

Department of Chemistry

CHEMitario

Chemistry is like cooking (just don't lick the spoon)

Academic year 2020-2021

Volume-1

Issue-1

Mission	Vision
To feed the budding engineers with finer aspects of science which make them to understand, exploit and innovate, thus contributing to the future technologies.	Upgrade our students about the latest developments in chemical science and also creating progressive environment for learning & innovations.

HOD'S Desk	INSIDE THE ISSUE
 <p>I am very happy to bring out the Department Magazine "CHEMitario-2020". This magazine outlines various activities took place during the academic year 2020-21 and the Achievements of faculty and students.</p> <p>It is great to find a considerable number of articles, poems and art that certainly prove that our staff and students are adequately equipped and possess necessary skill sets to express their talent. Sincerely congratulate the Chairman, Principal, and editorial team of the department for their unrelenting efforts in compiling this Magazine</p>	<ul style="list-style-type: none"> ❖ VisionMission ❖ H.O.D'sDesk ❖ List of papers published in journals ❖ List of FDP attended by faculties ❖ Department Activities

Paper Published in International/National Journals

- Photocatalytic and electrochemical sensors for direct detection of paracetamol comprising γ -aluminium oxide nanoparticles synthesized via sonochemical route, K.B. Kusuma, M. Manju, C.R. Ravikumar, H.P. Nagaswarupa, M.A. Shilpa Amulya, M.R. Anilkumar, B. Avinash, K. Gurushantha, N. Ravikantha, *Sensors International*, 1 (2020) 100039.
- Centella asiatica and its carbonaceous composites as novel materials for photocatalytic and electrochemical applications, K. Vinutha, M.B. Divakara, K. Veena, M.R. Anil Kumar, C.R. Ravikumar, M.S. Santosh, H.P. Nagaswarupa, B. Avinash, K. Gurushantha, *Materials Today: Proceedings*, 2020, <https://doi.org/10.1016/j.matpr.2020.09.266>.
- Phase-transformation synthesis of Li codoped ZrO_2 : Eu^{3+} nanomaterials: Characterization, photocatalytic, luminescent behaviour and latent fingerprint development, L.Renuka, K.S. Anantharaju, K. Gurushantha, H. Nagabhushana, Y.S. Vidya, C. Suresh, *Ceramics International*, 47 (7) 2021 10332-10345, <https://doi.org/10.1016/j.ceramint.2020.11.152>
- Development and validation of spectrophotometric methods for the assay of mirabegron in bulk and pharmaceutical formulations, K. P. Roopa, K. Basavaiah, B. S. Shankara, and B. Mahesh *Journal of Applied Spectroscopy*, Vol. 87, No. 6, January, 2021 (Russian Original Vol. 87, No. 6, November–December, 2020).

Paper presented in International/National Conferences

- Ground water study of the Physico-Chemical parameters in the Kunigal Taluk, Krishne Gowda Y H, Gurushantha K, **International conference on Global Convergence in Technology, Entrepreneurship, Computing and Value Engineering: Principles and Practices, (ICGCP-2021), 16th – 17th July, 2021 at SCE, Bengaluru.**
- Phenothiazine as a class of heterocyclic pharmacopore and their antimicrobial studies, Anusuya A M, Krishna B S, **International conference on Global Convergence in Technology, Entrepreneurship, Computing and Value Engineering: Principles and Practices, (ICGCP-2021), 16th – 17th July, 2021 at SCE, Bengaluru.**

