DEPARTMENT OF

chemical engineering

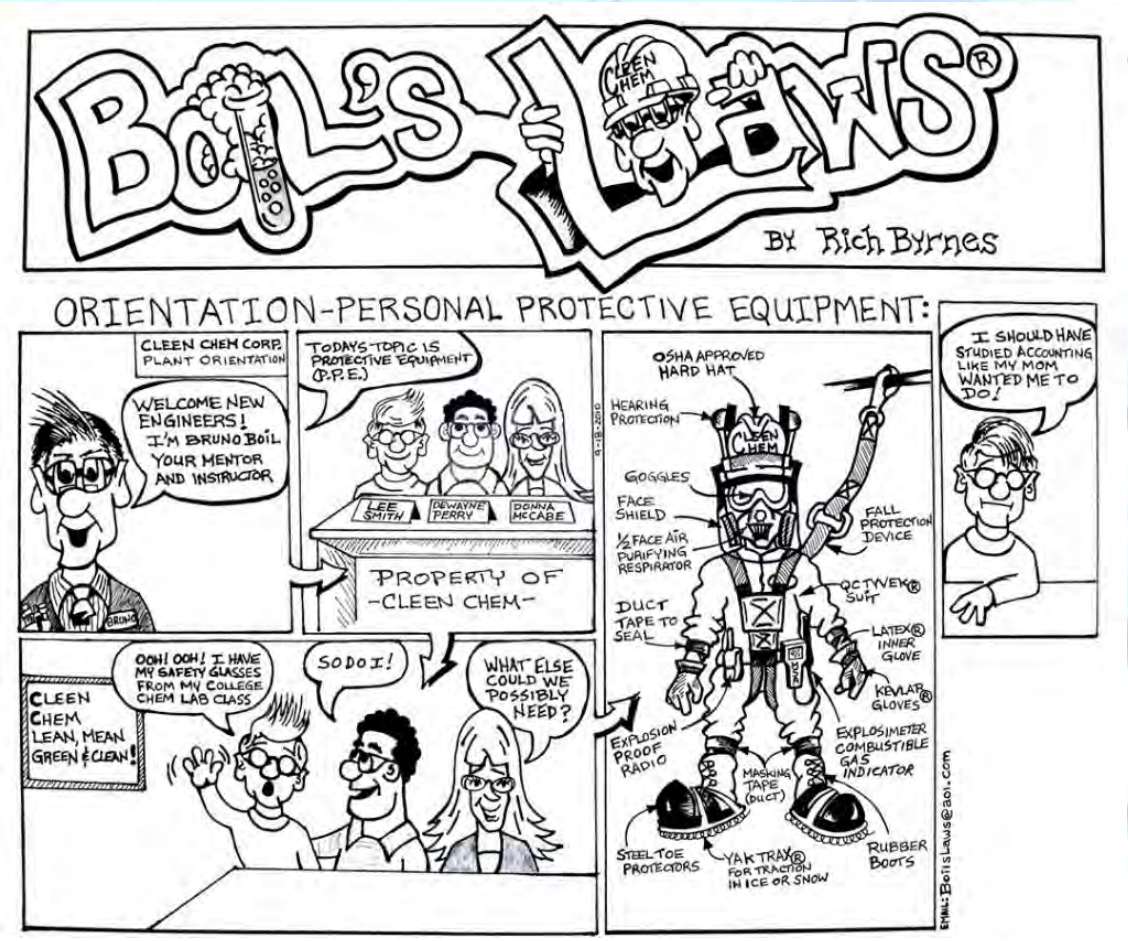
PROUDLY PRESENTS

Spark

EDITION 14
JANUARY 2015

From the Editors Desk,

Hola!!! We are yet again happy to welcome you all aboard the fledgling edition of Spark for the scintillating year 2015. SPARK is the newsletter of the Chemical Engineering Department which aims to bring forward the buzz from the department in the past few months. The edition demystifies the realms of Chemical Engineering and also provides insight to the latest technology adopted in the field. Hope our deeds would SPARK everyone's life!!!



CHEMOTION-A TIMELINE

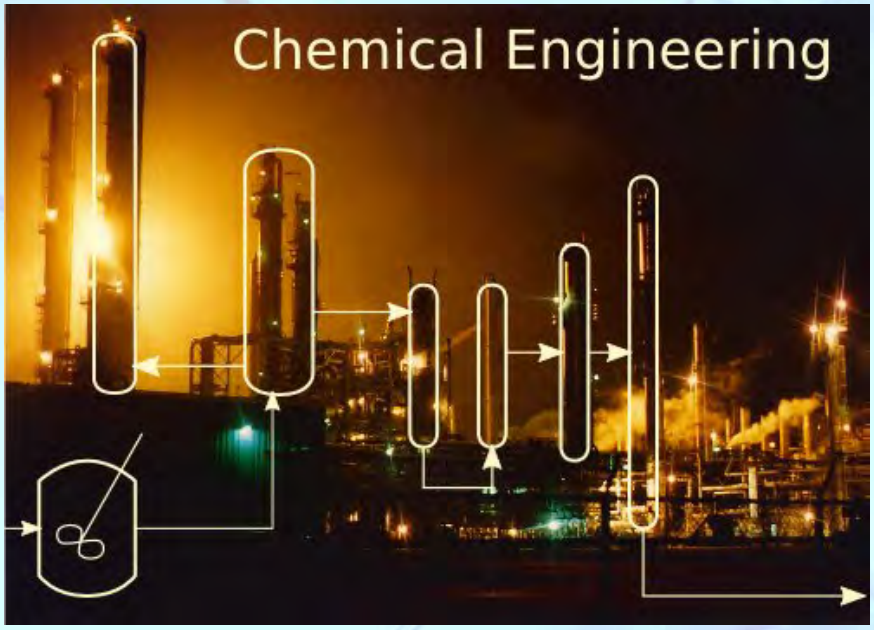
WHO IS A CHEMICAL ENGINEER???

