from 5th to 9th July 2021.
- [2] **Dr. M. P. Rajesh** delivered an Expert Lecture titled **“Blooms Taxonomy”** in the Four-Days Workshop on **Examination Reforms** organized by SRM Institute of Science and Technology, Kattankulathur in association with All India Council for Technical Education (AICTE) during July and August 2021.
- [3] **Dr. S. Prabhakar** delivered an expert Lecture titled **“Role of Membrane Processes in Wastewater Treatment”** in the AICTE - ATAL Sponsored Online Five-Days Faculty Development Program on “Recent Advances in Water Treatment and Desalination”, organized by the Department of Chemistry, University College of Engineering – Dindigul, Anna University on 26th August 2021.
- [4] **Dr. K. Suresh** delivered an Expert Lecture titled **“Unit Operations Simulation for Chemical Engineers”** in the Five-Days AICTE Training and Learning (ATAL) Sponsored Faculty Development Program on **Fluid Flow Analysis using Aspen Hysys and Aspen plus for Chemical Engineers** organized by the Department of Chemical Engineering, Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College on 17th September 2021.
- [5] **Dr. Ashish Kapoor** delivered an introductory Lecture titled **“Introduction to Desalination”** in the Five-Days Faculty Development Program on **Current Trends in Desalination (CTD – 2021)**, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 4th October 2021.

- [6] **Dr. S. Prabhakar** delivered an expert Lecture titled **“Practices in Membrane Desalination Processes”** in the Five-Days Faculty Development Program on **Current Trends in Desalination (CTD – 2021)**, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 6th October 2021.
- [7] **Dr. E. Poonguzhali** was invited as the Chief Guest to deliver a motivational talk to the students for the technical event, **“DESI CHEM”**, organised by The SRM Chemical Club, Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 10th December 2021.



Conference Presentations

- [1] **Ms. D. Nanditha**, presented a paper titled **“Preparation and characterization of hydrophobic nanocomposite membranes for vacuum membrane distillation”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11th October 2021.
- [2] **Dr. E. Kavitha**, presented a paper titled **“Adsorptive removal of caesium ions from wastewater using *Nigella sativa* as low-cost adsorbent”** at the Virtual International Conference, Smart Waste Management – 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11th October 2021.

- [3] **Dr. G. Keerthiga**, presented a paper titled **“Graphene from fruit waste - synthesis and applications”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11th October 2021.
- [4] **Dr. K. Deepa**, presented **two** papers titled **“Magnetic nanocatalysts: synthesis and catalytic role of Fe₃O₄ and Fe₃O₄ - EDTA nanoparticles”** and **“Nanomaterials for photocatalytic degradation of dyes”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11th October 2021.
- [5] **Dr. K. Sofiya**, presented a paper titled **“Comparative study on extraction of acetic acid in aqueous forms with and without the internal packing in liquid-liquid extraction column”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.
- [6] **Dr. K. Suresh**, presented a paper titled **“Modelling and Simulation of Electrochemical Reactor for Clean Wastewater”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.
- [7] **Ms. E. Poonguzhali** and **Dr. Ashish Kapoor**, presented a paper titled **“Numerical simulation on the separation of phenol from aqueous solution using a hollow fiber membrane assisted system”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.

- [8] **Dr. S. Kiruthika**, presented **two** papers titled **“Utilization of struvite integrated with organic fertilizer for the growth of *Solanum melongena*”** and **“Studies on microbial fuel cell as an alternative to bio hydrogen production and energy generation from wastewater”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.
- [9] **Dr. S. Vishali**, presented a paper titled **“A Closed Loop Sustainable Approach for the Floral Waste Management-A Review”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.
- [10] **Dr. Ashish Kapoor**, presented a paper titled **“Experimental studies on modified cooling scheme in a combined OTEC-desalination pilot plant”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11-10-2021.
- [11] **Kavya Roy** and **Amaan Sait** of III-year B. Tech. presented a paper on **“Agricultural Marketing and Agri Business”** at Vigyan Sabha a National level conference – IICChE organized by Gayatri Vidya Parishad College of Engineering, Vishakapatnam held from 10th to 11th July 2021.
- [12] **A. Marcus Miranda** of II-year M. Tech. presented a paper on **“A closed loop sustainable approach for the floral waste management - A review”** at the 2nd International Conference on Waste, Energy and Environment (ICWEE-2021) organized by Centre for Waste Management, Sathyabama Institute of Science and Technology, Chennai held from 23rd to 24th September 2021.

- [13] **V. R. Dinesh Babu** of II-year M. Tech. presented a paper on **“Purification and reuse of the domestic laundry wastewater using a green integrated treatment system”** at the 2nd International Conference on Waste, Energy and Environment (ICWEE-2021) organized by Centre for Waste Management, Sathyabama Institute of Science and Technology, Chennai held from 23rd to 24th September 2021.
- [14] **S. P. Ashni** of II-year M. Tech. presented a paper on **“Nanomaterials for photocatalytic degradation of dyes”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.
- [15] **Simran Kaur Oberoi** of Final year B. Tech. presented a paper on **“Review: Desalination of brine solution using solar energy”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.
- [16] **G. Kanishka** and **N. Soundariya** of II-year B. Tech. presented a paper on **“A short review on applications of reverse osmosis water wastage on hydroponics”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.
- [17] **R. Thilakavathi**, Ph.D. scholar presented a paper on **“Modelling and simulation of electrochemical reactor for clean wastewater”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.
- [18] **M. B. Abinaya**, Ph.D. scholar presented a paper on **“An integrated system approach for green fuel production and effective pollutant degradation using heterogeneous catalysts”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.