Faculty development Program/Workshop/conference attended

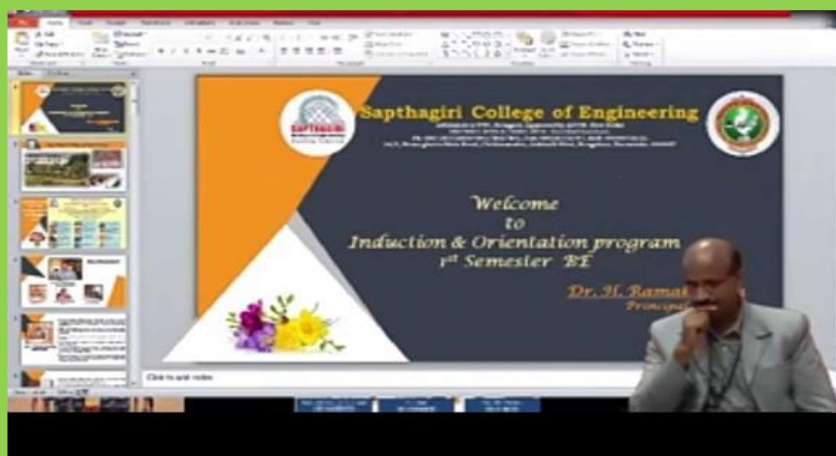
1. Ravikantha N attended Five days FDP on Universal Human values and Professional ethics at acharya Institute of technology Bangalore, from 19/07/2021 to 23/07/2021.
2. Dr Gurushantha K attended Five days FDP on Universal Human values and Professional ethics at acharya Institute of technology Bangalore, from 19/07/2021 to 23/07/2021.
3. Krishne Gowda Y H attended Five days FDP on Universal Human values and Professional ethics at acharya Institute of technology Bangalore, from 19/07/2021 to 23/07/2021.
4. Anusuya A M attended National e-workshop on “modern analytical techniques for material characterization”. Organized by the department of chemistry, GITAM School of science, bengaluru on 9th-12th November 2020.
5. Anusuya A M attended national webinar on “future of crystallography in drug discovery” by Dr. elanacheran ramakrishnan organized by department of basic science, SVCE on 14th December, 2020

6. Anusuya A M as participated online workshop on universal human value on the theme “inculcating universal human values in technical education” during 2-6th november organized by all india council for technical education(AICTE).
7. Anusuya A M attended national webinar on “ONLINE INNOVATIVE TEACHING-LEARNING METHODS (TOOLS AND TECHNIQUES) Conducted by department of mechanical engineering under the banner of Indian institution of industrial engineering (IIIE) on 5th august2020.
9. Dr. Roopa K P as participated online workshop on universal human value on the theme “inculcating universal human values in technical education” during 2-6th november organized by all india council for technical education(AICTE).
10. Dr. Roopa K P as participated online FDP on Recent advances in material science & engineering applications during 15 to 19th June 2020 organized by Gousia college of Engineering, Ramanagara.

Induction Program was conducted for first year students AY 2020-21 from 21.12.2020 to 26.12.2020.



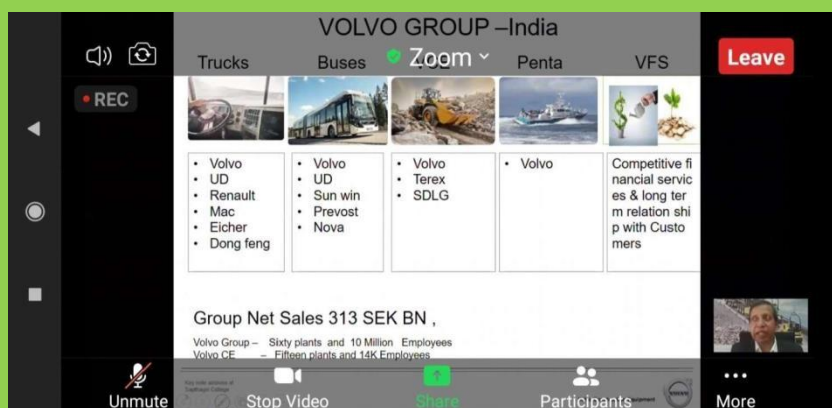
Induction Program is inaugurated by **Mr. M A Narasimha Murthy**, Quality Head, Infeneon Technologies, Bengaluru & Inaugural address given by Dr. H Ramakrishna, Principal, Sapthagiri College of Engineering.



