

# NEWSLETTER

## School of Chemical Engineering (SCHEME)



### Vision

To impart knowledge and nurture innovation in Chemical Engineering for improved quality of life.

### Mission

- To prepare the graduates for a rewarding career by providing quality education in Chemical Engineering in tune with evolving requirements of the society.
- To impart knowledge and develop technology through quality research in frontier areas of chemical and inter-disciplinary fields.
- To produce practicing engineers with professional ethics to cater the contemporary needs of the society and environment.



# VIT<sup>®</sup>

**Vellore Institute of Technology**

(Deemed to be University under section 3 of UGC Act, 1956)

Govt. of India recognizes VIT as an  
Institute of Eminence (IoE)



**Dean's Message:** Dear readers,  
Greetings from School of Chemical Engineering (SCHEME)! This is the 2nd issue of the newsletter of School of Chemical Engineering.

SCHEME houses B.Tech and PhD programmes in Chemical Engineering. Presently it has 20 faculty members and all are doctorates from reputed institutions in India and abroad. There are 63 students in the final year, 67 students in the third year, 124 students in the second year and 139 students in the first year of B.Tech (Chemical Engineering). In addition, we have 15 PhD students in our school.

This issue provides information about the publications and research work of our faculty members and students. It also provides the details on industrial visits by the students, conference and workshop participation, online courses, training undertaken by faculty and other outreach activities.

I hope you find this newsletter interesting and engaging. While the newsletter provides a bird's eye view of the accomplishments of the School, you are welcome to contact the Office of SCHEME to know further details about us.

Regards,  
Dr. Shishir Kumar Behera



# Student Achievements



Gaurav Kumar (15BCM0023) has secured All India Rank (AIR) 95 in GATE Examination 2020.



Vasu Sharma (16BCM0018) has secured All India Rank (AIR) 985 in GATE Examination 2020.

# Events Organized



AIChE student chapter under Dr. Monash conducted "Chemathon", 48 hours hackathon on 2<sup>nd</sup> and 3<sup>rd</sup> Feb, 2020. More than 300 students actively participated in this event.

SPE-VIT Student Chapter under Dr. Aruna Singh conducted "Industrial Carnival", 36 hours Ideathon on 27<sup>th</sup> and 28<sup>th</sup> Jan, 2020. More than 240 students actively participated in this event.



# Journal Publications

Van Tai Tang, Eldon R. Rene, Da Fang Fu, Rajendra Prasad Singh, Shishir Kumar Behera, Arivalagan Pugazhendhi. Effect of mixed microbial culture addition on enhanced river water quality: Pollutant removal and microbial community characteristics, *Environmental Technology & Innovation*, 18,123-139, 2020.

Van Tai Tang, Eldon R. Rene, Tran Ngoc Binh, Shishir Kumar Behera, Nguyen Tan Phong., Mangroves diversity and erosion mitigation performance in a low salinity soil area: Case study of Vinh city, Vietnam, *Wetlands Ecology and Management*, 28, 163–176, 2020.

Izhar Hussain Shah, Shishir Kumar Behera, Eldon R. Rene, and Hung-Suck Park, Integration of biorefineries for waste valorization in Ulsan Eco-Industrial Park, Korea. In: *Waste Biorefinery: Integrating Biorefineries for waste valorisation (Waste biorefinery, Vol. II)*, T. Bhaskar et al. (Ed.), Elsevier publishers, New York, USA. (ISBN No.: 978-0-12-818228-4), 2020

Gurumoorthy AVP, M Aslam Abdullah, Rao NK, Saurabh R, Hussain OVA and Jayan M, "Effect of Ionic Liquids on Vapor Liquid Equilibrium of Methanol + Ethyl acetate," *Int. J. Thermodynamics*, 23(1), pp. 53-57, 2020.

Ganesh N Patil and Nirmala Gnanasundaram. A review on process parameters intensification techniques for ethyl acetate production, *RASAYAN journal Chem*, Vol13 2, 920-933, 2020.

Govindasamy Rajakumar, Xiu-Hua Zhang , Thandapani Gomathi , Sheng-Fu Wang, Mohammad Azam Ansari , Govindarasu Mydhili , Gnanasundaram Nirmala , Mohammad A. Alzohairy and Ill-Min Chung , *Current Use of Carbon-Based Materials for Biomedical Applications—A Prospective and Review, Processes*,8(3),355-367,2020.