- [19] **Alice Jasmine**, Ph.D. scholar presented a paper on **“Eco-friendly approach for renewable energy production from agro-waste biomass”** at Smart Waste Management 2021 organized by the Department of Chemical Engineering, SRMIST held from 11th to 12th October 2021.



Awards/Prizes won

- [1] **Dr. K. Deepa**, **Mohamed Irfana** and **Gauri Sengar** presented a paper entitled **“Magnetic nanocatalysts: synthesis and catalytic role of Fe_3O_4 and Fe_3O_4 - EDTA nanoparticles”** at the Virtual International Conference, Smart Waste Management - 2021, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur on 11th October 2021 and **won First Prize**.
- [2] **Chandan Upadhyay** of Final year, B. Tech won the **First prize** in **Speech competition** on **Water Conservation, Swachhata Pakhwada**, an initiative by the Government of India.

- [3] **Chandan Upadhyay** of Final year, B. Tech won the **First prize** in **Speech competition** on **Forest Conservation, Swachhata Pakhwada**, an initiative by the Government of India.



Hearty Congratulations! Dr. K. Deepa, Mohamed Irfana, Gauri Sengar and Chandan Upadhyay

Events Participated

- [1] **Ms. D. Nanditha and Dr. E. Kavitha** attended AICTE Training and Learning (ATAL) Academy Sponsored Online - Five Day Faculty Development Programme (FDP) on **Electrospinning Nanofibers: Science, Technology and Applications**, organized Indian Institute of Information Technology, Nagpur, held from 12.07.2021 to 16.07.2021.
- [2] **Dr. S. Kiruthika**, attended Online - Five Day Faculty Development Programme (FDP) on **Role of Microbes in Planning for Alternate Fuel Strategies**, organized by Sri Krishna Arts and Science College, held from 12.07.2021 to 16.07.2021.
- [3] **Dr. S. Kiruthika**, attended a Web Lecture on **Environmentally benign solvents for sustainable future**, organized by, SRM Institute of Science and Technology, held on 24.07.2021.
- [4] **Dr. Ashish Kapoor**, attended Online - Five Day Faculty Development Programme (FDP) on **Creating a Vibrant Knowledge Society - An Indian Strategy for 21st Century**, organized by SRM University-AP, in association with India's National Newspaper, The Hindu, held on 24.07.2021.

- [5] **Dr. E. Kavitha**, attended Online - Five Day Faculty Development Programme (FDP) on **Modern Simulation Techniques for Engineering Research**, organized by Kamala Nehru Institute of Technology, Sultanpur, held from 26.07.2021 to 30.07.2021.
- [6] **Ms. D. Nanditha, Dr. E. Kavitha, Dr. K. Deepa, Dr. S. Vishali, Dr. S. Kiruthika, Dr. Ashish Kapoor, Dr. B. Karunanithi, Dr. K. Anbalagan, Mr. V. Ganesh and Dr. P. Muthamilselvi** attended Online Faculty Development Programme (FDP) on **Examination Reforms Policy**, organized by SRM Institute of Science and Technology, Kattankulathur, held from 26.07.2021 to 02.08.2021.
- [7] **Dr. K. Sofiya, Ms. E. Poonguzhali, Dr. G. Keerthiga, Dr. K. Tamilarasan, Mr. K. Selvam** attended Online Faculty Development Programme (FDP) on **Examination Reforms Policy**, organized by SRM Institute of Science and Technology, Kattankulathur, held from 09.08.2021 to 16.08.2021.
- [8] **Dr. G. Keerthiga**, attended Orientation on **Faculty Refresher and Assimilation Program**, organized by SRM Institute of Science and Technology, Kattankulathur, held from 19.08.2021 to 21.08.2021.
- [9] **Dr. K. Deepa and Mr. V. Ganesh**, attended AICTE Training and Learning (ATAL) Academy Sponsored Online - Five Day Faculty Development Programme (FDP) on **Novel Materials**, organized by SRM Institute of Science and Technology, Modi Nagar, Delhi NCR Campus, Ghaziabad, UP, held from 23.08.2021 to 27.08.2021.
- [10] **Dr. E. Kavitha**, attended a Webinar on **Conquering the intricacies of citations and references**, organized by, Research Marketing APAC Wiley, held on 24.08.2021.
- [11] **Dr. E. Kavitha**, attended a Webinar on **Mastering the craft of academic writing: a systematic approach**, organized by, Research Marketing APAC Wiley, held on 31.08.2021.

- [12] **Dr. E. Kavitha**, attended a Webinar on **Winning the game of publishing research papers, raising your profile and extending the impact of your publications**, organized by, Research Marketing APAC Wiley, held on 07.09.2021.
- [13] **Ms. D. Nanditha, Mr. K. Selvam, Dr. K. Tamilarasan and Dr. S. Kiruthika** attended a Webinar on **Challenges and Opportunities for Environmental sustainability in World's Fastest Growing Regions**, organized by, ACS Publications, held on 08.09.2021.
- [14] **Dr. K. Tamilarasan and Dr. S. Vishali** attended a Lecture Series on **Fundamental and Technology Advances on Bio hydrogen Production Processes**, organized by SRM Institute of Science and Technology, Kattankulathur, held from 13.09.2021 to 22.09.2021.
- [15] **Dr. G. Keerthiga**, attended Online - Five Day Faculty Development Programme (FDP) on **Waste to Bioenergy- A sustainable solution**, organized by NIT, Andhra Pradesh, held from 13.09.2021 to 17.09.2021.
- [16] **Mr. V. Ganesh** attended AICTE Training and Learning (ATAL) Academy Sponsored Online - Five Day Faculty Development Programme (FDP) on **Processing of Novel Materials**, organized by IIT (BHU), Varanasi, held from 20.09.2021 to 24.09.2021.
- [17] **Mr. K. Selvam**, attended a Workshop on **Distillation Column Simulation with Aspen-Hysys**, organized by Acharya Technologies Pvt Ltd., held on 01.10.2021.
- [18] **Dr. G. Keerthiga, Mr. K. Selvam, Dr. K. Suresh and Ms. E. Poonguzhali** attended Online - Five Day Faculty Development Programme (FDP) on **Current Trends in Desalination**, organized by SRM Institute of Science and Technology, Kattankulathur, held from 04.10.2021 to 08.10. 2021.