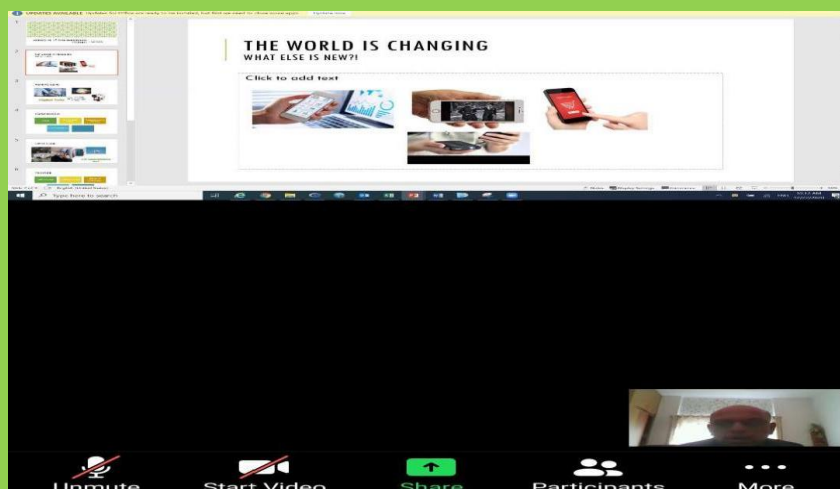
Dr. H Ramakrishna, Principal had explained guidelines of VTU CBCS scheme for first year students.



Mr. M A Narasimha Murthy, Quality Head, Infenion Technologies has delivered talk on importance of Engineering Technologies in modern society. He motivated the students to actively participate in the student induction program to get benefited.



In the afternoon session, **Mr. Balasubramanyam**, Director, Production Planning, Volvo Construction Engineering India Pvt. Ltd., Given talk on importance of design and manufacturing idea in automobiles Industry.



Dr. C P Ravikumar, India Head, VLSI Design Texas Instruments given talk on human values & ethics

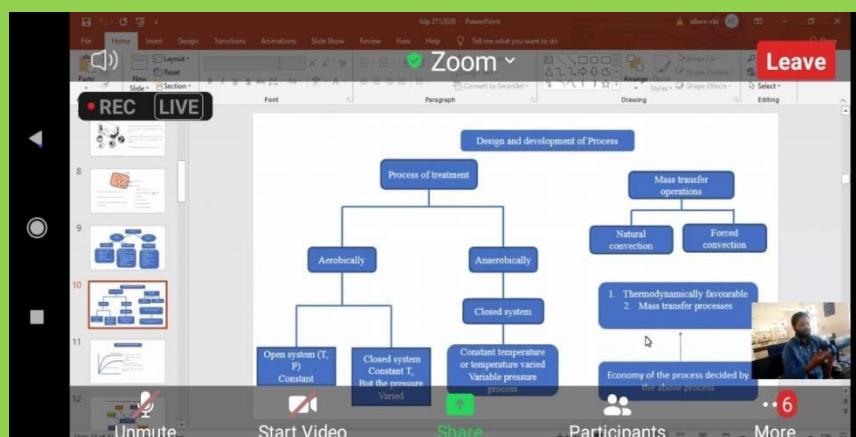


Human Values & Ethics speech given by Swamy Mangalanathanandaji maharaj, Ramakrishna Math, Bengaluru,