Aabid Hussain Shaik, Rajan Jain, Sindhu Manchikanti, Karthik Krishnamoorthy, Dharmendra Kumar Bal, Ariful Rahaman, Snehalata Agashe, Mohammed Rehaan Chandan., *Reinstating Structural Stability of Castor Oil based Flexible Polyurethane Foam using Glycerol*, *Chemistry Select*, 5(13), 3959-3964, 2020.

Mohammed Imran, Ariful Rahaman, Aabid Hussain Shaik, Mohammed R Chandan, *Stability enhancement of highly loaded nano-clay-based flexible polyurethane foams using hollow glass microspheres*, *Journal of Cellular Plastics*, 22(3),97-106, 2020.

Ankur Laxman Yadava; V.Sairama; L.Muruganandam and K.Srinivasana. An overview of the influences of mechanical and chemical processing on sugarcane bagasse ash characterisation as a supplementary cementitious material. *Journal of Cleaner Production* Volume 245,118-124,2020.

D. Chitra and L. Muruganandam., *Performance of Natural Coagulants on Greywater Treatment*, *Recent Innovations in Chemical Engineering*, 13(1), 81-92, 2020.

P. Umarani, A. Ramu, A. Babu Ponnusami\*, M. Dhanasekarapandian, " Seasonal variation and spatial distribution of groundwater pollutants in east coastal region from Bamban to Thiruvannamiyur of Tamil Nadu, India", *Int. J. Environment and Waste Management*, 25(1), 32-57, 2020.



# Journal Publications

Mohd. Rehaan Chandan, Dharmendra K Bal, Aabid Hussain Shaik, Influence of polymer washing on thermal conductivity enhancement of Cu nanofluids Journal: Asia-Pacific Journal of Chemical Engineering , 2020 (accepted) .

Mohammed R Chandan, Kamal Radhakrishnan, Dharmendra K Bal, Mohammed Rizwan, and Aabid Hussain Shaik, Flexible Polyurethane Foam-ZnO Nanocomposite for Photocatalytic Degradation of Textile Dye, Fibers and Polymers ,3,1-7,2020.

Shishir Kumar Behera, Srijan Sahni, Gunjan Tiwari, Aditi Rai, Biswanath Mahanty, Ayi Vinati, Eldon R. Rene, Arivalagan Pugazhendhi. Removal of chromium from synthetic wastewater using modified maghemite nanoparticles, Applied Sciences, 10(9), 3181, 2020 .

Mahesh Ganesapillai, Aruna Singh, D. Sangeetha. Biochar Technology for Environmental sustainability, Environmental Biotechnology, 2, 1-21, 2020 .

M Aslam Abdullah, Eccentricity in Oil and Gas Operations : A Review, Journal of Critical Review, June 2020 (Accepted) .

# Conferences & Workshop Attended

Dr. M. Aslam Abdullah has participated in E-Conference on Contagious Disease Management: Perspective to Covid-19, organized by Biological Science Forum, India in April 2020 .

Dr. M. Aslam Abdullah has attended online workshop on Reference Management Tools and Online Citation Database during 19th to 21st April, 2020 conducted by Indian Academic Researchers Association.

Dr. M. Aslam Abdullah has attended online International Level one week online workshop on Case Study Analysis in Teaching during 27th April to 2nd May 2020 conducted by St.Teresa's Degree College for Women, Bangalore.

Dr. M. Aslam Abdullah has attended online workshop on IPR during 10th and 11th April, 2020 conducted by Pandit Deendayal Petroleum University.

Dr. M. Aslam Abdullah attended Online Training on Latex organized by DKM college for Women in association with Spoken tutorial project, IIT Bombay in January 2020.

Dr.G.S. Nirmala has attended online workshop on Analytical techniques for determining elemental constituents organised by SIT Tumkur during 8-9 June 2020.

# Online Courses Attended

Dr. M. Aslam Abdullah has attended online course on Sustainability and Climate Change in Alison Platform during February 2020.

Dr. Mahesh Ganesa Pillai has attended online course on Planning and Design of Sanitation Systems in Coursera Platform during April 2020.

Dr. Anand V P Gurumoorthy has attended online course on "Intensive English Course: Intermediate to Advanced Level" in Udemy Platform during April 2020.

Dr. G.S. Nirmala has attended online course on "Intensive English Course: Intermediate to Advanced Level" in Udemy Platform during April 2020.

Dr. Mahesh Ganesa Pillai has attended online course on Introduction to Faecal Sludge Management in Coursera Platform during May 2020.