- [19] **Dr. G. Keerthiga** and **Mr. K. Selvam** participated in the Virtual International Conference on **Smart Waste Management - 2021**, organized by the Department of Chemical Engineering, College of Engineering and Technology, SRM Institute of Science and Technology, Kattankulathur held from 11.10.2021 to 12.10.2021.
- [20] **Ms. D. Nanditha** and **Dr. E. Kavitha** attended Online – Four Days Faculty Development Programme (FDP) on **Recent Advances in Wastewater Treatment and Recycle**, organized by Department of Chemical Engineering, SDM College of Engineering and Technology, Dharwad, Karnataka, held from 16.11.2021 to 19.11.2021.
- [21] **Dr. Ashish Kapoor** attended Online Short-Term Course on **Application of Dynamic Simulation in Chemical Process Industries, Energy Industries and Academia (ADS-CEA 2021)**, organized by Department of Chemical Engineering, National Institute of Technology, Srinagar, in association with Sim Infosystems Pvt. Ltd. held on 19.11.2021.
- [22] **Dr. E. Kavitha** attended a Webinar on **National Energy Conservation**, organized by SRM Innovation Incubation and Entrepreneurship Centre and Mechanical Engineering Association, SRM Institute of Science and Technology, Kattankulathur, held on 14.12.2021.
- [23] **Gauri Sengar, Mohamed Asif Irfana, Kevin Cheriyan, S. Dharshini, , Nitish Rajan N. S., Chandan Upadhyay, Ovi Chaitanya Deshmukh, Simran Kaur Oberoi, Adarsh, Hitesh Saranjeet Singh, Ridhul Rajeev, Kirticka Pramanick, and Sajal Sudhir Srivastava** have attended a workshop on **“Current Trends in Desalination”** organized by the Department of Chemical Engineering, SRMIST held from 04.10.2021 to 08.10.2021.
- [24] **Sahana Sadhukhan** of III-year B. Tech. attended a Webinar on **“IPR key to India’s Future Journey”** organized by Turnip Innovations Pvt. Ltd. on 14.08.2021.
- [25] **Sahana Sadhukhan** of III-year B. Tech. has attended a Boot Camp on **“Python and Deep Learning”** organized by SHAPEAI on 05.08.2021.

- [26] **Poondla Bharath** and **Sahana Sadhukhan** of III-year B. Tech. have completed a live Master class on “**Patent search with Espacenet**” organized by Turnip Innovations Pvt. Ltd. on 31.07.2021.



Serve on Board for other Institutes

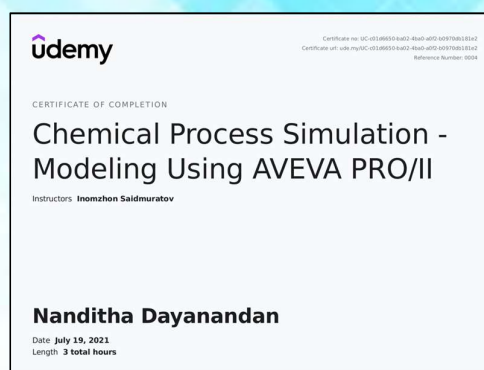
- [1] **Dr. K. Tamilarasan** is appointed as an Academic Expert Member for Board of Studies in Hindustan College of Engineering, Chennai and the meeting was held on 10.07.2021.
- [2] **Dr. Ashish Kapoor** reviewed a paper for the Elsevier Journal, Energy Conversion and Management: X in October 2021.
- [3] **Dr. K. Suresh** is appointed as a Doctoral Committee (DC) member in SSN College of Engineering, Kalavakkam, Chennai. The Synopsis Meeting was held on 03.11.2021.
- [4] **Dr. K. Tamilarasan** is appointed as a Doctoral Committee (DC) member in St. Josephs College of Engineering, Chennai. The Ph. D. Seminar Presentation II was held on 22.12.2021.
- [5] **Dr. S. Prabhakar** is appointed as an Academic Expert Member for Board of Studies in KPR Institute of Engineering and Technology, Coimbatore.
- [6] **Dr. S. Prabhakar** is the Chairman for Indo-Israel Industrial Collaboration Committee, GITA (DST).

- [7] **Dr. S. Prabhakar** is appointed as the Technical Expert Member for National Institute of Ocean Technology (NIOT) Tuticorin Thermal Power Station for Low Temperature Desalination.
- [8] **Dr. S. Prabhakar** is appointed as the member of Monitoring committee by NIOT for installation of Low Temperature Desalination plants at Lakshadweep.
- [9] **Dr. S. Prabhakar** is appointed as the member for project evaluation committee by DST
- [10] **Dr. S. Prabhakar** is appointed as the Technical Expert Committee Member for National Mission on Desalination established by NITI AAYOG by Government of India.

