



DEPARTMENT OF

**chemical^e
engineering**

PROUDLY PRESENTS...

Spark^{..}

**Edition 17
October '15**

From the Editor's desk,

We, the Chemical Engineers are extremely delighted to put forth the fourth and final edition of Spark, for the enthralling year 2015. As always, the newsletter reports on the various significant activities and achievements, along with other information you would love to know.

While the first section gives the comprehensive coverage of various happenings in the student professor environment, the latter section enlightens you with the student chapters' efforts – the IChE, ACE, and I-Cell. Finally, there is an article that'll surely interest you to keep even the corner of your mind awake.

It is really heart warming to see all the contributions and the Editorial Board appreciates the time and effort that have been devoted by the different contributors. Suggestions and criticisms to improve the newsletter content are always welcome.

The Chief Editor



EVERY LITTLE DROP COUNTS

BY MADHUMEETHA

One of the most important parameters for livelihood is water. Without water, I mean clean water one can't survive. A lot of guards and purifiers. A very interesting technological advancement in the same field has caught my attention. It is called a LIFE STRAW. Well, it is much better than a normal straw for slurping!! LIFE STRAW is an award winning technology that has been developed by Vesterguard, an International company aimed technological advancements have been coming up starting from the normal boiling and filtration to aqua- at improving the health conditions of the people. Basically, it is simple water bottle within which resides the straw that has the ability to filter any kind of impure water. It converts any microbiologically contaminated water safe to drink. It was introduced in 2005 simply as a medium to filter the water and offer cleaner water to areas that have been deeply affected by natural calamities. They function like refillable water bottles that can be used for any activity like sports, trekking etc. LIFE STRAW Mission uses a highly efficient method of fibers.

Clean water exits through tiny pores in the walls of the hollow fibers, but purification that requires no chemicals, batteries or moving parts. Water poured into the purifier moves down the tube, while being forced through narrow hollow bacteria, viruses, protozoa and other contaminants are trapped inside and are flushed out by backwashing. One can enjoy a clean drinking water through this technology. I wonder how even the smallest of the fiber membranes can actually help us survive everyday! It is indeed an amazing discovery to mankind.

Some of the salient features of this LIFE STRAW are

- Advanced ultra filtration membrane with a 0.02 micron pore size removes virtually all virus, bacteria and extra prefilter screens included are easy to change in campsite d protozoa
- Gravity powered water purification removes the need for chemical treatment.
- Included with drawstring stuff-sack allowing easy storage and carrying
- Easy-to-clean pre-filter and purification cartridge
- Reduces turbidity (muddiness)

LIFE STRAW is available online. I personally think clean water and good food is the only two parameters apart from clean air that should be given to every life form necessarily. This kind of advancement is leading the global scenario to a much neater, cleaner and environmental friendly cosmos.



A glimpse of the milestones reached

FACULTY CORNER

DR. V. JAIKUMAR

- Dr. V. Jaikumar, Associate Professor Published a paper titled on "Effect of Camphorquinone with 2, 2-Bis-[4-(2-hydroxy-3-methacryloxyprop-1-oxy) phenyl] propane in dental coating", *International Journal of ChemTech Research*, Vol. 8., Issue 6, 2015.
- Dr. V. Jaikumar, Associate Professor conducted Doctoral committee meeting for Mr. D. Kumar, Part Time Research Scholar after carrying out necessary corrections prescribed by the Indian and Foreign Examiners in the thesis.



DR. K. SATHISH KUMAR

Dr. K. Sathish kumar, Associate Professor, Shekar P, Associate Professor Gopikrishnan V and Radhakrishnan M Published a manuscript on "Antiproliferative activity of yellow pigment from forest soil streptomuces species SFA5 against breast cancer cell line MCF-7", *Bangladesh Journal of Pharmacology*, vol.10, pp.65-653,2015.

