

*By the Cheme For the Cheme*

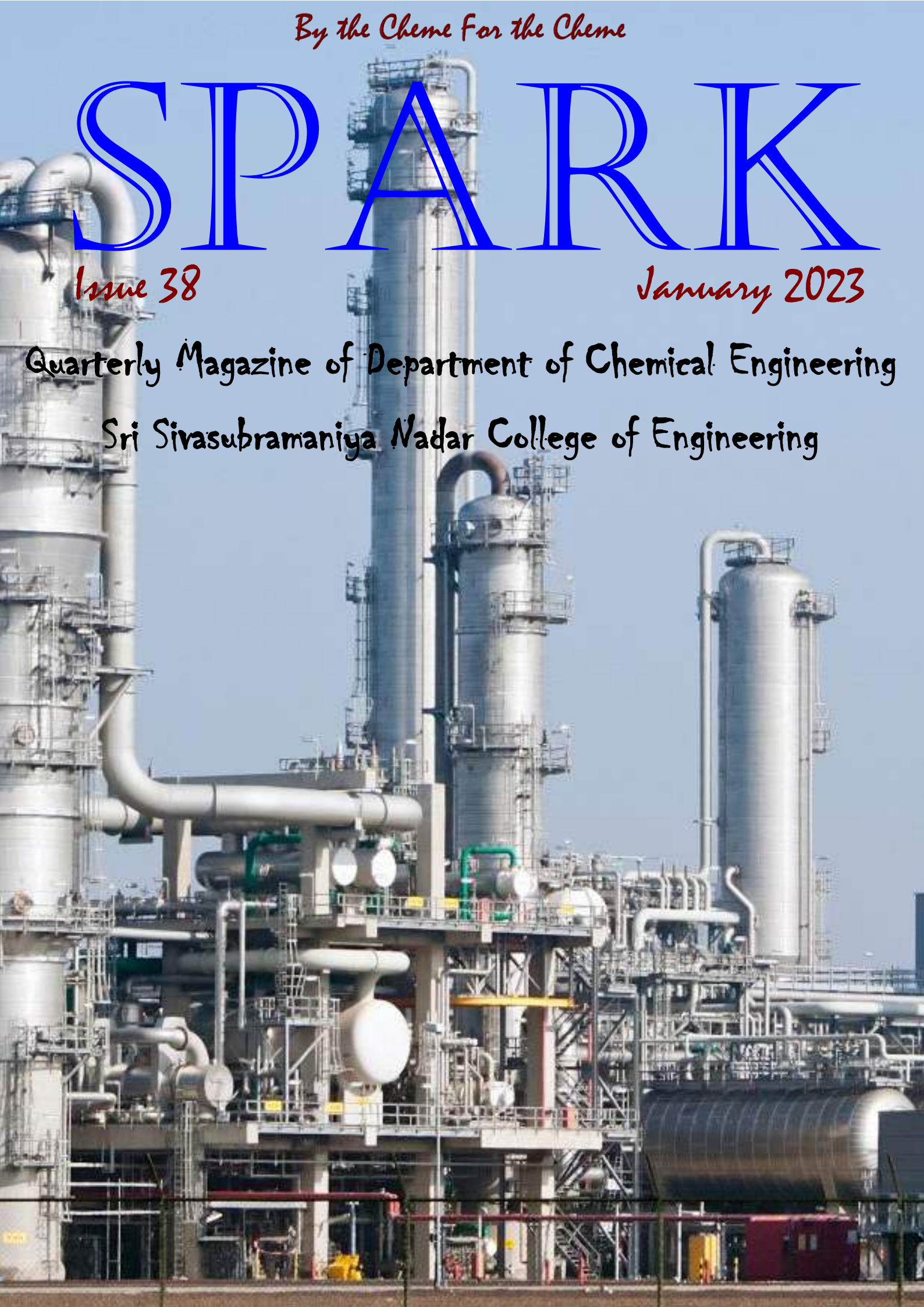
# SPARK

*Issue 38*

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Sri Sivasubramaniya Nadar College of Engineering



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## **From HOD's Desk**

I am very happy to share the 38<sup>th</sup> Edition of our department Newsletter SPARK. This Edition mainly focused on some important accomplishments of Faculty and students. One of our faculty was appointed as research faculty in Lebanese American University, Lebanon and Taif University, Saudi Arabia. Three MoU's were signed with Water Sanitation and Hygiene Institute (WASH), WAY2GROW AGRITECH PVT LTD and LEFI AGRITECH PVT LTD for Research & Development Activity of students and Faculty.

We have a strong interaction with alumni, where they have supported us all our times and One such event was chaired by our alumni. This year our placement record was also good with more than 15 students placed in various core companies like shell, DOW, L & T etc. I thank the student representatives and faculty coordinators for their contribution in bringing this 38<sup>th</sup> Edition of our Newsletter SPARK and I hope they will work in future as well.

**Dr. K. Sathish Kumar**  
**Professor & Head**  
**Department of Chemical Engineering**

## FACULTY ACTIVITIES

### Awards & Recognition

- ✧ **Dr. R Parthiban, Prof/Chem** has been elected as a Council Member of Indian Institute of Chemical Engineers Kolkata for the period 2023-25.
- ✧ **Dr. R Parthiban, Prof/Chem** has reviewed the research work of Mr S Rajasekar towards submitting the Ph D synopsis conducted at Sri Venkateswara College of Engineering on 14.10.2022
- ✧ **Dr. R. Parthiban, Prof/Chem** was invited to deliver the valedictory address towards the "Vigilance Awareness Week" organized by Clinical Research Unit, Central Council for Research in Homoeopathy, Ministry of AYUSH, Govt of India, Puducherry at their premises on 05.11.2022
- ✧ **Dr. P. Senthil Kumar Prof/Chem** has been appointed as Senior Research Associate, International Collaborative Partner (ICP) of Universiti Tunku Abdul Rahman Global Research Network (UTAR GRN) on 18th October 2022. This is valid for a period of 2 years from 1 Nov 2022 to 31 Oct 2024.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been appointed as Non-Resident Research Faculty at Lebanese American University, Lebanon on 6 Oct 2022.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** delivered a guest lecture on "Innovative Strategies in Writing Scientific Research Paper" at the Department of Medical Biotechnology and Integrative Physiology, SIMATS School of Engineering, Chennai on 14-10-2022.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem**, listed as World Ranking of Top 1% Scientist 2022 announced by Stanford University, US and Elsevier. He is also listed in Top 50 Indian Scientist
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** listed in Clarivate Highly Cited Research 2022 in recognition of the exceptional research performance demonstrated by production of multiple highly cited papers that rank in the top 1% for field and year in Cross-Field.

- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as Visiting Professor in Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** Engineering has been nominated as an External Examiner to evaluate Master of Engineering Science Thesis from Universiti Tunku Abdul Rahman, Malaysia
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as an External Examiner to evaluate Ph.D. Thesis from Marwadi University, Gujarat.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as an International Distinguished Researcher and Honorary Professor at Taif University, Saudi Arabia
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as an Adjunct Faculty in the School of Chemical Engineering and Physical Sciences at Lovely Professional University, Punjab, India on 07-12-2022.
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as an Editor for the new journal Discover Environment, Springer on 26-12-2022
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been acted as an External Examiner to convene the Ph.D. Viva Voce Examination for the Ph.D. thesis from Marwadi University, Rajkot on 09-12-2022
- ✧ **Dr. P. Senthil Kumar, Prof/Chem** has been invited as an Invited Speaker (Online) at the 2<sup>nd</sup> International Conference on Pollution Prevention and Clean Technologies on 1 – 2 December 2022 at Warsaw University of Technology, POLAND
- ✧ **Dr. Nalinkanth V. Ghone, ASP/Chem**, has been recognized as Internal expert member of Institutional Biosafety Committee of SSN by the review committee on genetic manipulation (RCGM) established under the Department of Biotechnology, Ministry of Science and Technology, Govt. of India, New Delhi
- ✧ **Dr. J. Dhanalakshmi, ASP/Chem** delivered a guest lecture on “CO<sub>2</sub> Capture using Ionic Liquids” for IIC-Calendar activity in Department of Chemical Engineering, Agni College of Technology, Chennai on 21.12.2022
- ✧ **Dr. R. Anantharaj, ASP/Chem** attended the first Doctoral Advisory Committee meeting in School of Chemical Engineering, Vellore Institute of Technology at Vellore, on 25.11.2022.



- ✪ **Dr. P. Senthil Kumar, Prof/Chem** has been nominated as a Doctoral Committee Member and convened the First DC Meeting for the Full Time Research Candidate, Mr. Prabakar.P, Department of Chemical Engineering, VIT Vellore on 19-10-2022.
- ✪ **Dr.K.Sathish Kumar, Prof & Head/Chem** conducted Academic audit at St. Joseph's college of Engineering, Chennai on 8.11.22

## **Paper & Book Chapter Publications**

- 📖 Processing of marine microalgae biomass via hydrothermal liquefaction for bio-oil production: study on algae cultivation, harvesting, and process parameters, 59. Thangavelu Eswary Devi, **Rangasamy Parthiban**, Jayaseelan Arun, Kannappan Panchamoorthy Gopinath, Biomass Conversion and Biorefinery, <https://doi.org/10.1007/s13399-022-03446-5>, 2022, Web of Science, 0.54
- 📖 Effects of using Palm flower Biochar in Mechanical and Water Purification properties of Pervious Concrete, M. Abhinaya, **R. Parthiban**, N. Sivakumar, Biomass Conversion and Biorefinery, <https://doi.org/10.1007/s13399-022-03606-7>, 2022, Clarivate, 4.103
- 📖 A review on recent advances in electrodeionization for various environmental applications, B. Senthil Rathi, P.Senthil Kumar **R. Parthiban**, Chemosphere, Vol. 289, pp. 133223, 2022, Clarivate, 8.943
- 📖 Synthesis and characterization of 4-Halobenzylidene malanonitriles for optical detection of Nickel (II) ions in aqueous solution, R. Parkavi, **R. Parthiban**, P.Senthil Kumar, A. Chandramohan, K. Dinakaran, Chemosphere, Vol. 290, pp. 133248, , 2022, Clarivate, 8.943
- 📖 Sustainable strategy on microbial fuel cell to treat the wastewater for the production of green energy, A. Saravanan, **P.Senthil Kumar**, S. Srinivasan, S. Jeevanantham, R. Kamalesh, S. Karishma, Chemosphere, Vol. 290, pp. 133295, , 2022, Clarivate, 8.943