Online Courses Completed

- [1] **Dr. E. Kavitha**, completed an Online Course in Udemy titled “**Chemical Process Simulation – Modelling using AVEVA-PRO /II**” on 14.07.2021.
- [2] **Ms. D. Nanditha**, completed an Online Course in Udemy titled “**Chemical Process Simulation – Modelling using AVEVA-PRO /II**” on 19.07.2021.
- [3] **Dr. G. Keerthiga** completed a Certification Course by All India Council for Technical Education (AICTE) – National Initiative for Technical Teachers Training (NITTT - 2021) Module 1 titled “**Orientation towards Technical Education and Curriculum Aspects**” on 23.10.2021.
- [4] **Dr. G. Keerthiga** completed a Certification Course by All India Council for Technical Education (AICTE) – National Initiative for Technical Teachers Training (NITTT - 2021) Module 2 titled “**Professional Ethics and Sustainability**” on 23.10.2021.

- [5] **Dr. K. Deepa, Dr. S. Sam David, and Dr. G. Keerthiga** completed a Certification Course by All India Council for Technical Education (AICTE) – National Initiative for Technical Teachers Training (NITTT - 2021) Module 3 titled **“Communication Skills, Modes & Knowledge Dissemination”** on 24.10.2021.
- [6] **Dr. K. Deepa, Dr. S. Sam David, and Dr. G. Keerthiga**, completed a Certification Course by All India Council for Technical Education (AICTE) – National Initiative for Technical Teachers Training (NITTT - 2021) Module 4 titled **“Instructional Planning and Delivery”** on 24.10.2021.
- [7] **Dr. K. Deepa, Dr. S. Sam David, and Dr. G. Keerthiga**, completed a Certification Course by All India Council for Technical Education (AICTE) – National Initiative for Technical Teachers Training (NITTT - 2021) Module 5 titled **“Technology Enabled Learning & Life Long Self Learning”** on 30.10.2021.
- [8] **Amaan Sait** and **Sahana Sadhukhan** of III-year B. Tech. have completed an online course on **“Chemicals and health”** in Coursera on 23rd July 2021.
- [9] **Rajeshwaran N.** of III-year B. Tech. has completed an online course on **“Introduction to Matlab”** offered by Vanderbilt University in Coursera on 1st August 2021.
- [10] **Sahana Sadhukhan** of III-year B. Tech. has completed an online course on **“Advanced Functional Ceramics”** offered by Yonsei University in Coursera on 21st August 2021.
- [11] **Kavya Roy** of III-year B. Tech. has completed an online course on **“Introduction to food and health”** offered by Stanford University in Coursera on 27th August 2021.



Ph.D. Awarded

Ms. E. Poonguzhali successfully completed her Ph.D. public viva-voce examination on 22nd October 2021 at SRM Institute of Science and Technology, Kattankulathur.

Title: Process Intensification of Solvent Extraction through Membrane Contactors for the Effective Removal and Recovery of Phenol from Aqueous Effluents.

Supervisor: Dr. S. Prabhakar and **Co – Supervisor:** Dr. Ashish Kapoor



Students' Performance (2021 batch)



J. Gopalakrishnan

1st Rank, B. Tech.
CGPA 9.43



P. Suhasini

2nd rank, B. Tech.
CGPA 9.09



Sange Wangmu Sherpa

1st rank, M. Tech.
CGPA 9.53

Summary of Results	B. Tech.	M. Tech.
Total number of students	92 (2017-2021 batch)	6 (2019-2021 batch)
Number of students graduated in 2021	91 (99 %)	6 (100 %)
Number of students graduated in first class	91 (100 %)	6 (100 %)

Higher Studies (Batch 2017-2021)

S. No.	Name of the Student	Higher Studies	Admitted in
1.	Kushan Bhavin Shah	M.Eng., Chemical Engineering, Waterloo University, Canada	September 2021
2.	Gala Jainam Bhavesh	M. Sc., Advanced Chemical Engineering, University of Manchester, UK	September 2021
3.	L. Sidharth	PGDM, Great Lakes Institute of Management, India	July 2021
4.	M. P. Kavin Kalyaan	M. Tech, Chemical Engineering, Pandit Deendayal Energy University, India	August 2021
5.	Nithish Sridhar	M. Tech, Chemical Engineering, SRM Institute of Science and Technology, Kattankulathur	July 2021

Merit-Based Scholarships awarded by SRMIST



Alen Augustin
II year, CGPA 9.71
(₹ 62500)



Achyuta K.
III year, CGPA 9.63
(₹ 62500)



Sarvani G.
IV year, CGPA 9.83
(₹ 62500)



Mahima Verma
II year, CGPA 9.68
(₹ 58750)



Mayank Lakhotia
III year, CGPA 9.30
(₹ 58750)



Dripta Sanyal
IV year, CGPA 9.72
(₹ 58750)



Gauri Awasthi
II year, CGPA 9.68
(₹ 58750)









Shubhi Dixit
III year, CGPA 9.19
(₹ 55000)



Deshmukh Ovi Chaitanya
IV year, CGPA 9.70
(₹ 55000)

On Campus Placements (July to December 2021)

S. No.	Name of the Student	Placed in Company	Job Profile Title	CTC (INR)
1	 Nikita Prashar	Amazon	Manager - Operations	18,60,000
2	 Ovi Deshmukh	Amazon	Manager - Operations	18,60,000
3	 Sarvani G	Amazon	Manager - Operations	18,60,000

4		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Rajeshwar N			
5		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Dripta Sanyal			
6		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Steven Varghese			
7		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Nandyala V V S S P Karthikeya			
8		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Kirticka Pramanick M			
9		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Kavin T			

10		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Sharan Muruganantham			
11		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Dabhi Dharam Balrajbhai			
12		Reliance Industries Limited	Graduate Engineering Trainee (GET)	8,00,000
	Anushka Biswas			
13		Deloitte	Analyst	7,60,000
	Krishnika Gulati			
14		PharmaAce	Trainee Analyst	7,50,000
	Aakash			
15		Zoom Rx	Business Associate	7,20,000
	Aman Deshmukh			