In the early 19th century, little would the workers of a Soap manufacturing unit in Great Britain have prognosticated that their difficulty to produce a bar of soap using a batch process would call for probably the biggest step in a wave of change termed the Industrial Revolution and the need for largest quantities and better quality due to the growing needs in the market and the demand for quality increasing, it was time that a new field of specialists landed in the field of industrialization, Chemical Engineers.

It would take half a century more to recognize Chemical Engineering as a certified course, first established in the year 1887 by Sir George E Davis, widely regarded as the first Chemical Engineer at the University of Manchester. Early programs simply married industrial chemistry with mechanical engineering. For the profession to be born, proponents needed to clearly define their activity as something more than a mishmash of chemistry and engineering. To emphasize their identity and thus help the growth of their profession, chemical engineers formed the American Institute of Chemical Engineers in 1908. For the other established branches of engineering, there were ready associations in the mind of the common man: Mechanical Engineering meant machines, Electrical Engineering meant circuitry, and Civil Engineering meant structures, so chemical engineering was symbolized as chemicals production.

The two main aspects that Chemical Engineers deal with in an industry are that of the Unit Operations and the Unit Processes. The concept of Unit operations was developed to emphasize the underlying unity among seemingly different operations. For example, the principles are the same whether one is concerned about separating alcohol from water in a fermenter, or separating gasoline from crude oil in a refinery, therefore such separation processes can be studied together as a unit operation (in this case called distillation). In the early part of the last century, a parallel concept called Unit Processes was used to classify reactive processes. Thus oxidations, reductions, alkylation, etc. formed separate unit processes and were studied as such. Gradually however, the subject of chemical reaction engineering has largely replaced the unit process concept. This subject

looks at the design and operation of chemical reactors, knowledge of characteristics such as rate behavior, thermodynamics, etc. The emergence of chemical reaction engineering as a discipline truly signaled the severance of the connection between chemical engineering to industrial chemistry, and served to cement the truly unique character of this discipline.



Today, this field expands across a wide range of fields and deals with branches of Engineering such as petrochemical, pharmaceutical, biotechnology, polymer and renewable energy, polymer technology etc. Chemical Engineers are recruited in Industries and Research labs all around the world to answer both the environmental and commercial needs and turns out the richest man in our country is a Chemical Engineer. It provides its takers an opportunity to branch into several fields and even today, manages to puzzle one with the question “Who is a Chemical Engineer?” For those who don’t know, they still search for an answer and for those who do, they are proud to call themselves so.

FACULTY BUZZ

DR·P·SENTHIL KUMAR

- **Dr.P.Senthil Kumar** and his research scholar Mr. G. Manikandan **published** a paper titled "Comparison of Biodiesel Production from Macro and Micro Algae" in **"International Journal of ChemTech Research", Vol.6, IssueNo.9, pp.4143-4147, 2014; (IF:0.3).**

- **Dr.P.Senthil Kumar** and his research scholar Mr. T. Sivakumar **published** a paper titled "Ultrasound assisted saccharification of saw dust for the production of bioethanol" in **"International Journal of ChemTech Research",Vol.6, Issue No.9, pp. 4386-4390, 2014; (IF: 0.3).**

- **Dr.P.Senthil Kumar** and **Dr. K. Sathish Kumar** coordinators and **Dr. K. Ramakrishnan**, Professor and Head of the Department (Convener) organized an one day **National Conference** on **'Recent Trends in Clean Technology for Sustainable Environment (CTSE)**' on 5.12.2014.

- Attended **one week Training Programme** on **Nanomaterials** at **Sri Ramakrishna College of engineering, Coimbatore** from 15.12.14 to 19.12.14.

- Received the **overall best bowler award** in **DABC-SSN Cricket Tournament, on 20-12-2014**.