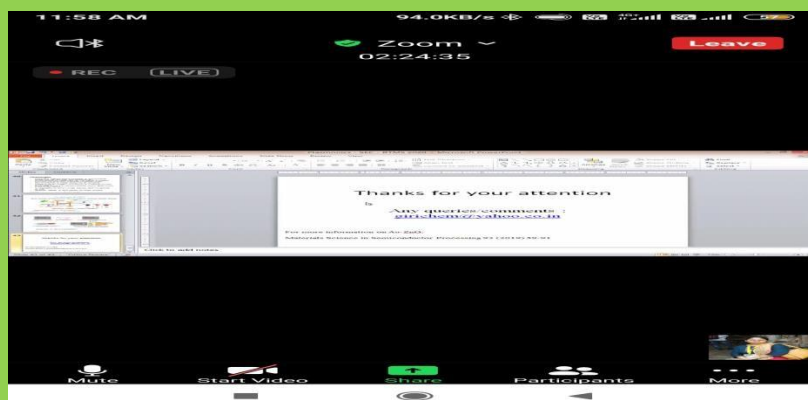


Dr. Gururaj Karajagi began his talk by narrating the life stories of stalwarts like Dr APJ Abdul Kalam, who are still remembered for their humanitarian work. He quoted De Rosette's words, "Success is to be measured by the number of people who cry when you die." He also said that the joy of giving is the purpose of life and that is the success of life. He urged the audience to be simple and humble in life. He enumerated several examples to prove that wealth, power, physical strength and fame are NOT the parameters to measure one's success. This motivational talk was inspirational and well appreciated by all the audience. Dr. Gururaj Karajagi was honoured for his invaluable contributions in the field of Education.

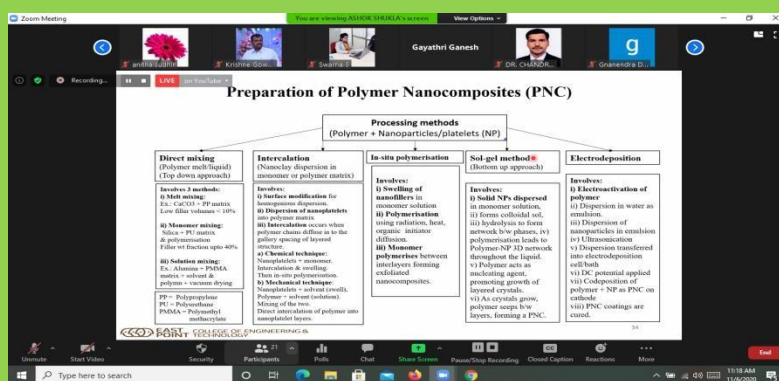
The Department of Chemistry organized the Five days e-FDP (02-11-2020 to 06-11-2020) on recent trends in material science.



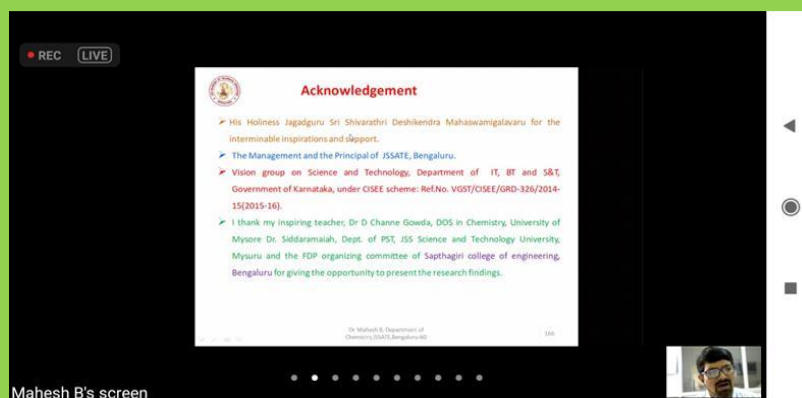
Day 1 (02-11-2020) Dr. J SS AllwinEbinesar, Associate Professor Dept. of Biotechnology, Sapthagiri college of Engineering, Bengaluru delivered a talk on "Development of biomaterials for the waste water treatment". Session was delt by providing the different research opportunities and methods using biomaterials.



Day 2 (03-11-2020): Dr. S Girish Kumar gave a talk on “Plasmonic Au-ZnO photocatalyst”. Speaker gave very useful information about selection of topic for research and he explained the methods to coating techniques of gold on zinc oxide materials and its applications.