16		Masters Learn	Business Development Associate	7,00,000
	R. Karthik			
17		Masters Learn	Business Development Associate	7,00,000
	Sharanjith Anil			
18		Masters Learn	Business Development Associate	7,00,000
	Undru Shreeya			
19		Masters Learn	Business Development Associate	7,00,000
	Shibi R			
20		KPMG India	Analyst- Digital Trust / Analyst- Digital Strategy / Analyst- Digital Next- Intelligent Automation / Analyst- Digital Enablement- Oracle / Analyst- Digital Enablement- Oracle (OFSAA)	5,80,000 - 6,30,000
	Sneha Prasad			
21		Jk Tyre & Industries Ltd.	Graduate Engineering Trainee (GET)	5,50,000
	Yuvashree I			

22	 Yuktha Therambil	AdmitKard	Sales Intern / Ops Intern	5,00,000 - 10,00,000
23	 Chandan Upadhyay	Go Digit General Insurance Pvt Ltd	Technical Trainee	5,00,000
24	 Nishad Choudhary	Unschool	Operation Executives	5,00,000
25	 Swati Mishra	Linde India Limited	Graduate Engineering Trainee (GET)	5,00,000
26	 Murali Ganesh Peddireddy	Climber Knowledge and Careers Pvt Ltd	Business Operations Executives	4,50,000
27	 Jerish J	Uolo Edtech Pvt Ltd	Subject Matter Expert	4,00,000 - 5,00,000

28		Skolar	Business Development Trainee	4,00,000 - 5,00,000
Aravind Pradeep				
29		Skolar	Business Development Trainee	4,00,000 - 5,00,000
Ritvik Panicker				
30		Capgemini	2021-2022_Analyst/Senior Analyst (ADS01)	4,00,000
Keerthivasan V C				
31		Capgemini	2021-2022_Analyst/Senior Analyst (ADS01)	4,00,000
Vaibhav Shrivastava				
32		Capgemini	2021-2022_Analyst/Senior Analyst (ADS01)	4,00,000
Sashank Sriram				
33		DXC Technology	Associate Professional	4,00,000
Priyadharshini P				

34		DXC Technology	Associate Professional	4,00,000
	Bhuvana R			
35		Wipro Limited	Graduate Engineering Trainee (GET)	3,50,000
	Rishabh Garg			

**Hearty Congratulations dear students! You all made us feel proud.
Wishing you all the best and many more success in your future
endeavours.**

Semester Abroad Program (SAP)

SRMIST provides an opportunity to experience global education by sending meritorious students abroad for one or more semesters to world-renowned Universities. Under the Semester Abroad Program **Ms. Gauri Sengar** of III-year B. Tech. Completed her 6th semester (Jan to June 2021) at **Sungkyunkwan University (SKKU), South Korea.**



Gauri Sengar
Sungkyunkwan University (SKKU), South Korea

Student Internships

- [1] **Amrutha S.** of III-year B. Tech. pursued an internship at **Hanoon Oil refinery** from 28th June to 12th July 2021.
- [2] **Rakesh B. R.** of III-year B. Tech. underwent an online internship program on “**Petroleum refining engineering**” conducted by IChE from 12th May to 15th July 2021.
- [3] **Jegan S.** of III-year B. Tech. underwent an online internship program on “**Petroleum refining engineering**” conducted by IChE from 12th May to 15th July 2021.
- [4] **Harish Mishra** of III-year B. Tech. pursued an internship at **Indian Inks and Chemicals** from 1st July to 31st July 2021.
- [5] **Poondla Bharath** of III-year B. Tech. pursued an internship at **Nellore District Milk Products Mutually Aided Cooperative Union Ltd** from 18th August to 1st September 2021.
- [6] **Simran Kaur Oberoi** of IV-year B. Tech. pursued an online internship at **MSME-Technology development centre** on AutoCAD from 4th August to 3rd September 2021.

Department Events Organized

- [1] Two-day **International Alumni Connect - 2021** (Online) on "**Opportunities for Higher Education and Career Prospects: A Global Perspective**" was organized during 6th and 7th August 2021 by the Department of Chemical Engineering in association with the Directorate of Alumni Affairs (DAA).


Convener:



Dr. Ashish Kapoor, Head of the Department, Chemical Engineering

Co-Conveners:

Dr. S. Vishali, Associate Professor, Chemical Engineering

Ms. E. Poonguzhali, Assistant Professor, Chemical Engineering

S. No.	Name of the Alumni	Batch	Designation with Address	Title of the Talk
1.	 Mrs. JEBAKALA ARPUTHARAJ B. Tech. (Chem.), M.B.A.	1999 - 2003	Senior Business Analyst Commonwealth of Massachusetts, Boston Massachusetts, U.S.A.	Maathi Yosi!! (Think differently)
2.	 Ms. MAANASA GOPAL B. Tech. (Chem.)	2014 - 2018	Researcher Nanyang Technological University (NTU) Singapore	Getting opportunities abroad without Master's
3.	 Mr. M. VARDAN RATHI B. Tech. (Chem.) M.S. (Mechanical Engineering) M.S. (Wood Science)	2001 - 2005	Lead Process Engineer, MSD, Ballydine, Ireland	Chemical Engineering in Pharmaceutical Companies
4.	 Ms. S. HARINI B. Tech. (Chem.) M.S. (Polymer Engineering)	2011 - 2015	Doctoral Candidate Georgia Institute of Technology Georgia, U.S.A.	Where Next?