- **Dr.P.Senthil Kumar** and passed out Chemical Engineering Students Mr. Centhil and Ms. Kameshwari and 1st Year M.Tech Environmental Science & Technology students Ms. V. Durga Kalaivani and Ms. K. Grace Pavithra **published a paper** titled "Experimental study on parameter estimation and mechanism for the removal of turbidity from groundwater and synthetic water using Moringa oleifera seed powder" in **Desalination and Water Treatment Journal, doi: 10.1080/19443994.2014.1003977 2014, (IF: 0.993).**

- **Dr.P.Senthil Kumar** and passed out Chemical Engineering Students Ms. A.S.L. Sai Deepthi, R. Bharani and Mr. G. Rakkesh **published** a paper 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" in "**Research on Chemical Intermediates**", 2014, DOI 10.1007/s11164-015-1921-9 **(IF: 1.540).**

- **Dr.P.Senthil Kumar published** a paper titled "Adsorptive separation of phenol from aqueous solution using nano zero-valent iron impregnated cashew nut shell" in "**International Journal of Pharma and Bio Sciences", 2014,vol, 6, 129-140 (IF: 2.958)**

- **Dr.P.Senthil Kumar** and **Dr. K. Ramakrishnan**, Professor & Head of Department along with the Chemical Engineering Students Mr. C. Prabakaran and Mr. M. Bharathikumar **published** a paper titled "Conversion of waste plastics into low-emissive hydrocarbon fuels through catalytic depolymerisation in a new laboratory scale batch reactor" in an international journal titled "**International Journal of Energy and Environmental Engineering**",2014, DOI 10.1007/s40095-015-0167-z **(Springer).**

- **Dr.P.Senthil Kumar published** a paper titled "Adsorption of copper ions onto nano scale zero-valent iron impregnated cashew nut shell" in an international journal titled "Desalination and Water Treatment", 2014, 1-16 (IF: 0.993).

- **Dr.P.Senthil Kumar's** paper titled "Adsorption of an anionic dye onto native and chemically modified agricultural waste" was accepted in "Environmental Engineering and Management Journal", 2014, (IF: 1.258).

DR·K·SATHISH KUMAR

- Dr.K.Satish Kumar, Muthulingam Seenuvasan, Madhava Anil Kumar, Jeyaraj Iyyapan, and John rini Gnana Suganthi**, published** a paper on "Response surface estimation and canonical quantification for pectin degrading Fe_3O_4-SiO_2 nanobiocatalyst fabrication", in **International Journal of ChemTech Research, 7, pp.3618-3627,Vol.6, 2014.**

- **Dr. K. Sathish Kumar**, Monica Thukkaram, Soundarya Sitaram and Guruprakash Subbiahdoss, **published** a paper on "Antibacterial efficay of Iron oxide nanoparticles against biofilms on different biomaterial surfaces" in **International journal of biomaterials, Volume 2014, Article ID 716080.**

- **Dr. K. Sathish Kumar,** Muthulingam Seenuvasan, Madhava Anil Kumar, Jeyaraj Iyyapan, John rini Gnana Suganthi, **published** research article on "Stastical Analysis on stress induced lipid accumulation along with the major cell components of chorlella species", in **International Journal of ChemTech Research, pp.4186-4192,Vol.6, 2014.**

- **Dr.P.Senthil Kumar** and **Dr. K. Sathish Kumar** coordinators and **Dr. K. Ramakrishnan**, Professor and Head of the Department (Convener) organized an one day **National Conference** on **'Recent Trends in Clean Technology for Sustainable Environment (CTSE)**' on 5.12.2014.

- **Dr. K. Sathish Kumar** attended **one week Training Programme** on **Nanomaterials at Sri Ramakrishna College of engineering, Coimbatore** from 15.12.14 to 19.12.14.

- **Dr. K. Sathish Kumar** s**ubmitted** a research Proposal to the **Department of Biotechnology** (DBT), Govt. of India, New Delhi entitled "Therapeutic potential of bioactive components of Streptomyces species from Forest Niche effective against Multi Drug Resistant Pathogens", for a fund about 14 Lakhs.

DR·B·AMBEDKAR

- **Submitted a project proposal** on "Ultrasonically Enhanced Coal De-Sulfurization: Experiments and Modeling" to **DST** under **SERB Fast Track Scheme for Young Scientist Award** on 11-12-2014**.**

- **Dr.B. Ambedkar acted** as **Jury Member** for Oral Presentation during 1st One **Day National Conference on Recent Trends in "Clean Technology** for Sustainable Environment" (CTSE) on 05-12-15**.**

- **Dr.B.Ambedkar** made a **presentation** on Research Road Map "Re-refining of Lubricating Oil Waste Using Vacuum-Assisted Microwave Treatment: Modeling and Experiments" during **Energy Group Meeting** at **SSNCE on 03-01-15**.

- **Dr.B.Ambedkar and Dr. K. Ramakrishnan**, Professor and Head of the Department (Convener) **o**rganized a **One Day National Workshop on "Introduction to Computational Fluid Dynamics (CFD)**" and made **a presentation** on "CFD's Potential Applications" on 9.1.2015.

DR·C·RAVIKUMAR

- Attended the **Energy Group Meet** and made **a project proposal presentation** on 'Experimental Investigation of Heat Transfer Enhancement Using Stable Nanofluids as Coolant for Automobile Radiators' on 10.12.2014.

- **Dr. C. Ravikumar**, Dr. D. Gnanaprakasam and II Year Chemical engineering students visited Padmadevi Sugar mills on 08-01-2015.

- **Dr. C. Ravikumar**, Dr. M.Subramanian and II Year Chemical engineering students visited Madras Fertilizers Limited on 19-01-2015.

DR·A·SEENIVASAN

- **Attended** one day workshop on "Recent Advances in Biological Science at Abdur Rehman University on 7.11.2014.