- Dr. K. Sathish kumar, Associate Professor and Dr. R. Anantharaj, Associate Professor, submitted a research project proposal titled on " **Advanced fabrication and design of 5 FU – Nanocomposite using genetic algorithm**" to DST under **Advanced Manufacturing Technologies – Technology Systems Development Programme (TSDP)**. Total amount in *Indian Rupee, 50,000/-* on 4/9/2015.
- Dr. K. Sathish kumar, Associate Professor and Dr. R. Anantharaj, Associate Professor, submitted a research project proposal titled on " **Ionic Liquids for Removal of EDC**" under the scheme of **Elsevier Green and Sustainable Chemistry Challenge in United Kingdom**. Total amount in *Indian Rupees 10,808,000/-* on 14/9/2015.
- Dr. K. Sathish kumar, Associate Professor conducted DC meeting for his research scholar Mr. J. Madhusudhanan for formation of Oral committee members.
- Dr. K. Sathish kumar, Associate Professor and Dr. R. Anantharaj, Associate Professor submitted proposal on the topic "**Waste water purification using deep eutectic solvent**" for Rs.14.8 Lakhs to **HCL corporate funding scheme**.

- **Dr. K. Sathish kumar**, Associate Professor and **Dr. R. Anantharaj**, Associate Professor submitted a proposal to **Green and Sustainable chemistry challenge** entered into semifinals. From 495 proposals, top 53 entries have been selected out of which one proposal is one among them.

DR. P. SENTHIL KUMAR



- **Dr. P. Senthil Kumar**, **Mr. A. Saravanan** and **Mr. Mugilan** published a research article titled "**Ultrasonic assisted activated biomass (fishtail palm Caryota urens seeds) for the sequestration of copper ions from the wastewater**" in an International journal titled *Research on Chemical Intermediates* (IF: 1.540).
- **Dr. P. Senthil Kumar**, Associate Professor received the appreciation certificate from **ResearchGate** for the most downloaded researcher on 04.08.2015.
- **Dr. P. Senthil Kumar**, **Mr. H. Ethiraj**, **Ms. Anitha Venkat**, **Ms. N. Deepika** and **Ms. S. Nivedha** published a research article titled "**Adsorption kinetic, equilibrium and thermodynamic investigations of Zn(II) and Ni(II) ions removal by poly(azomethinethioamide) resin with pendent chlorobenzylidene ring**" *Polish Journal of Chemical Technology*, Vol.17(3), pp. 29-38, 2015 (IF: 0.536).
- **Dr. P. Senthil Kumar**, Associate Professor inaugurated the cricket final match and the badminton semifinal match between SSN Team and Hindustan University in SSN Trophy 2015 on 28.08.2015.
- **Dr. P. Senthil Kumar**, Associate Professor received the **SSN Best Teacher Awards** (Chemical Engineering Department) on 10.09.2015.
- **Dr. P. Senthil Kumar**, Associate Professor and **Dr. K. Ramakrishnan**, Convener, organized the One Day National Workshop on "**Instrumental Methods of Analysis (IMA)**" on 22.09.2015.
- **Dr. P. Senthil Kumar**, Associate Professor Organized the **3rd One Day National Conference on "Clean Technology for Sustainable Environment (CTSE)"** on 25.09.2015.
- **Dr. P. Senthil Kumar's** full time research scholars **Mr. T. Arumugam** and **Mr. A. Saravanan**, gave the research seminar presentation for the Confirmation of his Ph.D. provisional registration.

- **Dr. P. Senthil Kumar**, Associate Professor was awarded with Elsevier for **Recognized Reviewer Status**.
- **Dr. P. Senthil Kumar**, A.S.L. Sai Deepthi, R. Bharani and G. Rakkesh published a research article titled "**Study of adsorption of Cu(II) ions from aqueous solution by surface-modified Eucalyptus globulus seeds in a fixed-bed column: experimental optimization and mathematical modeling**", *Research on Chemical Intermediates*, Volume 41, Issue 11 (2015) , Page 8681-8698. (IF: 1.221)
- **Dr. P. Senthil Kumar**, Associate Professor attended the RSC seminar on Experimental Methods in Chemistry organized by Madras University.

DR. D. Gnana Prakash

Dr. D. Gnana Prakash, Associate Professor attended two day Workshop on **Analytical Challenges for Chemical and Environmental Engineers** on 16-10-2015 and 17 - 10 -2015 organized by the Department of Chemical Engineering, School of Bio-Engineering, SRM University.