5.		2011 – 2015	Procurement Specialist Yamaha Motor Limited Japan	Life after study!!
	Mr. PEDDI NIKHIL B. Tech. (Chem.) M.Sc. (Chem.)			
6.		1999 – 2003	Former VP, Morgan Stanley CEO, 6degrees, Singapore	Career Lessons after SRM
	Mr. NIRANJAN RAO B. Tech. (Chem.) M.B.A. (IIM-A)			

[2] Five-day Faculty Development Programme (FDP) (virtual mode) on "**Current Trends in Desalination (CTD-2021)**" was organized from 04th – 08th October 2021 by the Department of Chemical Engineering

Convenor

Dr. Ashish Kapoor, Head of the Department, Chemical Engineering

Co-Convenors

Dr. E. Kavitha, Assistant Professor, Chemical Engineering

Ms. D. Nanditha, Assistant Professor, Chemical Engineering

INVITED SPEAKERS	
	Dr. M.P. RAMANI is a distinguished Chemical Engineer who had a long and illustrious career in diverse areas of atomic energy. He is the pioneer of Indian desalination technologies both thermal and membrane processes. He nurtured a generation of robust desalination technologists in the country expanding the horizons of water and wastewater treatment.
	Dr. A.P. JAYARAMAN served in the Department of Atomic Energy for about forty years in diverse fields including desalination. He also worked as a Professor of Environmental Engineering in Singapore and Ocean at the Management Institute Kerala. He is presently the Chairman of the National Centre for Science Communications and the President of STEAM Academy.
	Dr. PURNIMA JALIHAI is a Group Head in Energy and Freshwater and Scientist G at IIT, Chennai, India. Her area of expertise are structural dynamics, ocean acoustics, and offshore, desalination technology, conceptualization to commissioning of projects, R&D related to renewable energy.
	Mr. SRIRAM KULKARNI has been Director at Technochem Group, Mumbai, since 2002. He is also on the Executive Committee of Indian Desalination Association at BARC Trombay, Mumbai, and Indo-American Society at Fort in Mumbai. He has authored & presented papers at various international conferences/seminars on Smart City Infrastructure Planning, Seawater Desalination, etc.
	Dr. ASHIM K. GHOSH is a Senior Scientist in Desalination division at Bhabha Atomic Research Centre, Mumbai, Maharashtra, India. He has expertise in nano composite membranes, desalination and wastewater treatment.
	Dr. G. ARTHANAREESWARAN is a Professor in the Department of Chemical Engineering, National Institute of Technology, Tiruchirappalli. His research interest involves development of polymer membranes for wastewater treatment. He established membrane research laboratory at the Department of Chemical Engineering at the National Institute of Technology, Tiruchirappalli.
	Dr. S. PRABHAKAR is currently Adjunct Professor in the Department of Chemical Engineering, SRMIST and Ex-Head, Separation Technology Section, Desalination Division, at BARC. He has expertise in Membrane development, membrane applications for wastewater treatment, chemical separations using membranes, desalination, and mathematical modelling.
	Dr. R. NAGARAJ is a Scientific Officer 'D' at Bhabha Atomic Research Centre, in Nuclear Desalination Demonstration Project (NDP), Kalpakkam, India. He is currently working on development of customized hybrid power systems for desalination applications using Artificial Intelligence.
	Dr. V. SWAMINATHAN is a Founding Director of Memfil Tech Pvt. Ltd., (MTPL) at Karaikal, TamilNadu. He has expertise in membrane and water technologies. MTPL produces wide range of hollow fiber membranes for wastewater treatment and gas separation applications.
	Dr. ASHISH KAPOOR is the Head of Department and Associate Professor in the Department of Chemical Engineering, SRM IST. He has expertise in Transport Phenomena, Microfluidics for environmental and biomedical applications, Membrane technology, Modeling and simulation.

- [3] Two-day Virtual International Conference on "**Smart Waste Management 2021 (SWM-2021)**" was organized during 11th & 12th October 2021 by the Department of Chemical Engineering

Convenor

Dr. Ashish Kapoor, Head of the Department, Chemical Engineering

Co-Convenors

Dr. S. Vishali, Associate Professor, Chemical Engineering

Dr. S. Kiruthika, Assistant Professor, Chemical Engineering

Keynote Speakers

	Dr. Claudio Comeselle Professor, Department of Chemical Engineering. University of Vigo, SPAIN.		Mr. D. Vasudevan District Environmental Engineer (Factories), Maraimalai Nagar, Chengelpet district, Tamil Nadu, INDIA
	Dr. I Made Joni Professor, Department of Physics, Padjadjaran University, INDONESIA		Ms. Anjali Viswakumar Environmental Engineer, Eco Services India Pvt. Ltd., Chennai, INDIA.
	Mr. Rajaseker Senior Application Engineer, DuPont Water Solutions, Boston, Massachusetts, USA.		Mr. Nithin Jose Director, SeptraTECH Solutions Pvt. Ltd. Vadodara, Gujarat, INDIA.

- [4] Six-day Lecture Series (Webinar) on "**Fundamentals and Technology Advances of Biohydrogen Production Processes**" under INAE-AICTE Distinguished Visiting Professorship Scheme was organized during 13th to 22nd September 2021 by the Department of Chemical Engineering in association with Directorate of Research, SRM Institute of Science and Technology.

Convenor

Dr. Ashish Kapoor, Head of the Department, Chemical Engineering



Dr. Debabrata Das pursued his doctoral studies from Indian Institute of Technology (IIT) Delhi and post-doctoral research work at University of Utah (UU), USA. Presently, he is a INAE-AICTE Distinguished Visiting Professor of SRM Institute of Science and Technology, Chennai and Heritage Institute of Technology, Kolkata. In addition, he is the Scientific Advisor of M/s. Dhampur Sugar Mills Ltd., New Delhi. He was also associated as MNRE Renewable Energy Chair Professor for three years and Professor for 32 years at IIT Kharagpur. He is actively involved in the research of hydrogen biotechnology for a period of more than twenty years.