- 📖 Chemical, physical and biological methods to convert lignocellulosic waste into value-added products. A review, Selvakumar Periyasamy, V. Karthik, **P.Senthil Kumar**, J. Beula Isabel, Tatek Temesgen, B.M. Hunegnaw, B.B. Melese, Badr A. Mohamed, Dai-Viet Nguyen Vo, Environmental Chemistry Letters ,Vol. 20, pp. 1129-1152, , 2022, Clarivate, 13.615
- 📖 A comprehensive review on sources, analysis and toxicity of environmental pollutants and its removal methods from water environment, A.Saravanan, **P.Senthil Kumar**, R.V. Hemavathy, S. Jeevanantham, P. Harikumar, G. Priyanka, D. Rebekah Angelina Devakirubai, Science of the Total Environment ,Vol. 812, pp. 152456, , 2022, Clarivate, 10.753
- 📖 Bio-functionalized zinc oxide nanoparticles: Potential toxicity impact on freshwater fish Cyprinus carpio, Krishnasamy Sekar Rajkumar, Palaniyappan Sivagaami, Arunachalam Ramkumar, Anbazhagan Murugadas, Veeran Srinivasan, Sridhar Arun, **Ponnusamy Senthil Kumar**, Ramasamy Thirumurugan, Chemosphere, Vol. 290, pp. 133220, 2022, Clarivate, 8.943
- 📖 Hydrothermal carbonisation of waste sugarcane bagasse for the effective removal of emerging contaminants from aqueous solution, G. Prasannamedha, **P.Senthil Kumar**, Adsorption Science & Technology, Vol. 2022, Article ID 8684737, pp. 1-13, 2022, Clarivate, 4.373
- 📖 Invasive plants as biosorbents for environmental remediation: A review, Duyen Nguyen, Thuan Tran, **Ponnusamy Senthil Kumar**, Azam Taufik Mohd Din, Aishah Abdul Jalil, Dai-Viet N. Vo, Environmental Chemistry Letters, Vol. 20, pp. 1421-1451, 2022, Clarivate, 13.615
- 📖 Remediation of emerging metal pollutants using environment friendly biochar- Review on applications and mechanism, Don Berslin, Angelin Reshmi, Baskaran Sivaprakash, Natarajan Rajamohan, **P.Senthil Kumar**, Chemosphere, Vol. 290, pp. 133384, 2022, Clarivate, 8.943
- 📖 Recycled mesoporous magnetic composites with high surface area derived from plastic and de-oiled sludge wastes: An empirical comparison on their competitive performance for toxic Cr (VI) removal, P.N. Nirenjan Shenoy, N.M. Arjun,

- P.Senthil Kumar**, A.B. Sree Hari, K. Nithya, P. Asha Sathish, Chemosphere, Vol. 292, pp. 133375, 2022, Clarivate, 8.943
- 📖 Tribological properties of carbon nanotube and carbon nanofiber blended Polyvinylidene fluoride sheets laminated on steel substrates, M.S. Nisha, S. Mullai Venthan, **P.Senthil Kumar**, Dalbir Singh, International Journal of Chemical Engineering, Vol. 2022, Article ID: 3408115, pp. 1-6, 2022, Clarivate, 2.729
- 📖 V-Ag doped ZnO nanorod as high-performance electrode material for supercapacitors with enhanced specific capacitance and cycling stability, P. Nethaji, **P.Senthil Kumar**, Chemical Engineering Research & Design, Vol. 178, pp. 356-368, 2022, Clarivate, 4.119
- 📖 Polyvinylpyrrolidone-assisted novel copper antimony sulfide nanorods for highly efficient hydrogen evolution reaction, S. Swathi, R. Yuvakkumar, **P.Senthil Kumar**, G. Ravi, Dhayalan Velauthapillai, Fuel, Vol. 314, pp. 123096, 2022, Clarivate, 8.035
- 📖 Degradation of toxic agrochemicals and pharmaceutical pollutants: Effective and alternative approaches toward photocatalysis, A. Saravanan, **P.Senthil Kumar**, S. Jeevanantham, M. Anubha, S. Jayashree, Environmental Pollution, Vol. 298, pp. 118844, 2022, Clarivate, 9.988
- 📖 Paper-based microfluidic colorimetric sensor on a 3D printed support for quantitative detection of nitrite in aquatic environments, P. Rajasulochana, Yaswanth Ganesan, **P.Senthil Kumar**, S. Mahalaxmi, Fahira Tasneem, Muthamilselvi Ponnuchamy, Ashish Kapoor, Environmental Research, Vol. 208, pp. 112745, 2022, Clarivate, 8.431
- 📖 Scheelite-type Fe substituted SrWO<sub>4</sub> for hydrogen evolution reaction under alkaline conditions, S. Swathi, R. Yuvakkumar, **P.Senthil Kumar**, G. Ravi, A. Manigandan, Dhayalan Velauthapillai, Fuel, Vol. 316, pp. 123309, 2022, Clarivate, 8.035
- 📖 Bio-derived catalysts for production of biodiesel: A review on feedstock, oil extraction methodologies, reactors and lifecycle assessment of biodiesel, P.R. Yaashikaa, **P.Senthil Kumar**, S. Karishma, Fuel, Vol. 316, pp. 123379, 2022, Clarivate, 8.035



- 📖 Advanced catalysts and effect of operating parameters in ethanol dry reforming for hydrogen generation. A review, Mohd-Nasir Nor Shafiqah, Tan Ji Siang, **Ponnusamy Senthil Kumar**, Zainal Ahmad, A.A. Jalil, Mahadi B. Bahari, Quyet Van Le, Leilei Xiao, M. Mofijur, Changlei Xia, Shams Forruque Ahmed, Dai-Viet N. Vo, Environmental Chemistry Letters, Vol. 20, pp. 1695-1718, 2022, Clarivate, 13.615
- 📖 Analysis and prediction of water quality using deep learning and auto deep learning techniques, D.Venkata Vara Prasad, Lokeswari Y Venkataramana, **P.Senthil Kumar**, G. Prasannamedha, S. Harshana, S. Jahnavi Srividya, K. Harrinei, Sravya Indraganti, Science of the Total Environment, Vol. 821, pp. 153311, 2022, Clarivate, 10.753
- 📖 The role of Sodium dodecyl sulfate mediated hydrothermal synthesis of MoS<sub>2</sub> nanosheets for photocatalytic dye degradation and dye-sensitized solar cell application, Karthigaimuthu Dharamalingam, B. Arjun Kumar, G.Ramalingam, S.Sasi Florence, Kumar Raju, **P. Senthil Kumar**, Saravanan Govindaraju, Elangovan Thangavel, Chemosphere, Vol. 294, pp. 133725, 2022, Clarivate, 8.943
- 📖 Carbon nanomaterials and its applications in pharmaceuticals: A brief review, Rajalakshmi Sridharan, B. Monisha, **P.Senthil Kumar**, K.Veena Gayatahri, Chemosphere, Vol. 294, pp. 133731, 2022, Clarivate, 8.943
- 📖 Microalgae as a potential sustainable solution to environment health, Heli Siti Halimatul Munawaroh, Farah Hazmatulhaq, Gun Gun Gumilar, Riska Nur Pratiwi, Isman Kurniawan, Andriati Ningrum, Nur Akmalia Hidayati, Apurav Krishna Koyande, **P. Senthil Kumar**, Pau-Loke Show, Chemosphere, Vol. 295, pp. 133740, 2022, Clarivate, 8.943
- 📖 A critical review on the two-stage biohythane production and its viability as a renewable fuel, Sasidhar KB, **P.Senthil Kumar**, Leilei Xiao, Fuel, Vol. 317, pp. 123449, , 2022, Clarivate, 8.035
- 📖 Electrochemical sensing system for the analysis of emerging contaminants in aquatic environment: A review, R. Sivaranjane, **P.Senthil Kumar**, R. Saravanan, M. Govarthan, Chemosphere, Vol. 294, pp. 133779, , 2022, Clarivate, 8.943