DR. B. AMBEDKAR

- **Dr. B. Ambedkar**, V. Nandhini, B. Suchitra, R. Surendiran and Dr. J. Dhanalakshmi presented a paper on "**Feasibilities of using Power Ultrasound and Microwave Treatment in Reducing CO₂ Capture Energy Demand**" *2nd International Conference on Science, Technology and Management (ICSTM 2015)*, at Delhi on 27.09.2015.
- **Dr. B. Ambedkar** Associate Professor, S. S. Judith Emilian Christy M.Tech. II year and Dr. R. Anantharaj Associate Professor, submitted a proposal on "**Experimental Investigation on Natural Coagulant for the Treatment of Turbid Water**", TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY, DOTE Campus on 28.09.2015.
- **Dr. B. Ambedkar** Associate Professor, Josephin Alex, M.Tech. II year and Dr. J. Dhanalakshmi, Associate Professor submitted a proposal on "**Feasibilities of Using Rice Husk Ash as Supplementary Cementitious Material: Experiments And Modeling**", TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY, DOTE Campus on 28.09.2015.

- **Dr. B. Ambedkar** delivered a talk on "Beneficiation of coal using high intensity high frequency ultrasound" in short term training course on "**Chemistry related problems in thermal stations**" sponsored by m/s. TANGEDCO and conducted by **A.C. TECH, Department of Chemical Engineering in Association with appadurai chair for power system during 29.09.2015 for TANGEDCO Engineers.**
- V. Nandhini, B. Suchitra R. Surendiran, J. Dhanalakshmi and **B. Ambedkar***, published a paper on "**Feasibilites of Using Power Ultrasound And Microwave Treatment in Reducing CO₂ Capture Energy Demand**" - *International Journal of Advanced Technology in Engineering and Science (ISSN 2348 - 7550)*, Volume 3, Issue 1, September 2015.

DR. J. DHANALAKSHMI

- **Dr. J. Dhanalakshmi Associate Professor**, Josephin Alex M.TECH II Year and Dr. B. Ambedkar, submitted a proposal on "**Feasibilities of Using Rice Husk Ash as Supplementary Cementitious Material: Experiments And Modeling**" TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY, DOTE Campus on 28.09.2015.
- **Dr. J. Dhanalakshmi Associate Professor** and Dr. B. Ambedkar Associate Professor, Submitted a Research Project Proposal titled as "**Potential Applications of Ionic Liquids in reducing CO₂ Capture Process Energy Demand**" to SSN Trust - Faculty Internal Funding on 28.08.2015.
- V. Nandhini, B. Suchitra R. Surendiran, **J. Dhanalakshmi** and B. Ambedkar*, published a paper on "**Feasibilites of Using Power Ultrasound And Microwave Treatment in Reducing CO₂ Capture Energy Demand**" - *International Journal of Advanced Technology in Engineering and Science (ISSN 2348 - 7550)*, Volume 3, Issue 1, September 2015.
- **Dr. J. Dhanalakshmi Associate Professor** and Dr. B. Ambedkar Associate Professor, received research grant of 4 Lakhs from SSN Trust for Research Project Proposal titled as "Potential Applications of Ionic Liquids in reducing CO₂ Capture Process Energy Demand".



DR. R. ANANTHARAJ

- **Dr. R. Anantharaj**, Dr. K.Sathish Kumar, Associate Professor and K.Ramakrishnan, Professor & Head . **Consultancy Project** received Rupees 2.5 Lakhs for "

Production of Acetate Derivatives using Ionic Liquids" from Sheenlac Paints Limited, No. 76 B, GKS Estates, Ambattur Industrial estate on 14.08.2015.

- **Dr. R. Anantharaj** and Dr. K. Sathish Kumar, Associate Professors submitted proposal on the topic **"Waste water purification using deep eutectic solvent"** for Rs.14.8 Lakhs to **HCL corporate funding scheme**.
- **R. Anantharaj**, Associate Professor and Dr. K. Sathish kumar, Associate Professor, submitted a research project proposal titled on **" Advanced fabrication and design of 5 FU – Nanocomposite using genetic algorithm"** to **DST under Advanced Manufacturing Technologies** – Technology Systems Development Programme (TSDP). Total amount in **Indian Rupee, 50,000/-** on 4/9/2015.
- **R. Anantharaj**, Associate Professor and Dr. K. Sathish kumar, Associate Professor, submitted a research project proposal titled on **" Ionic Liquids for Removal of EDC"** under the scheme of **Elsevier Green and Sustainable Chemistry Challenge in United Kingdom**. Total amount in **Indian Rupees 10,808,000/-** on 14/9/2015.
- **Dr. R. Anantharaj** and Dr. K. Sathish kumar, Associate Professors submitted a proposal to **Green and Sustainable chemistry challenge** entered into semifinals. From 495 proposals, top 53 entries have been selected out of which one proposal is one among them.