- **Dr. A. Seenivasan a**ttended FDP on Application of Thermodynamics concepts on Modern Separation Process at I.I.T. Madras from 24 t0 28, Nov 2014.

- **Dr. A. Seenivasan a**long with **Dr. D. Gnana Prakash**, Associate Professors, **Dr. K. Ramakrishnan**, Professor and Head and final year students Mr. Sankaranarayanan, Ayyakudi Ravichandran, Mr. Vignesh Peranamallur Rajan, Pritham Velamur Aravind presented a paper titled of "Characterization of terephthalic acid monomer recycled from post-consumer PET polymer bottles" in **Macromolecular Symposia**, Kottayum, **Kerala** on 11-13 October, 2014**.**

DR·D·GNANAPRAKASH

- Along with D. Manikandan, and N. Nagendra Gandhi, **published** a research article on " A rapid and green route to synthesis of silver nanoparticles from Plectranthus Barbatus (Coleus Forskohlii) root extract for antimicrobial activity", in **International Journal of ChemTech Research, Vol. 6, No. 9, Page No. 4391 – 4396, 2014, ISSN: 0974-4290, IF:0.3.**

- **Dr.D.Gnanaprakash attended** a guest lecture at Hindustan University on "Hydrodynamic Cavitation for Process Intensification, Opportunities and Limitations" by Dr. Gogate, Institute of Chemical Technology, Mumbai, India organized by **Elsevier and Hindustan University** on 10.12.2014.

- **Dr.D.Gnanaprakash attended** a talk at **IGCAR** on "Atomic Energy - Challenges and Opportunities" by Dr. M. Sai baba, AD, Resource Management Group, IGCAR and also the valedictory function for the program "CONCEPT" organized by **IICHE and IGCAR** on 12.12.2014.

- **Dr.D.Gnanaprakash delivered** a lecture on "Extraction" in the faculty development program "Mass Transfer - II" organized by **Anna University** and **Department of Chemical Engineering, St. Joseph's College of Engineering** on 15.12.2014.

- **Dr.D.Gnanaprakash a**long with the Biomedical staff **Dr. R. Subashini** and students Ms.S. Sruthi, Ms. S. Santhini and Ms. P. Sindhuja **published** a paper titled "Biosynthesis of Silver Nanoparticles using Garcinia mangostana fruit extract and their antibacterial, antioxidant activity" in "International Journal of Current Microbiology and Applied Science", **Int.J.Curr.Microbiol.App.Sci (2015) 4(1) 944-952.**

MRS·R·PUSHPALATHA

- **Attended** one week **FDP** on Thermodynamics conducted at **AC Tech. Anna University,** Chennai from 27.11.2014 to 4.12.2014.

- **Mrs. R. Pushpalatha gave** a guest lecture on Adsorption in the FDP conducted by St. Joseph's Engineering College on 11.12.2014.

- **Mrs. R. Pushpalatha organized** an **one day guest lecture** given by our alumnus. Mr. J. Suresh Kumar gave a lecture on **'Excel and Visual BASIC for Chemical Engineers'** on 21.1.2015 at **SSNCE**.

DR·M·SUBRAMANIAN

- Along with students of M.E. (Energy Engineering, 2nd year - Sivaram P. M., Gowdhaman N., and Ebin Davis D. Y.) **presented** a paper titled "Carbon Footprint Analysis of an Educational Institution" in the "International Conference on Sustainable Energy Resources, Materials and Technologies (ISERMAT-2015), 08-09 January 2015, organized by Department of Mechanical Engineering, SSN College of Engineering, Chennai.

- **Dr.M.Subramanian and Dr.A.Seenivasan** conducted three days training programme on **'MATLAB and Simulink'** at SSNCE from 05-02-15 to 07-02-15. A total of 13 **external participants** from all over India and 23 internal Chemical engineering students have actively participated.

DR·K·P·GOPINATH

- **Acted** as **Jury Member** for Oral Presentation during 1st **One Day National Conference** on **Recent Trends in "Clean Technology for Sustainable Environment**" (CTSE)**.**

- **Dr.K.P. Gopinath** attended the **Energy Group Meet** and made **a project proposal presentation** on **Algae Bio- Diesel** on 10.12.2014

MR· KILARU HARSHA VARDHAN

- Attended Anna University sponsored Faculty Development Programme (FDP) on Mass Transfer at St.Joseph's College of Engineering during 08.12.2014 to 15.12.2014.

DR· K· RAMAKRISHNAN,HOD

- Visited **Chemical Lab**. at **SIT. Tumkur** to know about the working of super critical extractor and Pyrolyser for plastic waste for a research proposal on 27.12.2014.

- **Dr.K.Ramakrishnan** along with Mr. Sankaranarayanan A R., Mr. Vignesh, P R., Dr. A. Seenivasan, Associate Professor, and Dr. D.Gnana Prakash**.** Associate Professor **submitted** a **book chapter** titled " Studies on Chemical Recycling of Poly (ethylene terephthalate) Waste to Recover Terephthalic Acid - A Comparison of Sonochemical and Conventional Alkali Decomposition Method" in "**Recent advances in polymer processing and characterization**", APPLE Academics on 22 Jan 2015

- **Dr.K.Ramakrishnan participated in a meeting** convened by **IIChE** at **Anna University**, to discuss about the '**Present Day Chemical Engineering Education status and essential improvements needed for better placement'** on 24.1.2015.