- 📖 Si/Mxene/Graphene crumbled spherical nanocomposites, V. Thirumal, R. Yuvakkumar, **P.Senthil Kumar**, G. Ravi, Dhayalan Velauthapillai, International Journal of Energy Research, <https://doi.org/10.1002/er.7743>, 2022, Clarivate, 4.672
- 📖 Critical Review on Carbon-Based Nanomaterial for Carbon Capture: Technical Challenges, Opportunities, and Future Perspectives, Venkadeshkumar Ramar and **Ambedkar Balraj**, Energy & Fuels - ACS, 02585, 2022, Clarivate, 4.65
- 📖 Solution Thermodynamic Properties of {Tetrabutyl Ammonium Bromide:Glycerol} Hydrophilic DESs at T = 298.15–348.15 K and 0.1 MPa and an Approach over Solvent Extraction of Cr(VI) Using {Tetrabutyl Ammonium Bromide:Decanoic Acid/Oleic Acid} Hydrophobic DESs, K. Kadambanathan and **R. Anantharaj**, Journal of Chemical & Engineering Data, 2c00549, 2022, Web of Science.
- 📖 Density Functional Theory Study of the Molecular Interaction between Selective Phenolic Compounds and Glycerol-Based Deep Eutectic Solvents, Vichitra Malaiyarasan, Varshith Vijayan Nithya, **Anantharaj Ramalingam**, and Sujatha Ramalingam, ACS Agricultural Science & Technology, December 14, 2022, 2022, Web of Science.
- 📖 A Short Review On Feedstock Characteristics in Methane Production from Municipal Solid Waste, Arunthathi S, **Balaji D** and Sivapriya V, Archit. Civ. Eng. Environ., vol. 3, pp. 75–85, 2022, Web of Science,
- 📖 Assessing the compaction characteristics of modified soil with Incinerated municipal solid waste., Arunthathi S, Sivapriya V and **Balaji D**, Materials Today: Proceedings, Volume 62, Part 2, Pages 629-632, 2022, Scopus, 0.36

## Projects Applied

- 🕒 An International Internship offer was submitted by **Dr. Nalinkanth V. Ghone, ASP/Chem**, to RISE Worldwide (Research Internships in Science and Engineering), DAAD, funded by the German Federal Ministry of Education and Research, to work on the project titled "CO<sub>2</sub> sequestration and utilization using halloysite clay nanotubes" for a duration of three months.

- ⌚ **Dr. Nalinkanth V. Ghone, ASP/Chem** submitted a concept proposal titled "Development of cell therapy using human umbilical cord-based scaffolds for treatment of burn wounds" as Co-PI to Department of Biotechnology, Govt of India, in collaboration with Dr. V. Veerabhuvaneshwari, PI, Kumaraguru College of Technology, Coimbatore. The project is for a duration of 3 years and funding requested is Rs 30,00,000 /-
- ⌚ Project Title: Development of highly sensitive IOT based electrochemical detection of E-Coli in water systems, **PI: Dr. P. Senthil Kumar**, Professor/Chemical Engineering, Total Budget: Rs. 2,01,41,598/-. Funding Agency: LIEN Environmental Fellowship (LEF) Award, Nanyang Environment and Water Research Institute and Nanyang Technological University, Singapore.
- ⌚ Project Title: Management of banana wastes from sub-urban regions to produce biochar: A contribution to a circular economy, **PI: Dr. P. Senthil Kumar**, Professor/Chemical Engineering, Total Budget: Rs. 2,01,41,598/-. Funding Agency: LIEN Environmental Fellowship (LEF) Award, Nanyang Environment and Water Research Institute and Nanyang Technological University, Singapore
- ⌚ **Dr. Nalinkanth V. Ghone, ASP/CHE (PI)** and Dr. R. Subhashini, AP/BME (Co-PI) submitted an internal funding project entitled "Role of ITGA5 in interaction of breast cancer cells with mesenchymal stem cells" for a duration of 24 months and with a budget of Rs 4,91,200 /-.

### **Guest lectures, Workshops and Webinars Organized**

- ☂ **Dr. B. Ambedkar ASP/Chem**, organized a webinar on "Innovative Application of Artificial Intelligence (AI)/ Machine Learning (ML)", by Mr. R. Thirumurugan, Data Science Lead, Tech Mahindra, on 30 Nov 2022 at 6.00 PM.
- ☂ **Dr. D. Balaji, ASP/Chem** Organized a guest lecture titled "Food and Nutrition" delivered by Ms. Sangata Das, Nutrition Consultant, Nestle India on 16.11.22 held Via Online platform for III Year students under the banner of Indian Institute of Chemical Engineers - SSN Student Chapter.



☂ **Dr.R.Anantharaj, ASP/Chem** and Dr.V.Thiyagarajan, ASP, EEE, jointly organized the National Conference on Fuel Cell and Electric Vehicle Technology (FCEVT-2022) during November 25-26, 2022.