Day 3 (04-11-2020): Dr. Santhosh, Associate Professor delivered a talk on “Nano & polymer composites: Material with Multifunctional potential”. He explained about basic fundamentals of Nanomaterials, composites and its multifunction’s with various examples.



Day 4 (05-11-2020): Dr. Mahesh B, Associate Professor, JSS Academy of Technical Education, Bangalore, delivered a talk on “Synthetic Peptide- based materials for biomedical applications. He explained basic concepts of proteins, classifications and its synthesis by various methods and applications in medical field.

Gas barrier properties

The neat PLA and various PLACNs (exfoliated PLA/synthetic mica nano composites) with a small fraction of OMLS exhibited reduction in the permeability of small gases, e.g. O₂, H₂O, He, CO₂, and ethylacetate vapors

By comparing nanocomposites made with layered silicates of various aspect ratios, the permeability was seen to decrease with increasing aspect ratio.

Conventional composites

"Tortuous path" in layered silicate nanocomposites

Formation of tortuous path in PLS nanocomposites

O₂ permeability (mm² day⁻¹ MPa)

OMSM /wt %

Oxygen gas permeability of neat PLA and various PLACNs as a function of OMLS content measured at 20 °C

Participants (19)

- Ravi K N (Host, me)
- ASHOK SHUKLA (Co-host, guest)
- Krishne Gowda V H (Co-host, guest)
- anitha sudhir (Guest)
- Bhagya N P (Guest)
- DR. CHANDRAPP K. G. (Guest)
- Gnanendra D S (Guest)
- Madhumathy S (Guest)
- Maresh s (Guest)
- Prof MADHU K N (Guest)
- Puneetha J (Guest)
- Ramya D L (Guest)

Day 5 (06-11-2020 Dr. Ashok kumar Shukla, Professor, Dept. of Chemistry, East point college of Engineering & Technology, Bangalore. He enlightened the participants on “Advanced polymer nano composite for Engg. Applications” He gave very useful information about the synthesis, characterization of polymer nano composites by different methods, which finds wide application in various fields.

Science Exhibition 2021

A Science Exhibition was held by the Sapthagiri College of Engineering, Bengaluru under the banner of ALCHEM club on the 20th of Febraury, 2020 for first year BE chemistry cycle students. It was a one-day affair which is held every year. Students from C-cycle classes (EC, ME, BT & CV branches) were asked to participate. This Exhibition was inaugurated by Principal, Sapthagiri College of Engineering, Bengaluru. The Science Exhibition was held in the College campus amphitheater and Sir M Visvesvaraya Block. It commenced at 10 AM. and got over by 2 PM. Invitation cards were sent to all the students and faculty and guardians. The students also gave a beautiful and detailed explanation of their models to all the guests. They were even questioned about the scientific concepts and theories behind their project. Various sustainable topics and ideas were picked up and demonstrated visually. In this exhibition, the participating teams shared their creative ideas and solution to everyday challenges through their innovative working / non-working models, exhibits, projects and presentations supported by reports, display and research findings.



Glimpse of Science Exhibition



Glimpse of Science Exhibition

Phase-II Student Induction Program (SIP) 2020-21(Virtual) Time

Day 1: 03/05/2021 Dr.Vasudev, Director, Manombhu Technologies Pvt Ltd, Bengaluru, delivered speech on Recent developments in power sector and explained about Electricity, Consumption of Electricity, Economic growth, Power system components, Analogy of Power system vs. Human body and Solar energy.

Day 2: 04/05/2021 In Day-2 session, a talk was held on Introduction to Environment for Engineers by **Mr. Ramesh Kumar**, Chief Environmental Officer (R), Karnataka state Pollution control Board. Speaker, discussed about Environment, Environmental pollution, Human Health effects, Environmental acts, importance of World water day, Distribution of water, Water pollution and sources, Waste management, E-waste, sources of Radiation pollution, Conservation measures.