- **Dr.P.Senthil Kumar** and **Dr. K. Sathish Kumar** coordinators and **Dr. K. Ramakrishnan**, Professor and Head of the Department (Convener) organized an one day **National Conference** on **'Recent Trends in Clean Technology for Sustainable Environment (CTSE)**' on 5.12.2014.
- Dr. K. Ramakrishnan, Dr.K.P. Gopinath, Dr.Ravikumar attended the Energy Group Meet and made a project proposal presentations on 10.12.2014.

SNEAK-PEEK:

THE INDIAN INSTITUE OF CHEMICAL ENGINEERS

SSN STUDENT CHAPTER

IIChE Guest Lecture Series – Guest Lecture on Environmental Awareness by Shri Arun Krishnamurthy

Shri Arun Krishnamurthy, founder, **Environmentalist Foundation of India**, delivered a guest lecture on Environmental Awareness on the 5th of February, in the Chemical Engineering Department Seminar Hall. He addressed the present day issues on how the flora and fauna in India face threat by highlighting a few specific examples that really had an impact in the audience's hearts. EFI does periodical lake clean ups and offered us the option of volunteering for this cause. He enlightened us on how, as Chemical Engineers, we could prove to be as a resource to the EFI and how much we could help improve the environment!

Workshop on Excel and Visual Basic

A workshop on the utilities of Excel and Visual Basic for problem solving, arranged by Mrs. R. Pushpalatha, Associate Professor and was conducted by Mr. Suresh Kumar Jayaraman, currently pursuing his PhD in Oklahoma State University. Mr. Suresh is our renowned alumnus and volunteered to give an exposure to the students on the utilities of the software available in almost all computers. The knowledge of the same will be very helpful for students pursuing higher studies.

It was a one-day workshop conducted on the 21st of January 2015, where he started off with basics of Excel. He taught us how to plot graphs and decipher equations and the coefficient of correlation from it. He gave examples from chemical engineering to highlight the importance of the tools and its relevance to our field. He also introduced the students to components like solver and Visual Basic.

The workshop proved to be an enriching experience for all those who attended it. Over 50 students from both third year and second year were present in the seminar hall for the workshop which was truly beneficial. It also proved to be a platform which gave the students the forum to interact with our senior to get helps and tips regarding higher studies abroad.

REPORT ON THE INDUSTRIAL VISIT TO PADMADEVI SUGAR MILLS LIMITED DATED 08·01·2015

The second year chemical engineering batch was on its first industrial visit to PADMADEVI SUGAR MILLS LIMITED on 08th of January located in Palur (chengalpet) , under the guidance of our respected faculty members D**r. C. Ravikumar and Dr. D. Gnanaprakasam.** Bundles of sugarcane were sent into a mechanical crusher/separator which extracted the sugarcane juice and leaving the bagasse as the residue. The sugarcane juice was mixed with water , boiled and sent into a clarifier. The mother liquor obtained was fed into a crystallizer which gives the final product. A small amount of sulphur was added as a coloring agent. In addition to sugar manufacturing there was a power generating unit producing power by burning the bagasse left. The power generated was partly used by the factory itself and rest was supplied to TNEB. Thus the visit was very successful in helping the students to gain knowledge about various unit operation processes and power recovery.

REPORT ON INDUSTRIAL VISIT TO MADRAS FERTILIZERS LIMITED

On the 19th January 2015, the department of chemical engineering, SSN College of engineering had organized an industrial visit to **Madras Fertilizers Limited** (MFL) Manali. The students of second year who were accompanied by two of the faculties of the department. MFL is a Public Sector Undertaking company in India under administrative control of the Department of Fertilizers, Ministry of Chemicals and Fertilizers. MFL consists of production plants, Ammonia, Urea in single streams and NPK in three streams, viz. NPK A Train, B Train and C Train. Utilities Plant is the service plant supplying treated water, cooling water, off-site steam, instrument air, captive power and emergency power. The feedstock for Ammonia is Naphtha and it is being supplied by the neighboring M/s Chennai Petroleum Corporation Limited (CPCL). The company is well equipped with tertiary treatment plant, reverse osmosis plant. Effluent treatment systems, Hydrolyser Stripper for treating Ammonia/Urea effluents and Effluent Treatment Plant for liquid effluents from NPK Plants, are in place as part of environment protection / pollution control.

The industrial visit to Madras Fertilizers Limited was an enriching experience for students in getting live exposure of manufacturing which can help them in their internships and further career enhancements.

REPORT ON THE INDUSTRIAL VISIT TO **SRISASTHA PAPER MILLS LIMITED** DATED 03·02·2015

The second year chemical engineering batch was on its third industrial visit to **Sastha Paper mills** limited on 3rd of February located in Kachipuram under the guidance of our respected faculty members **Dr.A. Seenivasan and Mr.Rajasekhar.** The Paper manufacturing unit was basically a recycling plant. Waste paper covers ,cardboards and other paper wastes were the main raw materials used to make craft papers. The raw materials were fed through the conveyor and sent to a series of separators to remove the unwanted waste thereby extracting the PULP. Now the pulp forms the raw material to manufacture new craft papers. The final product (as shown in fig) was brown and was mainly supplied to various packing industries. The plant also had a small manufacturing unit which was built first producing the same product. The visit was surely worth the time as it gave the students a wide practical knowledge on manufacturing as well as recycling processes .