### Events Attended

- 👤 **Dr. Pachimatla Rajesh, AP/Chem** presented a Paper in Schemcon 2022, 18<sup>th</sup> Annual Session on Chemical Engineering Students Congress, held at NIT Warangal, Sep 23 to 24, 2022.
- 👤 **Dr. P. Senthil Kumar, Prof/Chem** has attended "Live-Virtual Event: From innovative ideas to Scholarly Books in Science & Technology", organized by Taylor & Francis Publisher on 17-10-2022.
- 👤 **Dr. V. Jaikumar, Associate Professor**, attended Virtual Session on Dicronite - The New Age Lubrication for Manufacturing in India, 28 Oct 2022, 10:00 – 11:00. Key Speakers are, Mr Douglas Victor Croft, President, Dicronite USA; Mr Trevor Dillman, Product Manager, Dicronite USA; Mr S M Kanakaraj, Dicronite India representative, India.
- 👤 **Dr. B. Ambedkar ASP/Chem** had undergone Innovation Ambassador (IA) Training "Foundation Level" conducted in online mode by MoE's Innovation Cell & AICTE.

### Viva-voce & DC meetings

- ⊕ Mrs. R. K. Nilavuckkarasi, Full-time PhD Scholar of **Dr. B. Ambedkar ASP/Chem** defended her final PhD VIVA-VOCE on 10.10.2022 at 11.00 am.
- ⊕ Mr. N. Krishna Kumar, Full-time PhD Scholar of **Dr. B. Ambedkar ASP/Chem**, presented his confirmation seminar on 26.11.2022 at 02.00 pm.

- ⊕ Mr. N. Krishna Kumar, Full-time PhD Scholar of **Dr. B. Ambedkar ASP/Chem**, presented his research activities during confirmation DC meeting on 30 Nov 2022 at 02.00 pm.
- ⊕ **Dr. D. Balaji, ASP/Chem** conducted the Synopsis approval DC Meeting for his full-time research scholar, Ms Dhanya V on 15.10.2022.
- ⊕ **Dr. D. Balaji, ASP/Chem** conducted the Synopsis approval DC Meeting for his full-time research scholar, Mr Santhosh K on 23.12.2022.

## **Collaborations / MoU**

- ⊗ **Dr. R. Anantharaj, ASP/Chem** and **Dr. K. Sathsih Kumar, Prof/Chem**, visited Ashok Leyland Ltd, Ennore unit for the consultancy project discussion on 19/10/2022.
- ⊗ **Dr. R. Ananharaj, ASP/Chem**, visited and discussed about the final product properties and other factors with MD at Sheenlac Plants Pvt. Ltd., Chennai on 26/12/2022.
- ⊗ **Dr. P. Senthil Kumar, Prof/Chem** executed the MoU between Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam and Water Sanitation and Hygiene (WASH) Institute on 10-10-2022. This MoU envisages scientific collaboration for joint product development, internships and other corporations of mutual value. Dr. P. Senthil Kumar Prof/Chem coordinated the MoU process.
- ⊗ An MoU was signed between WAY2GROW AGRITECH PVT Ltd., and Sri Sivasubramaniya Nadar College of Engineering on 30.09.2022. This Company founded in 2020 with a mission of creating growing clean food locally. Their R&D focuses on crop physiology, nutrients and farm management to help the growers get the most out of their produce. They have own proprietary hardware and software to manage the farm which is backed by deep agricultural science. This MoU envisages scientific collaboration for joint product development, internships, Project work for students and other activities of mutual value. **Dr. V. Jaikumar ASP/Chem** coordinated the MoU process.

- ✿ An MoU was signed between LEFI AGRITECH PVT Ltd., and Sri Sivasubramaniya Nadar College of Engineering on 30.09.2022. This Company aggressively works on the agricultural resources management. They practice soil-less agriculture with the minimal usage of water resources and majorly operate on a concept called HYDROPONICS - future of agriculture and are based into developing a standard cultivation procedure for exotic vegetables such as Lettuce, Basil, Thyme etc. This MOU is intended for taking up various student training programmes, internships, placement, Workshops, Collaborative Research and other activities of mutual interest, between SSN and Lefi specifically in the areas of Agricultural Biotechnology, Agricultural Chemistry and Chemical Engineering (Production of Bio- Fertilizers and Pesticides). **Dr. V. Jaikumar ASP/Chem** coordinated the MoU process.
- ✿ **Dr. R. Parthiban, Professor** and **Dr Sathish Kumar, Professor & Head** met Dr J R Moses, CEO of Hubert Enviro Care Systems Pvt Ltd (HECS) at their office in Guindy for a probable MoU with them on 18.10.2022. Draft MoU had been submitted and it's being vet by HECS.



## **ALUMNI ACTIVITIES**

### **Career Development Workshop**

SSN Alumni Association conducted the career development workshop on 15th, October, 2022.

It was a great learning experience for the students in attending the mock interviews conducted by alumni from various industries including human resource, management, core technical and software. A session for group



discussion was arranged batch wise. Detailed lecture about group discussion was provided to the students during discussion round. After the GD round, each person's strengths and weakness during the GD was discussed. For the technical round, Mr. J. Aalan Britto and Mr. M. Danish John Paul (2015 - 2019 Batch), Process Engineers from Dow and McDermott has conducted a mock interview. After the individual interviews, overall feedback was given to all the students which was really beneficial to them.



Management interviews was conducted online by Abinaya Venkatraman (2012-2016 Batch), Performance Analyst, Tommy Hilfiger at PVH Corp., alumni of Chemical Department. After each interview process feedback was shared with the students through google form. The students were very grateful for the alumni

support in enhancing their skills for the placement process.