DR. N. VARAGUNAPANDIAN

- **Dr. N. Varagunapandian**, Dr. J. Dhanalakshmi and Dr. B. Ambedkar organized an **"One day National Workshop on COMSOL Multiphysics"** on 11 September 2015 at Department of Chemical Engineering, SSN College of Engineering.



- **Dr. N. Varagunapandian** going to South Africa for his Post Doctoral Research on Fuel Cell Modeling. Department of Chemical Engineering congratulates and thank him for valuable support rendered during his service. We wish him a prosperous future career.



DR. D. BALAJI

- **Dr. D. Balaji** and Dr. K. Sathish Kumar submitted a project proposal entitled **"PHOTOCATALYTIC DEGRADATION OF TEXTILE DYE HOUSE EFFLUENT USING METAL OXIDE CATALYST IN A FLUIDIZED BED REACTOR"** under SSN Faculty Internal Funding project scheme on 14.08.2015.

- **Dr. K. Ramakrishnan, Professor and Head** relieved from his duty on 30.10.2015. He served for SSN, right from the Chemical Engineering Department inception period to about 8 years. Department of Chemical Engineering congratulates and thank him for his worthwhile service. We wish him a Happy Retired Life.



WELCOME to NEW FACULTY



Dr. R. Parthiban

Joined as **Professor** on **30th October 2015**. He has over **20 years** of teaching experience and **2 ½ yrs** of industrial experience.

He received his **B.Tech Chemical Engineering** from **Coimbatore Institute of Technology**, Coimbatore, Bharathiar University during 1990 and **M.Tech Chemical Engineering Plant Design** from **Regional Engineering College**, Bharathidasan University during 1994. He received his **Ph.D in Studies on Tapered Fluidized Anaerobic Bio Reactor for the treatment of wastewater' from Central Leather Research Institute, Anna University Chennai in the year 2008**.

He has industrial experience of **2 years in SIV Industries Ltd** and around one year in Neycer (I) Ltd.

Prior to joining SSN, he was with Sri Venkateswara College of Engineering, (SVCE) Pennalur, Sriperumbudur Tk., from 1996 - 2015. He worked in various capacities as **Lecturer, Head of the Department, Vice Principal and Principal**. During his tenure at SVCE, he was instrumental in setting up of all the laboratories in Chemical Engineering department. Under his guidance the department has received "**IICHE Best Student Chapter Award**" for **seven times consecutively from 2006 to 2013**.

He received the **CTS - SVCE Best Faculty Award - 2014** for the outstanding performance for the academic year 2013- 14.

He has completed the AICTE - RPS project for an amount of Rs. **4,77,700/-** for the project "**Dynamic modeling and control of direct alcohol based PEM fuel cell**" during February 2013 - October 2015.

He has also received a grant of **Rs. 14,39,150/-** from **AICTE** under Modernization and Removal of Obsolescence Scheme (**MODROBS**) for the project "**Modernization of Heat Transfer Operations Laboratory**" during March 2012.

He is a Chartered Engineer (India) and Life Member of various professional bodies viz., The Institution of Engineers (India), Indian Institute of Chemical Engineers, The Indian Society for Technical Education, The Institution of Public Health Engineers, International Association of Engineers, Indian Water Works Association, Indian Institution of Plant Engineers, Energy & Fuel Users Association of India.

He has to his credits over **43 research publications in refereed international and national journals** and 10 papers in indexed conferences. He has also presented over 20 papers in national and international conferences.

He has authored **7 books and 2 book chapters**.

He is currently working in the area of **Convective Heat Transfer, Wastewater treatment and Fuel Cells**.

Department of Chemical Engineering Welcomes You!!!



STUDENT CORNER



Mugilan. R of third year presented a paper at MIT College of Engineering, Pune and won the best paper award.

He also won the Best Paper award at CTSE 2015 in SSN College of Engineering.

Adding to these, he also grabbed prizes in JETCHEM 2015 conducted at St.JOSEPH College of Engineering.