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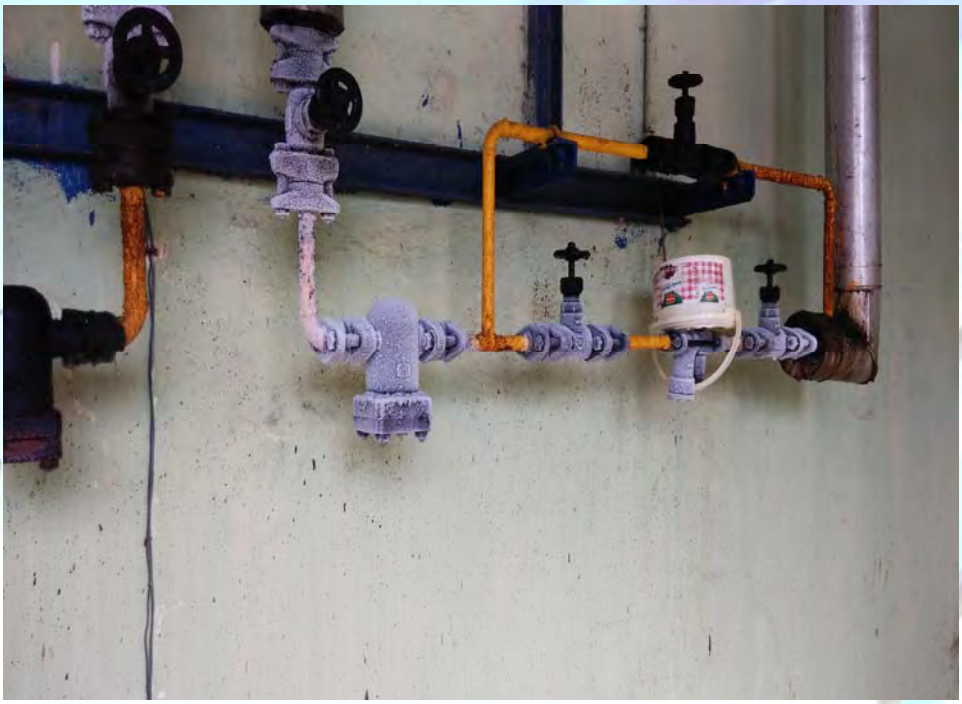
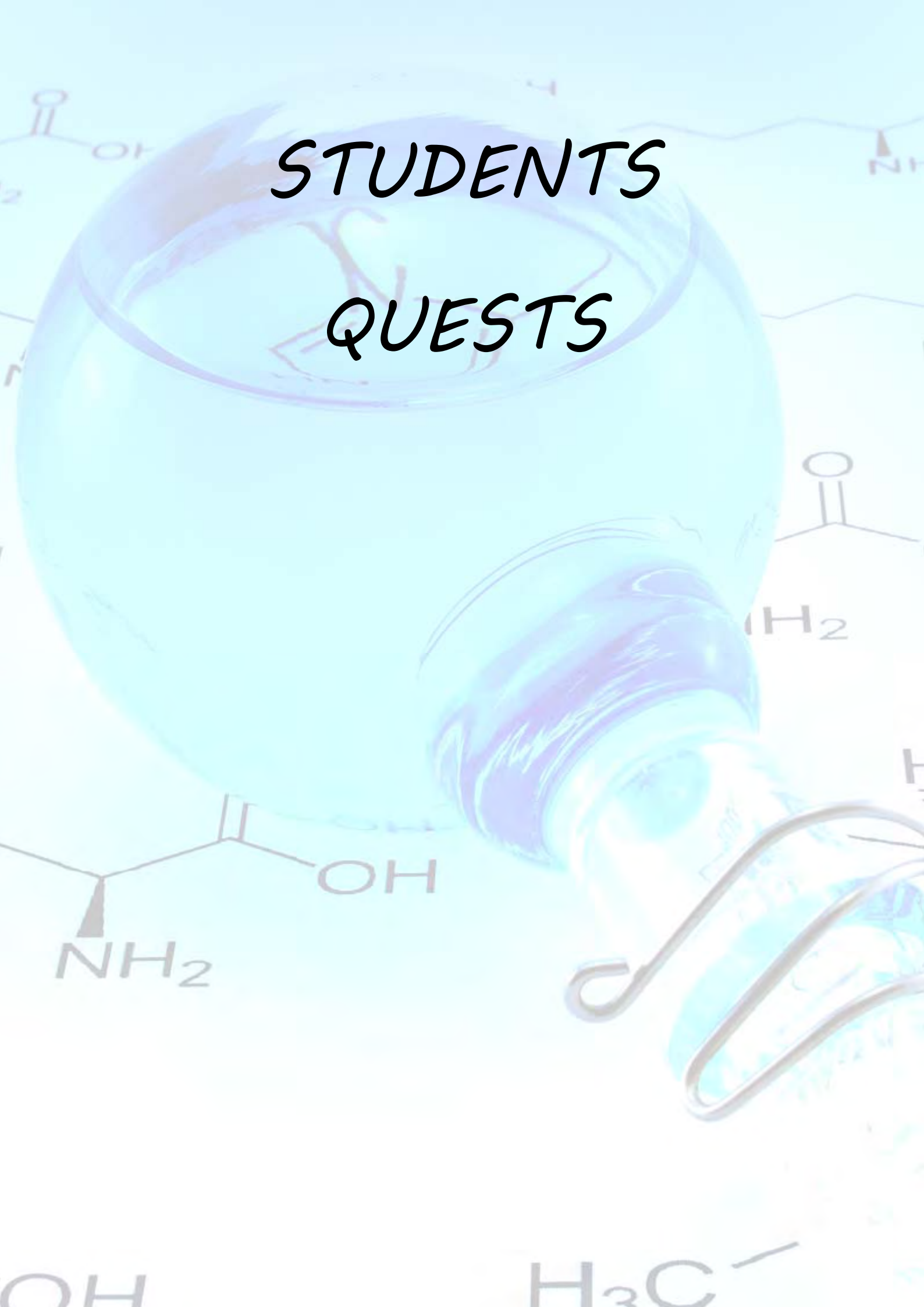
INDUSTRIAL VISIT TO HATSUN ICE-CREAM MANUFACTURING UNIT