## **Talk at the UN Social Forum**



**Mr. Abhishek S Narayan**

**Batch: 2012 – 2016**

**Department of Chemical Engineering**



“In order to achieve the universal human rights to water and sanitation, we must create an enabling environment that fosters intergenerational partnerships on water” said by Abhishek S Narayan alumnus of Chemical Engineering Department (Batch 2012 – 2016) at the United Nations on Human Right to Water in Geneva on 3-4, November 2022. Abhishek after completing B.Tech. in Chemical Engineering, he did MS (Specialization in Water Science, Policy and Management) in University of Oxford, UK and pursued doctoral research in ETH Zurich. Currently, he is a researcher at Eawag as well as he is volunteering various organisations involving water sanitation and the youth. Water for human rights and sustainable development are the area of focus this year and Abhishek had made a stimulating presentation titled ‘Youth - A critical partner in achieving the human right to water’. He spoke about the potential of the youth; Why are they critical, What are they capable of and How to encourage their involvement. Many significant examples were given regarding the current efforts taken to amplify the voice of the youth in the current scenario.

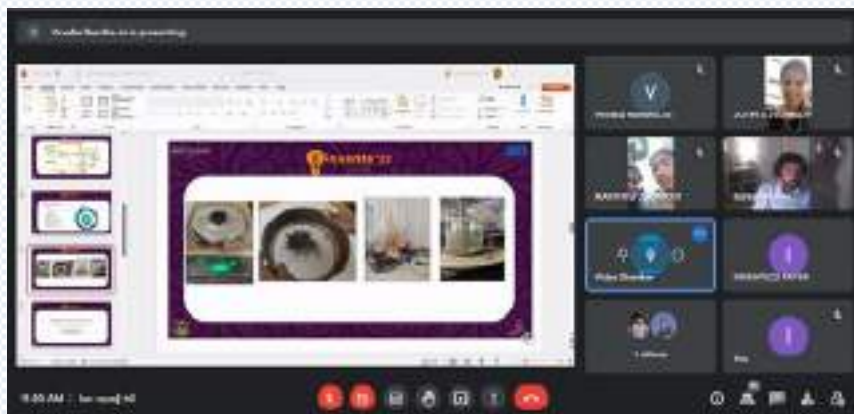
It is a source of pride that an alumnus of our institute has undertaken such a motive and is constantly working on its progress. Therefore, it is excited to say that he has emerged as an inspiration for the coming generations, showing them the heights they can reach and also create a pathway for them to do so. While wishing him the best for his future endeavours that will no doubt make a change in this world, it is also believed that many youngsters will be motivated by him.

Recording of his talk at the UN Social Forum is available here:

<https://media.un.org/en/asset/k1k/k1kmsc0wlk?kalturaStartTime=4788>

## Interaction with the Department

**Dr. Suresh Kumar Jayaraman** (Alumnus, Department of Chemical Engineering, 2009 Batch) working in AVEVA Software R&D, Lake Forest, California, USA, was a judge for the paper presentation event named **“Chemicara”**, as a part of National Level Technical Symposium “INVENTE ’22, held on 1<sup>st</sup> and 2<sup>nd</sup> of



December 2022. The event saw a participation of around 40+ students from intra-state as well as national colleges across India. Dr. Suresh Kumar Jayaraman joined the event as chief guest via virtual mode from California, USA. He went through all the presentation given by various students and judging them based on the technical as well as presentation skills. He gave feedback as well as constructive advice to the participants on the know-how's of publishing paper and efficient paper presentation.

Department of Chemical Engineering thank Dr. Suresh for taking time from his busy schedule to judge paper presentation event even though there was significant time gap between the time zones of INDIA and USA. The feedback given by him was well received by all the participants.

- ❁ 2015-19 Chemical Engineering Batch, **Mr. J. Aalan Britto** and **Mr. M. Danish John Paul**, Process Engineer from Dow and McDermott has conducted a mock interview in the Carrier Development Workshop organized by SSN Alumni Association on 15.10.2022.



## STUDENT ACTIVITIES

### Placements & Internships

PLACEMENT DETAILS - BATCH - 2019 - 2023						
Sl.No.	Name		Company		Category	Salary per Annum (Rs)
1	Aiswarya S		Shell		Core	7,20,000
2	Arjunraj M		Shell		Core	7,20,000
3	Padmavathy R		Shell		Core	7,20,000
4	Dinesh Kumar K S		TCS Digital		Dream	7,00,000
5	Ahamed Basith MM		Comcast		Dream	8,00,000
6	Kaavya A		Comcast		Dream	8,00,000
7	Poojitha Gali		Crayon Data		Super Dream	10,00,000
8	Akhash P S M		Severn Glocon		Core	4,20,000
9	Nivetha M		Severn Glocon		Core	4,20,000
10	Vishnu Priyan R		Hyundai		Core	7,80,000
11	Vasudhareni R		DOW		Core	8,30,000
12	Varsha M		DOW		Core	8,30,000
13	Yamini B		L&T		Core	6,00,000
14	Divya Darshini P		TATA Consultancy Services		Regular	3,60,000
INTERNSHIP DETAILS - BATCH - 2019 - 2023						
1	Ajin Kumar R		Severn Glocon		Core	NA
2	Vishal Prakash		Severn Glocon		Core	NA
S.No	Name	Year	Type of program	Company Name	From	To
1	Kishore S	Final Year	Internship	Manali petrochemicals pvt.ltd,Manali	20-12-2022	24-12-2022
2	Akhash P S M	Final Year	Internship	Orchid Pharma Ltd	10-10-2022	11-10-2022
3	Yamini B	Final Year	Internship	Orchid Pharma Ltd	10-10-2022	11-10-2022
4	Ajin Kumar R	Final Year	Internship	Orchid Pharma Ltd	10-10-2022	11-10-2022