Siddarth ,a third year student has volunteered himself for the YRC blood camp that was held at SSN College of Engineering.

Adding to his name, along with Mugilan, he had won various prizes in JETCHEM .

He also won the third prize in the event chanakyas pitch in CHEMICZNA 2015.



Madhumeetha. B , a third year student won the first place in mono-acting at the SSN Intra cultural.



Suraj.S of third year won the second prize in get it right event at St.JOSEPH College of Engineering and also participated in St.JOSEPH MUN .

Ajith Kumar.E , Amirthalingam.G and Prakash.S of third year participated and grabbed the third prize in NSS DAY DRAMA.

Abhinaya of fourth year was an active member in the organising committee of exlog , a math based symposium conducted at SSN College of Engineering.



*Saravana Kumar.P and
Shreekanth.S.J of third year
won the second place in
Eupraxia's IPL bidding contest
conducted at SSN.*



CHEMICZNA -2K15



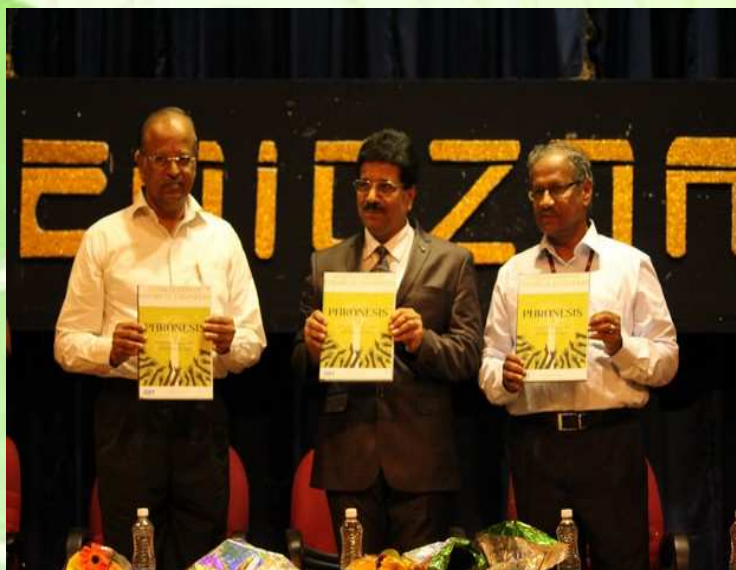
CHEMICZNA, an annual National Level Technical Symposium organized by the DEPARTMENT OF CHEMICAL ENGINEERING, SSN was conducted on the 5th of September 2015. Unlike the previous versions, this 2k15 model of chemiczna had an enterprising logo resembling a power button in green driving home the message that it's the time for the Eco-friendly mode to be switched on. The logo was designed by P.T.Mohan Kumar , a dynamic and a passionate designer from third year chemical engineering , SSN.

The event started off with the invocation song with the chief guest, honourable principal and the HOD of chemical engineering on the dais. The welcome address was delivered by DR .K . RAMAKRISHNAN, PROFESSOR AND HEAD, DEPARTMENT OF CHEMICAL ENGINEERING. He welcomed everyone on the dais and briefed about the department and its achievements. Then the traditional "Kuthu Vilakku " was lit by the chief guest , principal , HOD and the President of the chemical engineering department Mr. Praveen.



It was followed by the president's annual report for the academic year 2014-2015. The chief guest was Mr. SUDHEENDRA GOPAL KALWAD, a pioneer in the field of Chemical Engineering. He is currently the process engineer in DOW CHEMICALS INTERNATIONAL PVT LTD and has a profound experience covering all arenas in chemical engineering with a technical work experience for over 30 years. When invited to deliver his lecture, he addressed everyone with great eloquence and enthusiasm. He stressed on the need for a Chemical Engineer in various engineering sectors and also added on the agro based Chemical Industries. After the chief Guest's redoubtable lecture, the department magazine "PHRONESIS" was launched.





There were about 600 delegates from various colleges across India attending the inaugural function. Finally the inauguration was brought to an end with the official promotional video of Chemiczna 2k15 and the delegates proceeding to the department for participation in their registered events.