On the 29th of January 2015, the third year students of the department of chemical engineering visited the Hatsun Ice cream manufacturing unit as a part of **the IICHE Student Chapter** iniative, located at the keeranur district Redhills Chennai. We were made to assemble at the unit's safety point lounge, where we were given the important safety instructions to be followed in the company premises. Each one of us where given a safety helmet and freeze free goggles. The entire industry is broadly classified into four parts namely Milk procurement, Processing, Distribution and marketing and logistics. We acquired information about processes like milk pasteurization, freezing units and its functioning, shaping of ice creams etc. Storage units are maintained at a temperature of -24 degrees. The most important operation is the milk procurement, based on the quality and number of liters poured by the farmer, his or her total income is calculated. Each farmer here, is given the information about the quantity of **fat** and **SNF%** with a unique farmer code. Farmers and their produce data base are managed through a state –of – the art computer software system. The milk procurement is done through 800 different rural routes. The milk once procured is then brought to the chilling center through cooling vehicles. It's then sent for different chemical and biochemical processing followed for pasteurization. The pastured milk is directed to the freezing units for solidification and additives are added for flavor and texture. The Hatsun Ice creams are running with different brand names like **Arokiya, Arun, Ibaco**. The dairy ingredients and additives are exported from 38 countries like America, Middle East and New Zealand. Apart from the production the company has a strong logistics and marketing technologies. Quality is of the highest priorities at hatsun , it holds various Quality standard certifications including the prestigious ISO 9001 &ISO22000.The Arun ice creams is the largest selling ice creams in South India. The theoretical session with HR and staff, gave us information about the company's history and growth rate. We cleared all our doubts regarding production and scope of this industries with respective to chemical engineering. The visit ended on an optimistic note. It was truly and delightful experience for us and this industrial experience is a must for every engineering graduate to keep him updated on the existing technologies and ideas used in the contemporary industries.



STUDENTS

QUESTS



STUDENT ACHIEVEMENTS

Visvesh's Sports achievments:

1. **Won** the inter-zone tennis third time in a row
2. **Selected** in the **Anna Universtiy team.**
3. **Won** bronze medallist in South zone university tournament.
4. **Qualified** for finals in Chief Minister's Trophy representing Kancheepuram.

Raksha Mahalinkam of third year **won** the **first place** in Classical Solo Singing at SAARANG'15 organized by IIT Madras.

S. Nijanthan of third year presented a paper titled **"Production of Biopolymer from waste water"** at Madras Institute of Technology

A. Anusuya, A.V.R Sunithra and C. Niveda of third year had won the third place in paper presentation at ***TECHNOVATION 2015*** organized by **Coimbatore Institute of Technology.**

A. Anusuya, A.V.R Sunithra and C. Niveda of third year had won the second place in paper presentation conducted by SAASTRA'15, an event organized IIT Madras. Title: "**Preparation of Mn-Zn Ferrite nanomaterial"**

S. Suraj of second year won the third place in Quiz Whiz at ***TECHNOVATION 2015*** conducted by Coimbatore Institute of Technology

T. Venkatraman and Zaheer Ahamed of third year had won the second place in paper presentation at ***ELECTOPLAST'15*** organized by Madras Institute of Technology. Title: **EVA Composites as encapsulants for photovoltaic cell (PC)**

WINTER TRAINING'14

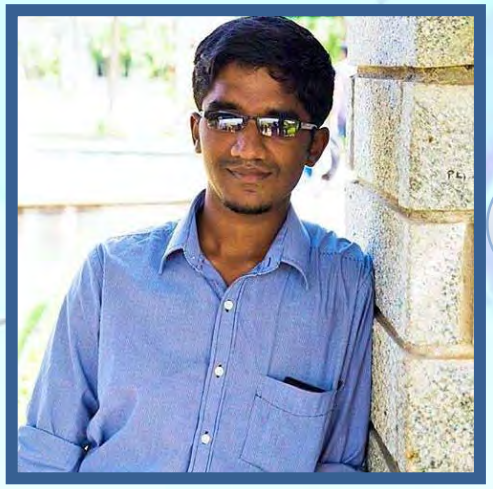
T. Venkatraman, V. Praveen Kumar and R. Ayyappan of third year underwent training on Nuclear chemical Engineering at IGCAR, Kalpakkam from 1st to 12th Dec'14.Ayyappan won the first place in the quiz program conducted as a part of the training. He was presented with the N.Srinivasan Memorial Award for the same.