Day 3: 05/05/2021 **Mr. Vijayakumar Jayaraman**, Senior Manager, Kemin South Asia Pvt Ltd, Chennai, delivered a talk on Recent & Emerging Trends in Bio-Technology Industries. Speaker briefed about Indian Biotechnology Industry status, leading companies in India, Different sectors in Biotech industries, Investments and recent developments, Clinical trials, Biotech parks, India vs. Global comparison and Challenges in India.

Day 4: 06/05/2021 A talk was held on what it takes to become a Good Engineer by **Mr. Srinivas T V**, Founder & CEO, XBE Ltd, Bengaluru. Speaker, discussed about Five major Points to become Good Engineers.

Day 5: 07/05/2021 Speaker **Mr. Narahari Rao**, Founder & Director at ChintaMoney, carried out a speech on How to Discover an Ideal Career Path. In his speech the following points have been covered.

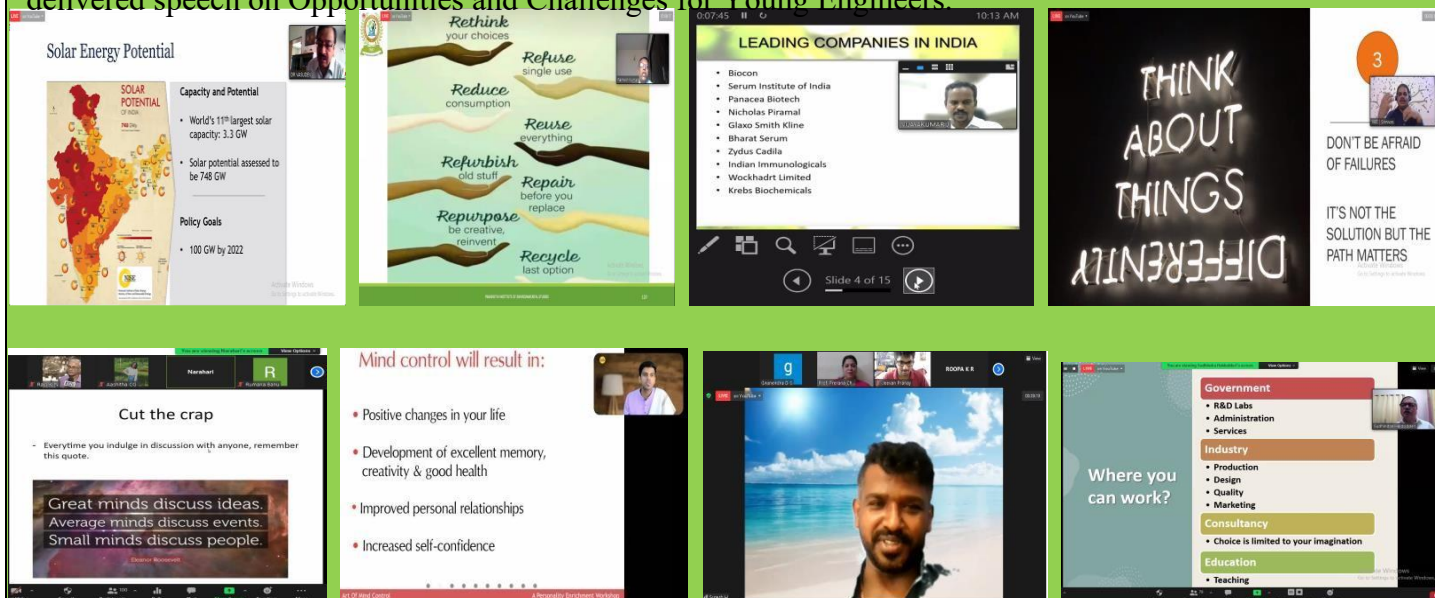
Day 6: 10/05/2021 **Mr. Vishnu Ravi**, Executive Campus Connect and the presenter of AIKYA, youth initiative of ISKCON Bangalore, had conveyed speech on Art of Mind Management and Emotional Balance.