The theme this year, for the symposium was chosen to be **Green Industry**. Various events were organized under this theme. The technical events include **Paper Presentation, Poster Presentation, Working Model, Technical Quiz, Mystery Project and Chemical Entrepreneurship (Chanakya's Pitch)**. The non-technical events include **Treasure Hunt, Crazy Quest and Gaming**. There were two workshops which was held this year, **MATLAB** workshop and **COSMO-RS** Workshop. **CHEMICZNA 2015** saw participants from various colleges all over Tamil Nadu. Students from various other top colleges actively took part in the events. The symposium had 1500+ registrations for all the events put together this year. This is almost twice the amount of registrations we had last year. The newly added events this year were, **Chemical Entrepreneurship and the COSMO-RS workshop**.

For Paper presentation and Poster presentation, we had topics focused mainly on **Green industry and green energy**. We received more than 100 papers and 40 posters from various colleges (Each team consisted of maximum three members) and we selected the best 80 papers for the presentation.

For technical quiz, we had 5 challenging rounds with prelims before the finals. 52 teams participated in the technical quiz event.

For working model, we had innovative problem statements where 12 teams participated.

We introduced two new events namely Chemical entrepreneurship and Mystery project. For Mystery Project one should make a model on the spot where the required items will be provided. 23 teams participated in the event. In Chemical Entrepreneurship event, one should present the business idea of opening an Eco-friendly industry. 10 teams participated in this event.

In Non-technical events, we had entertaining events such as Crazy Quest, Gaming and Treasure Hunt. We had a very good turnout for the treasure hunt.

We had two workshops such as MATLAB and COSMO-RS. COSMO-RS is an advanced software which predicts the thermodynamic properties of the fluid. MATLAB is the most common mathematical tool used to solve most engineering problems. The workshops saw a cumulative registrations upwards of 300.

CHEMICAL ENGINEER'S

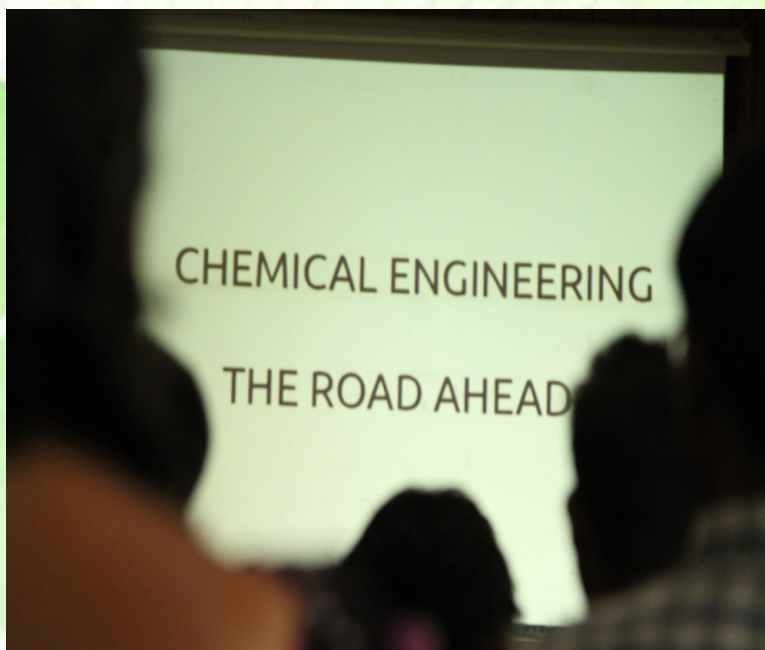
SSN STUDENT CHAPTERS:

***IICHE
&
I-CELL
ACTIVITIES AT A
GLANCE***

GUEST LECTURE

LIFE AFTER CHEMICAL ENGINEERING

By Eswar Subramanian



The third guest lecture of the academic year 2015-2016 was presided by Mr. Eswar Subramanian, SSNCE alumnus. Mr. Eswar works as an analyst in KPMG, a Risk Analysis Firm. His lecture focused on the opportunities available after four years of Chemical Engineering. He elucidated the importance of making a decision about our future at the 3rd Year undergraduate level.