## Co & Extra Curricular Activities

- ☞ Final Year Chemical Engineering students (strength of 49) visited Stahl India Pvt Ltd, Singadivakkam Village, Enathur, Kanchipuram accompanied by **Dr. R. Parthiban, Prof/Chem** and **Mr Rajasekar** on 12.10.22
- ☞ **Dr. V. Jaikumar, ASP/Chem** accompanied students of Third Year B Tech Chemical Engineering for Industrial visit to Koyambedu sewage treatment plant (STP) on 26-09-2022
- ☞ The UG Batch of Second Year students and PG Batch of First Year students of the department of Chemical Engineering along with the faculty **Dr. Nalinkanth Ghone, ASP/Chem**, and **Dr. Anup Kundu, AP/Chem** visited HENKEL ANAND at Sriperumbudur in Chennai on 12-10-2022.
- ☞ **Dr. R. Anantharaj, ASP/Chem** and **Dr. B. Chitra, ASP/Chem** visited NLC India Limited, Neyveli with Final Year Students-UG Chemical on 07/11/2022.
- ☞ **K. N. Kallki Selvan, R. Sudarsan and Maadhes. J., Second year, Chemical Engineering** participated (Application No.: CZC2022E0127) in Carbon Zero Challenge (CZC) 2022 under the guidance of Dr. B. Ambedkar ASP/ Chem and this team has been selected for the next stage of the CZC 2022 organized by IIT Madras.
- ☞ **Tharun Kumar, R., Third year, Chemical Engineering, Sharon Jose R B, Final year, Chemical Engineering** have participated in Unleash Hack hosted by SNU IoE, Noida from November 4- 6, 2022 and won the first prize (cash award of Rs 30,000).
- ☞ **T. Harish Prasath and R.S. Aadithya, Third year, Chemical Engineering**, have participated in Unleash Hack hosted by SNU IoE, Noida from November 4 - 6, 2022 and won the second prize (cash award of Rs 20,000).
- ☞ **Geofrin Lanso L.S and Sri Varshini, B., Third year, Chemical Engineering**, have participated in Unleash Hack hosted by SNU IoE, Noida from November 4 - 6, 2022 and won the third prize (cash award of Rs 10,000).
- ☞ **Dharunya. S, Second Year, Chemical Engineering** has participated in the Lakshya event conducted by SSNCE held on November 25, 2022 and won the second prize.

**One-Day Industrial Visit to**



**Guindy, Chennai on November 10, 2022**

A group of Final year and pre-final year students took part in the industrial Visit to M/s Dow Chemical International Private Limited-Centre of Excellence on 10<sup>th</sup> November 2022, located at Guindy. It is a consumer-centric material science company delivering industrial intermediates, performance materials, Plastics, coating, and silicone in growth segments like packaging, infrastructure, consumer care, and mobility. This event was organized by Dow chemicals and SWE (Society of Women Engineers). The visit offered various knowledge-sharing platforms and career guidance for students who are at the beginning of their career search to make a difference.



Mr. Ahmed El Mahdy (CEC Senior Director) and Mr. Amitrajit Ghosh (HR Head) initiated the session by briefing us about the company, giving an overview of activities and answering some questions from participants. Then the students were split into 2 batches, where group one attended a workshop on Pipping and Instrumentation subsequently group two visited the Automation Plant and vice versa. The workshop proclaimed the importance of piping systems in the chemical industry. Different types of Pipes, Supports, Valves, and Pumps were displayed to give us a hands-on experience. Later we dropped in at the Automation plant that comprised 2 tanks where the water circulates between tanks, here we got to familiarize with disparate components of the plant (pneumatic control valve, centrifugal pump, load cell, Mass flow meter, etc). Dow intends to empower specially challenged individuals, as a quintessence Blindfold lunch was organized. Following was the Group discussion (topic: Is the world ready for Women in STEM) and



Mock interview which gave us an experience of the hiring process. To top it off Mr. Amit provided us few tips to nail the HR round.

Finally, Mr. Paul Robichaud (MD of SWE India) Elaborated on SWE'S vision of a world with gender parity and equality in Engineering and Technology. Participants were encouraged to share their views on the industrial visit. Certificates, bags, and Self-help books were handed to all the students towards the end. Special mention to volunteers (Ms. Daksha, Ms. Akshana and Ms. Kavitha) who helped us accustom to the new environment. Moreover, Dow is recognized as a great place to work since it places employee well-being, care and safety at its core.

**One-Day Industrial Visit to**



**Neyveli Lignite Corporation, Neyveli, Tamilnadu  
on 07 November 2022**

The final Year students of chemical engineering department went for an industrial visit organized by Dr. R. Anandharaj, Associate Professor, Dept of chemical engineering, SSNCE to one of the most important electricity production center of Tamil Nadu-NEYVELI LIGNITE CORPORATION- a thermal power behemoth located in the southern district of Neyveli, Tamil Nadu.



They were accompanied by Dr. B. Chitra, Associate Professor and Dr. R. Anandharaj, Associate Professor, SSNCE.

The students were taken to two facilities inside NLC due to time constraint namely the Thermal power station-1 EXTN (TPS-1E) and Coal Mine 1.

The COAL MINE-1 was the first area the students were taken to. Various Information regarding the usability, longevity and regeneration of land and coal quality from the existing land were discussed and taught to the students in detail. Various problems involving the land acquisition and other policy issues were also discussed in brief and educating manner.

The students were then taken to TPS-1E. It produces around 200 GWh of power with a peak load factor of 0.98. The students were explained about the process of generating electricity from coal (Lignite) which involved mining of coal, coal refining and standardisation of coal, Sizing operations of coal, production of heat by combustion of coal, conversion of water to steam by this produced heat, conversion of rotation of turbine due to the impact of this steam generated to electricity.

They were then taken to the main control room where they had an overall brief summary of what happens inside the combustion chamber and the entire process associated with it. Various Techniques for heat utilisation, pollution abatement etc were explained in details



to batches of students sent inside the control room.

The industrial visit was an eye-opener for the final year students as they witnessed theoretical design concepts such as design of cooling tower, Heat exchangers etc coming to practical use.