- [5] One-day Webinar on "**Applications of Dynamic Simulation in Chemical Processing Industries (IR 4.0)**" was organized on 2nd November 2021 by the Department of Chemical Engineering in association with Sim Infosystems Private Limited Chennai, TamilNadu.

Convenor

Dr. Ashish Kapoor, Head of the Department, Chemical Engineering

Co-Convenors

Dr. E. Kavitha, Assistant Professor, Chemical Engineering

Resource Person: Mr. William Hazlit A S, General Manager, Sim Infosystems Private Limited, Chennai.

- [6] One-day Workshop on "**Computational Techniques for Chemical Engineers- Preface Training on COMSOL**" was organized on 26th November 2021 by the Department of Chemical Engineering, SRM Institute of Science and Technology, Kattankulathur.

Convenor

Dr. Ashish Kapoor, Head of the Department, Chemical Engineering

Co-Convenors

Dr. G. Keerthiga, Assistant Professor, Chemical Engineering

Resource Person: Mr. Likith Kumar, Assistant Professor, Electronics and Instrumentation Engineering, SRMIST, KTR

[7] Alumni Talks

- [1] **Mr. Saket Naidu** of 2010-2014 batch, currently working as **Consultant, Proclink Consultancy Services LLP** delivered a talk on **“Overview of a petroleum refinery”** on 28th July 2021.
- [2] **Mr. Aakash Watts** of 2009-2013 batch, currently working as **Product development Engineer, YKK Vietnam Co. Ltd.,** delivered a talk on **“Career Prospects of Chemical Engineering”** on 28th July 2021.
- [3] **Mr. Srikrishnan Shivakumar** of 2010-2014 batch, currently working as **Cross Category Manager, I & I Manager** delivered a talk on **“Masters in Management”** on 25th September 2021.



**Mr. Saket
Naidu**



**Mr. Aakash
Watts**



**Mr.
Srikrishnan
Shivakumar**

Student Club - The SRM Chemical Club

[1] Inauguration

The SRM Chemical Club (TSCC) was inaugurated on 15th September 2021 with a goal of nurturing young talents and to motivate the students to involve in research projects, prototype-building, and showcasing their myriad aptitudes in various technical events.

Chief Guest: Mr. Rahul Dole, Head, Process and Environmental Safety, Process and Systems Engineering, Linde Engineering

Faculty

Head: Dr. Ashish Kapoor

Co-ordinator: Dr. K. Anbalagan, Advisor: Dr. M. Magesh Kumar

Student Council Members - IV-year B. Tech.

Mr. Chandan Upadhyay, Mr. Bhavya Ghorawat, Mr. Vaibhav Shrivastava, Mr. M. Sharan -

The current enrolment in the club is 97 members. Two events such as Debate and chem-doodle were conducted for the participants.

Website: <https://thesrmchemicalclub.wixsite.com/website>



[2] Technical Talk

The Second event from The SRM Chemical Club was the Technical Talk on 18th October 2021.

Chief Guest: Mr. Subramanya Prabhu, Chief & Energy Manager, Technical Services, Mangalore Refinery & Petrochemicals Limited (ONGC).

Title: Refinery and Recent Industrial Practices and Chemical Engineering Careers



[3] Alumni Talk

The Third event from The SRM Chemical Club was the Alumni Talk on 4th December 2021

[1] **Ms. Shreejita Datta** of 2016-2020 batch, currently working as **Technical Engineer, Nalco Water, Ecolab Company** delivered a talk on **Career Options for Chemical Engineers**.

[2] **Mr. Santosh Rao** of 2017-2021 batch currently pursuing his higher studies at **University of Manchester** delivered a talk on **Post – graduation options**.

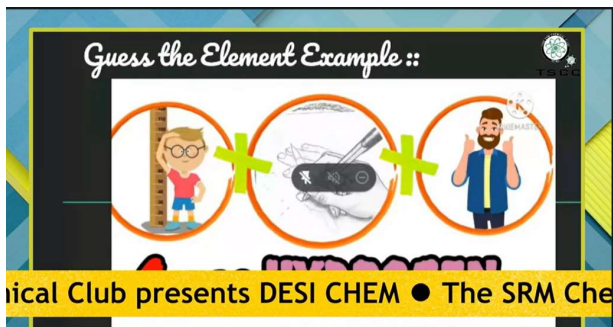
[3] **Mr. Bhavya Bhargava** of 2016-2020 batch currently pursuing his M. Tech. at **IIT Bombay** delivered a talk on **Higher Studies and Industry Perspective**.



All the participants got to know about all the opportunities that a Chemical Engineer have once they finish their B.Tech. Degree.

[4] Desi Chem

A technical event titled, **"DESI CHEM"** was organised by The SRM Chemical Club, on 10th December 2021.



Two Events

Elementron – Guess the element &

Chemcross – Puzzle was conducted for the participants.

Thanks to all the Alumni for their valuable time, effort and the motivation they provided for their juniors.

A great applause to all the Conveners, Co-conveners and the organizing committee members for their tremendous efforts towards the successful completion of all the events.

Message from the Alumni



"I had a great time pursuing Chemical Engineering at SRM. The faculties in the department of Chemical Engineering were very good in making the students understand the topics which made very easy for me to understand them in the lecture itself. The laboratories at the department of Chemical Engineering gave me a real feel of the processes which even increased the curiosity to learn more about the topic. The library at SRM has helped in quickly getting the learning resources. Overall, it was a very good experience learning at SRM and this has considerably increased my knowledge in the field of Chemical Engineering."

- J. Gopalakrishnan

B. Tech. (2017-2021)



"I would like to extend my gratitude towards the faculties for their support and guidance both socially and academically which has contributed to my success. The modern laboratories, ample of research opportunities and the multidisciplinary curriculum has helped all of us reach new heights and the department fest, Chemflux, was an exciting way to learn new things."