Mr. Eswar began by bringing into our notice the various opportunities like Core jobs, IT jobs, Auditing and consulting, Analytics, Higher Studies in India and abroad, Interdisciplinary Programs, Minor Certification Courses, Bank jobs etc. He listed

out the various Public and Private sector core companies which recruit undergraduate chemical engineers. Also, he spoke about State and

Central Government jobs available in Pollution Control Boards, Factories and Explosives Inspectorate and in CSIR Institutions which was informative. He also made us understand the importance chemical engineering softwares like MATLAB, Aspen, COMSOL etc and threw light on certification courses like that of NPTEL .He gave us an insight about Masters in US, Europe and MBA abroad. Finally, he concluded by giving ideas to clear Aptitude test and Interview skills for placement-oriented students.



About 30 students attended the guest lecture and the session lasted for about 2 hours. The session was interactive because Mr Eswar could connect well with the audience. Also, the importance of GATE(Graduate Aptitude Test in Engineering) exam was understood by the students at the end of the session because Mr.Eswar claimed that it is the only way to Know where we stand after 4 years.

-Siddarth. S and Rohit Narayanan K.R

REPORT ON INDUSTRIAL VISIT TO ORCHID CHEMICALS & PHARMACEUTICALS LTD.

On the 9th September 2015, the Department of Chemical Engineering, SSN College of Engineering had organized an Industrial Visit for the students of third year who were accompanied by two of the faculties of the department, **Dr. K. Sathish Kumar and Dr. R. Anantharaj**. The visit was to the Orchid Chemicals & Pharmaceuticals Ltd., Thiruporur.

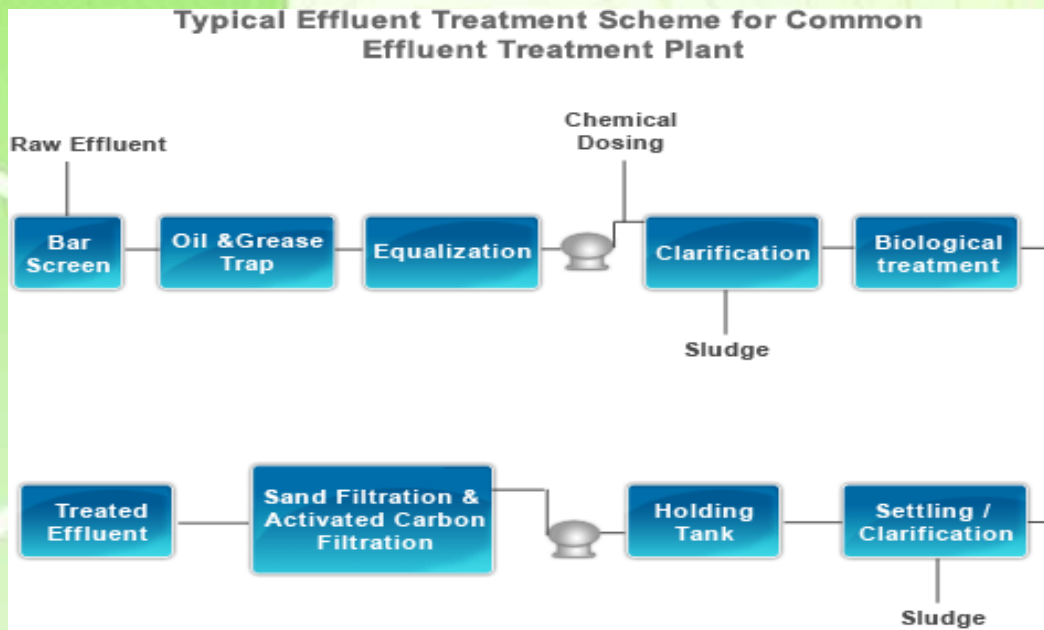
Established in 1992 as an export-oriented unit Orchid Chemicals & Pharmaceuticals Ltd. (Orchid) is a vertically integrated company spanning the entire pharmaceutical value chain from discovery to delivery with established credentials in research, manufacturing and marketing. They rank among the top 15 pharmaceutical companies in India and enjoy a multi-therapeutic presence across segments like anti-infectives, anti-inflammatory, central nervous system (CNS), cardio vascular segment (CVS), nutraceuticals and other oral and sterile products. Their pharmaceutical solutions include active pharmaceutical ingredients (API), finished dosage forms, new drug discovery (NDD), novel drug delivery systems (NDDS) and contract research and manufacturing services (CRAMS).