Day 7: 11/05/2021 Prof. Preranachaitra, Dept. of ECE, briefing about Women Empowerment Cell (SAMARTHINI) in our Institution and shared the information about Gender sensitivity, Prevention of sexual harassment, Equality and various events conducted in our college.

Later, the session is handed over to speaker **Mr. Suresh H**, Director of Operations, Omega Healthcare Management Services Pvt. Ltd. Bengaluru to deliver a talk on Gender Sensitization during Pandemic to Bring Equality by Creating Achievers. This is an Interactive session and many students resolved their queries by

interacting with the speaker. Speaker, mentioned about the careful observation and instant monitoring of Gender sensitivity, Equality in various corporate sectors.

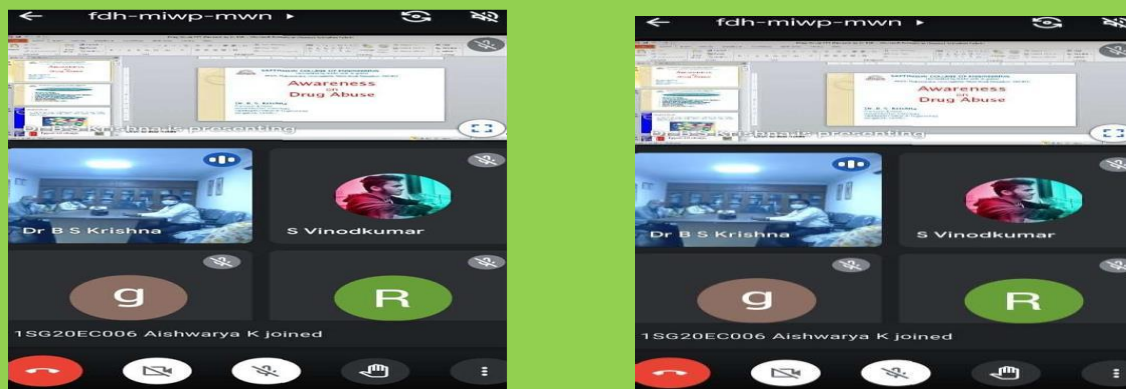
Day 8: 12/05/2021 Speaker, **Prof. Sudhindra Haldodderi**, Former Scientist, DRDO and Science Writer, delivered speech on Opportunities and Challenges for Young Engineers.



Glimpse of Student Induction Program

WEBINAR ON AWARENESS ON DRUG ABUSE

Department of Chemistry organized one day webinar (02-07-2021) on awareness on drug abuse, through which faculty & students understood the usage of drugs and their effect over the body. Dr B S Krishna, Professor & HOD, Department of chemistry delivered the speech on “Awareness on Drug Abuse” which was very informative and essential information provided for the students and audience through presentation using Google Meet Platform. The webinar talk was very useful and elaborated explanation about the concept of drug, various types of drug, their experimentation towards the mankind which leads to destruction and dis-functioning of various body organs which leads to life threatening diseases which leads to imbalance in physical and social behavior.



Glimpse of Webinar on awareness on drug abuse

**International conference on Global Convergence in Technology, Entrepreneurship, Computing and Value Engineering:
Principles and Practices, (ICGCP-2021), 16-17th July 2021.**



GLIMPSE OF ICGCP 2021, DEPARTMENT OF CHEMISTRY

Two days international conference on science & Technology, was organized by Saphthagiri College of Engineering, Bengaluru. B R Indushekar Head Volvo constructions equipments, he enlighten the various research industry interactions with institutions opportunities for the change in countries. Afternoon sessions and 17th July 2021 in chemical science stream paper presented by faculties research, scholars and students from various institutions. Best paper selected from Research Scholars, Faculties and students in Chemistry and Biotechnology respectively.

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