- Suhasini

B. Tech. (2017-2021)

The Chemical Engineering Team

Faculty Members



Top row (left to right): Dr. S. Kiruthika, Dr. K. Sofiya, Dr. E. Poonguhali, Dr. K. Deepa, Dr. S. Vishali, Dr. S. Anandhakumar, Dr. K. Tamilarasan, Dr. M. P. Rajesh

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Students' Corner

This section presents a glimpse of the research activities of the B. Tech Chemical Engineering students.

Recent Advances in Solar Photovoltaic/Thermal (Pv/T) Hybrid Collector Technology



Dripta Sanyal
IV year, B. Tech.

The greatest advantage of solar energy as compared with other forms of energy that is environmental friendly and abundantly available and can be supplied without any environmental pollution. This article presents an overview on the research and development and application aspects for the hybrid photovoltaic/thermal (PV/T) collector systems. A major research and development work on the photovoltaic/thermal (PVT) hybrid technology has been done since last 30 years. Different types of solar thermal collector and new materials for PV cells have been developed for efficient solar energy utilization. The solar energy conversion into electricity and heat with a single device (called hybrid photovoltaic thermal (PV/T) collector) is a good advancement for future energy demand. This review presents the trend of research and development of technological advancement in photovoltaic thermal (PV/T) solar collectors and its useful applications like as solar heating, water desalination, solar greenhouse, solar still, photovoltaic–thermal solar heat pump/air-conditioning system, building integrated photovoltaic/thermal (BIPVT) and solar power co-generation.

Preparation and characterization of hydrophobic nanocomposite membranes for vacuum membrane distillation



M. Sharan

IV year, B. Tech.

Membrane distillation, its applications and advancements have led to development of newer composite membranes which increase the efficiency of the process. Fabrication of membranes that increase the flux, contact angle and stability is required. A comparison study has been done between an in-house developed polymeric blended membrane based on PVDF with organically modified nano-SiO₂ and a commercially available membrane for the applications of vacuum membrane distillation. The study of contact angle, flux, strength, SEM and FTIR was done for both the membranes and a comparison between their parameters were done. The nano particles in membrane altered these parameters and differed from that of the commercially available membrane. A conclusion was drawn from the comparison study and the results show that the developed membrane could be more effective in vacuum membrane distillation applications.

Review: Desalination of Brine Solution using Solar Energy



Simran Kaur Oberoi

IV year, B. Tech.

Over 97% of the water on Earth is saltwater. Although desalination is supposed to be a great alternative to solve the current water crisis. One of its main byproducts is brine, which has very high salinity hence it is believed that treatment of brine would be more beneficial than its disposal, as the latter has adverse ecological effects. Desalination of brine can be done by membrane desalination (using RO), thermal desalination, and more. But the biggest challenge faced with these processes is the high cost and wastage of water and to overcome these new reforms are being implemented by introducing techniques like Zero Liquid Discharge (ZLD) and Minimum Liquid Discharge (MLD). But, these methods are known to utilize huge amounts of energy and hence going for alternative methods like utilizing Solar Energy to reduce the exploitation of resources. The purpose of this review is to find out the shortcomings of the existing methods and suggest new mitigation methods like solar desalination.

Famous Chemical Engineers

- ✓ The Haber-Bosch process was developed by industrial chemist **Fritz Haber**, and scaled up by chemical engineer **Carl Bosch**. It takes nitrogen from the air and converts it to ammonia. This work made it possible to produce synthetic fertilizers and thus produce enough food for the Earth's growing population. Without it, we would only be able to produce two-thirds the amount of food we do today.



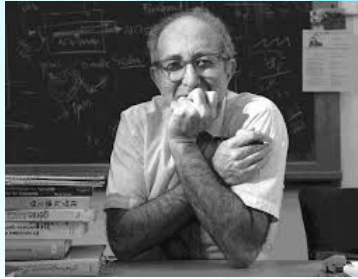
Carl Bosch

- ✓ **Margaret Hutchinson Rousseau** was not only the first woman to receive a chemical engineering doctorate from MIT, but she also designed the first commercial penicillin plant. Margaret developed the process of deep-tank fermentation which enabled large-scale production of penicillin.



Margaret Hutchinson Rousseau

- ✓ In 1963, while **Octave Levenspiel** was returning to Chicago by train from an AIChE meeting in Indianapolis, Octave befriended a young Japanese boy. He entertained him with magic tricks and got to know his parents. This was the start of his lifelong friendship with **Professor Daizo Kunii** of the University of Tokyo. Daizo and Octave coauthored the advanced text Fluidization Engineering, 11 published in 1969 probably the first Japanese-American cooperative book-writing effort in chemical engineering.



Octave Levenspiel

- ✓ This name is very common in Indian households due to Jio Fiber, Reliance Industries, and the list goes on. Many people think that **Mukesh Ambani** has a commerce degree due to the amount of money he earns and manages, but surprisingly this personality is a Chemical Engineer. Now Mukesh Ambani is one of the most respected personalities in both the Chemical Engineering and commerce fields as well.



Mukesh Ambani

- ✓ When it comes to discussing famous Indian personalities who were Chemical Engineers, who can miss the famous **Dr. Homi Sethna** who was famously nicknamed “The Smiling Buddha”. He is one of the famous heroes of the Pokhran Atomic Test. He was an Indian nuclear scientist and a chemical engineer, who gained international fame as the Chairman of the Atomic Energy Commission of the Indian Country. He has also won some prestigious awards like Padma Shri, Padma Bhushan, and Padma Vibhushan.



Homi Sethna