API manufacturing plant located at Alathur, south of Chennai is one of the largest integrated antibiotic manufacturing complexes in India and specializes in the manufacture of cephalosporin active pharmaceutical ingredients (APIs). With a capability to handle highly complex and hazardous reactions with utmost safety and efficiency, the plant's operations are backed by a full spectrum of utilities including a captive power generation plant, high technology solvent recovery facilities, sophisticated quality control equipment and a 'zero-discharge' environment friendly effluent treatment plant.

EFFLUENT TREATMENT PLANT:

The following are the three processes involved:

- Primary : Coagulation
- Secondary : Biological treatment
- Tertiary : Filtration and evaporation



The effluents collected in the collection tank are pumped to the buffer tank after passing through the screen chamber. Here all parameters are kept constant.

Then the effluent is passed on to the neutralization tank. Reduction of BOD (Biochemical oxygen demand) & COD (Chemical oxygen demand) takes place and after which it is passed on to primary clarifier.

After secondary treatment the effluents are sent for advanced treatments which are ultra filtration and reverse osmosis. The rejected water from the RO plant is sent to the MEE plant (Multiple effect evaporators) where the condensate water and concentrated water is obtained separately.

The concentrated water contains 35% concentration of salt. By means of a centrifuge and an agitated thin film drier, dry salt is obtained from the concentrated water. The dry salt is stored in storage shed and later sent to authorized landfills.



The Industrial visit to Orchid Chemicals & Pharmaceuticals Ltd. was an enriching experience for students in getting live exposure of Industrial processes which can help them in their internships and further career enhancements.

-S.Sri Sai Janani and Prapanchana K

ICELL STUDENT CHAPTER

3rd ONE DAY CONFERENCE ON RECENT TRENDS IN “CLEAN TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT(CTSE)”

The ICELL 3rd one day conference on recent trends in “Clean Technology for Sustainable Development(CTSE)” was held on 25th September 2015. **Dr. V. Jaikumar**, SSNCE gave the welcome address and **Dr. P. Senthil Kumar** gave a brief introduction about the research activities in Department of Chemical Engineering, SSNCE.

In the morning session a paper presentation contest was conducted. 30 teams from various colleges participated, the teams were separated into two batches based on the topic of the paper. The best paper award was given to two teams from each batch.



The afternoon session started off with “The Grey Matter”, a quiz competition on General Science. The quiz competition was conducted in two rounds, the first one being a preliminary round which was a paper and pen based round. The next round was the finals which was a presentation round. Seven teams qualified for the finals where three teams were eliminated in the first and second round. At the end, there was one runner and one winner.

The quiz competition was then followed by the valedictory function. Certificates were distributed to all the students who participated in the conference.

A short story

PATIENCE

BY MADHUMEETHA

"How much more longer?", "Has it come?", "Why is it taking such a long time?", "Hmmmmmm".

The most impatient phrases in the world. In this present generation, we can't wait for a bus more than 5 whole minutes, I am simply not going to talk about the waiting for booking tickets at sathyam. Why can't we wait for a while and become so angry, impatient, irritated leaving alone the need to punch the person trying to make a trash talk while waiting. There were times when people never even used such transport but yet made it on time. We are a bunch of very very "instant" noodle heads. Turning into now or never is the new trend. Throwing tantrums and getting things done. (Precisely my style)

Maybe just maybe If we are able to enjoy that wait. How good would it be? A beautiful smile and maintaining calm are the two tricks. Eventually you will attain a piece of mind to actually stop caring so much to overreact. We will attain a mental stability to prepare ourselves for the worst to come for each day. When the mind is calm, smile is the reflex. We forget our manners because we are in a hurry. How is it justified? Always greet people and thank them for their love and service, no matter what. Words can never be taken back. REMEMBER. And if it is the First impression, needless to say. So if you can't wait, walk away. Nobody is asking you to wait and become a grumpy cat. That temptation to save money and ultimately lose the piece of us to negative attitudes. The actions one gets involved when there is nothing to do, defines him. Stay happy even if nobody is watching. That's more important. Why so serious? Let's put a smile on that face.

"Oh god! My college bus hasn't come yet!" *grumpy cat face on*

EDITORIAL

STUDENTS:

Pavithra

Sri Sai Janani

Suraj Suresh

Siddarth

Madhumeetha

Rohit

Pawan Kumar

FACULTY:

Dr. K. Ramakrishnan

Dr. B. Ambedkar