K.Gowtham, S.Vishvesh and T. Pradeep Kumar of third year underwent training on Process Instrumentation and Control involved in the manufacture of SBA and MEK at CETEX Petrochemicals Limited.

K. Gowtham and T. Pradeep Kumar of third year underwent training at **Orchid Chemicals and Pharmaceuticals.**

Sahana, Abhinav of second year and Neeha Dev of third year underwent training at CPCL, Manali.

R. Sundaram Bhardwaj of third year did an internship at CLRI in the month of December'14. He worked on Bio-fuels and Activated Sludge process.



Yashwanth of third year worked as an intern at Coromandel International Ankleshwar plant during the month of December'14

M. Mathi Vathani of third year underwent training on Ethanol Production from molasses at Salem Co-operative Sugar mills.

Varsha Nathan, S.Sri Sai Janani, M.Sharmada, S.Suraj, R.Pavithra underwent training on Process involved in the production of Active Pharmaceutical Ingredient at Shasun Research Centre during the month of Dec'14.

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V.Sruthi of second year underwent training at SIGMA FREUDENBERG Pvt. Ltd., Punjab from 8th to 19th December'14

S.Siddarth of second year underwent training at Indian Oil Lube Plant during 8-13 Dec'14

Anthony Aravind.K of second year underwent training at NDDP, BARC facilities, Kalpakkam from 22nd to 31st December '14.

CHEMWARES....

CHEMICAL ENGINEERING+SOFTWARES

The Chemical Engineers not only have hard core on-field monitoring to do, the advent of software has tremendously helped in all aspects. Both in the industry and in research, knowledge of software is essential. This corner aims at introducing all such software that would prove helpful for this field.

Essential Software: MS-Excel

MS-Excel does more than just spreadsheets. In fact, Excel has components that have built-in formulae for statistics, finance and other calculations. These components enable problem solving much more efficient considering chemical engineering applications.

Charts/Graphs

Microsoft Excel is known by many to be an efficient way of creating charts and graphs. The user can create charts and graphs ranging from bar and column charts to scatter charts and even stock graphs. When the underlying data are changed, the chart changes also without any additional effort from the user. In addition, users can change chart types with ease also. The user only has to click twice, and the chart is changed without adjusting the underlying data.

Formulas

Because it is innately spreadsheet software, Excel has many in-built formulas. The types of formulas readily available range from simple calculations to statistical formulas to complex engineering calculations. For example, psychology students often must perform Z-tests and standard deviations on sets of data. The formulas for these calculations are in Excel and do not require the student to perform numerous steps to arrive at a solution. The built-in formulas save users hours in calculation time.

Analysis

What-if analysis and modelling are available in some of the most recent versions of Microsoft Excel. The modelling allows users to test various scenarios while keeping some data static. Users can also set a certain goal that they would like to attain from the data. Excel will manipulate the data to show the user how to attain the goal. Excel will also check for duplicate data and consolidate it appropriately. This helps ensure that the analysis is as accurate as possible.

Data Gathering

Another component of Microsoft Excel is its ability to gather data from different sources. Excel can import data from a company-wide enterprise system. An enterprise system is one that can hold and manipulate data for larger organizations such as Coca-Cola or Home Depot. Excel can also import data from a simple text file, another Microsoft Office program, such as Access, or other database systems. It is unnecessary for the user to retype or re-enter information.

The most important tool in Excel for Problem Solving is Solver – which performs tiresome calculations fast and this numerical optimization add-in assists in many arduous calculations.

Visual Basic

Excel VBA (**Visual Basic** for Applications) is the name of the programming language of Excel. VBA works by running *macros*, step-by-step procedures written in Visual Basic. Learning even a small amount of VBA code makes work easier and gives the ability to do complex things in Office.

Having implored the basic components of Excel and highlighted on its importance, here are a few sites that might give a good exposure to the software and offer elaborate examples to address the utilities of the software to make its learning much easier:

http://excelexposure.com/

http://www.excel-easy.com/introduction/formulas-functions.html

http://www.solver.com/optimization-tutorial

EXPERIENCE ALWAYS SPEAKS....

AN INSIGHT OF THE PLACEMENT SCENARIO

Confidence and being fearless matters....

Preparation is very important for aptitude test and group discussion. Being cool will help interpret questions better during the interview

- R. Preethi, Final year

Interesting experience! A little pressurizing one.... But that pressure gives the push and courage to do it well. Presence of mind and courage to handle any situation will help a lot!

- S. Guru, Final year

Good experience! The interview helped a lot to speak with good vocabulary and with confidence. I was able to analyze my personality. We just have to express ourselves with ease.....

A wonderful experience every student should go through atleast once!!

- Varshini, Final year

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