## Invente '22

INVENTE 2022 was a two-day tech fest on the 1<sup>st</sup> and 2<sup>nd</sup> December for budding engineers to discover hidden interests and entice technophiles to showcase their talent with unbridled enthusiasm. Being our flagship event since 2016, various departments of SSN and SNUC amalgamate to form the national-level symposium, catered to challenge the spirits and intellect of the tech-savvy, fun-loving, and puzzle-solvers of the nation. With hundreds of participants across eight domains, it was designed to tickle curiosity with a plethora of technical and non-technical events that assure putting creativity to the test, forward-thinking, and, of course, having a good time. The Department of Chemical Engineering provided top-notch events that combined one's cutting-edge engineering knowledge with an assortment of creative tasks. An awe-inspiring event that encapsulated the essence of what makes a tech-fest great, with workshops galore for networking and career growth, INVENTE'22 was the tech-fest one would not want to miss. This year's theme was Advancements in Sustainable Technology.

The inaugural event began in the main auditorium with **Mr. Nandakumar Subburaman** serving as the chief guest. **Dr. Kala Vijayakumar, president of SSN Institutions** and pro-chancellor of SNU Chennai, gave the honorary chief guest the bouquet after **Dr. V.E Annamalai, Principal of**



**SSN Institutions**, welcomed the gathering. **Ms.Thirthaa**, Vice President, of the Department of Chemical Engineering, called the chief guest up to the stage, who shared his words of wisdom and knowledge with the students. He then unwrapped the Edition 2022 of **Techvibe**, SSN's annual technology magazine, which includes a selection of articles and research papers on the most recent advancements in engineering fields around the world. After Dr. Kala Vijayakumar gave the chief guest a memento as a token of appreciation, the inaugural was formally over.



**EVENTS:**

- Chemicara-Paper resentation (Online)
- Espresso - Poster Presentation
- Chem Connexions
- Puzzle Hunt
- Deep Waters
- Jumanji
- Trippy Trivia
- Chem Wordle
- House of fun
- Treasure trove

The events were organized by the students of final, third and second year with great



fervor. With participants from a plethora of colleges- including those from different cities in Tamil Nadu- the event provided excellent exposure and friendly interaction between the students. With a balance of technical presentations and games, it is hoped that we were able to provide a holistic experience to all who participated.



The success of this national conference portrays the unfathomable support from the Management and the Department. We extend our heartfelt gratitude to the SSN



Management, our HOD Dr. K.Sathish Kumar, Faculty co-ordinator of SSN ACE-IICHe Dr. D.Balaji, esteemed members of the judging panel, other faculty members and the non-teaching staff of the department for their clear guidance and motivation throughout the national conference. We are wholeheartedly grateful to the dedicated volunteers and students of the organizing committee for actively indulging in making the event possible.

## **Talent Showcase**

**Poem by Ms. Sanjna S, Second Year**

### **SILHOUETTE**

How do you wake up when the sun is plunging?  
Roof upside down, seeping through reality

Heavy eyes empty, chest weary  
Trying to stand still on the cold floor,  
sending sharp shivers up the spine  
Take a step and you fall down  
crumbling into million little pieces.  
Pounding heart wants to crawl back to the bed  
Quivering hands serve no help in being numb  
A drop of tear tracing your cheek,  
You shut your eyes for the worst to come

Vision fogged by uncertainty, caged by the fears  
Woozy eyes wishing all this were a delusion  
Inert paralysis gluing your body to the ground  
Wobbly in knees, you succumb to fatigue from depression  
Not even passed an hour from the scratch  
Hopelessness and disinterest sink in



Questioning the worth of your being  
Pushing you to the brink of falling to death

Pulling my legs down the street, forcing a smile  
you hear sheer shriek echoing in your head  
Pushing through the days 'cause the  
past is always at the beck and call unlike the future.  
You save your thoughts for the night,  
Those long whining nights that  
provoke you to take your life

Nobody will ever know, because  
the saddest leaves the least of the clues  
As the mankind always belittles others' worries  
Pals, lovers, kith and kin, every other soul  
Throat too dry and mind too dead to define  
But when the curtains close,  
you drape a cape of good hope  
put on a facade for the world,  
perhaps one among eight billion masks,  
facing hailstorms since the dawn of the day.

You recite this over and over again  
"I AM NOT THE ONLY ONE SUFFERING AND  
THIS IS A PHASE THAT SHALL PASS TOO"  
'cause baby, we are all silhouettes  
wreathed by the light around us,  
trailing the outline, concealing the dusk within.



**Poem by Ms. S. Abinaya, Second Year**

## Lines

As I was wandering around  
Waiting for my thoughts to drown  
I draw lines  
on an unusual surface  
With a peculiar pencil  
It was smooth and gentle  
It was colored scarlet,  
maroon, ruby and vermilion  
From being numb to having a feeling,  
a feeling of tranquility

I don't draw those lines now  
But I dream of them  
Of that wine red strand  
Free flowing,  
pouring with color  
Of having a feeling other than dazed  
Those past lines are yet to disappear  
I look at them and remember  
Of that unsettledness and iniquity  
and that the world isn't what it's viewed.

**Poem by Ms. S. Abinaya, Second Year**

## **Better enough yet?**

Crossed lines  
Matted like vines  
It has to rhyme  
Closed in a box, I'm

Eyebrows plucked  
Time ticks  
Has to be perfect  
It's way past six

Hands shiver  
Lips quiver  
It's wrong, it's all wrong  
For I couldn't deliver

Thoughts racing  
Vision blurred  
Am i better than them?  
Am i competent enough?

Everything made into a competition  
Making my own opposition  
Despair, desolate, despondent is what I feel  
Make me concealed

Since when is it bad to be average?  
Have to only be the best, it's a cage  
Cream of the coffee, I'm not  
It's the coffee that is sought

Watch me be the jack of all trades  
Master of none, but eager to learn.

## Poem by Krishnapriyaa MM, Second Year





**Art work & Clicks by Ms. Vaibavasri, Second Year**











## EDITORIAL TEAM

**Dr. K. Sathish Kumar**

**Dr. K. Jagannathan**

**Dr. D. Balaji**