Dr. P. Monash has attended online course on How to create a MOOC Course in IITK NPTEL Platform during May 2020.

Dr. Mahesh Ganesa Pillai has attended online course on Introduction to Household Water Treatment and Safe Storage in Coursera Platform during June 2020.

Dr. P. Monash has attended online course on C++ for C programmers in Coursera Platform during June 2020.

# Faculty Outreach

Prof. Shishir Kumar Behera was invited as a Honorary Keynote Speaker for TEQIP – III, BPUT, Odisha sponsored workshop on Outcome-based Teaching and Learning in Engineering held between 31st January to 1st February 2020 at Aryan Institute of Technology, Bhubaneswar, Odisha, India.

Prof. Shishir Kumar Behera delivered a talk in a TEQIP-III sponsored webinar entitled "Outcome based Teaching and Learning in Engineering" on 19.05.2020 organized by Government College of Engineering, Kalahandi, Bhawanipatna, Odisha in association with Government College of Engineering, Jalgaon, Maharashtra.

Prof. M . Aslam Abdullah delivered a talk in a webinar entitled "How to establish SPE Student Chapter in your organization and benefits of being a member" on 30.04.2020 organized by Excel College of Engineering and Technology, Komarapalayam, Tamil Nadu.



# Guest Lectures/Webinar Organized

Dr. G.S. Nirmala organized a lecture on "Distillating Operating Challenges", delivered by Dr. GP Rangaiah, NUS on 6th January 2020.

Dr. Babu Ponnusami & Dr. Bandaru Kiran organized a lecture on "Plant wide control: What, Why and How", delivered by Dr. GP Rangaiah, NUS on 8th January 2020 .

Dr. Kiran & Dr. L. Muruganandam organized a lecture on "Phase Equilibrium Calculations", delivered by Dr. GP Rangaiah, NUS on 10th January 2020 .

Dr. Aslam Abdullah & Dr. Aruna Singh organized a lecture on "Recent Advancement in Petrochemical Industries", delivered by Mr. Panbarasan, VELs University on 27th January 2020 .

Dr. Aslam Abdullah & Dr. Aruna Singh organized a lecture on "Petroleum Exploitation Practices", delivered by Dr. Venkatesh Babu, JCT Institution on 27th January 2020 .

Dr. Monash & Dr. Dharmendra K Bal organized a video-conferencing lecture on "The Beauty of Polymers", delivered by Dr. Ramesh T Subramanian, University of Malaya, Malaysia on 4th Feb 2020 .

Dr. Chandan & Dr. Aabid organized a video-conferencing lecture on "Heat Transfer Perspective of Nano-fluids", delivered by Dr. Abdul Khaliq, Xiamen University, China on 11th February 2020 .

Dr. M. Aslam Abdullah organized a webinar on "Career in Water Industry", delivered by Mr. Jacob Amengor, Ghana Water Supply and Drainage Board, Ghana on 18th May, 2020 .

Dr. M. Aslam Abdullah organized a webinar on "Role of Regulatory Authorities in Life Sciences", delivered by Mr. Ramkunj Verma, Pharma Quality, Europe on 23rd May, 2020 .

Dr. Aslam Abdullah & Dr. Aruna Singh organized a video-conferencing lecture on "Combustion of Coal in Fluidized Bed Combustor", delivered by Dr. Gorkem Kone, Middle East Technical University, Turkey on 20th Feb 2020 .

# Short Term Training Programme Attended

Dr. M. Aslam Abdullah has actively participated in Short Term Training Programme entitled "15 – Innovation, Incubation, Intrapreneur, Invention and Intellectual Property" organized by Centre IP-Law (C-IPL) of SA centre for Constructive Learning and Systematic Research in association with Institution's Innovation Council, Ministry of HRD, for a period of 14 days from 26th April to 9th May, 2020.

# Industrial Visits

Dr. M Aslam Abdullah, Dr. Aruna Singh, Dr. Mahesh Ganesa Pillai organized an Industrial Visit to AAVIN (Milk Production Unit), Vellore on 21st February 2020 for undergraduate Students.

Dr. Aabin Hussain Shaik organized an Industrial Visit to North Chennai Thermal Power Station II on 7th February 2020 for undergraduate Students.

## Editorial Committee

**Dr. Aslam Abdullah M**  
Assistant Professor (Senior)  
SCHEME, VIT

## Contact us

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## Acknowledgement

The student **Kalpak Chakraborty** (18BCM0122) is thankfully acknowledged for his whole-hearted support in bringing the Newsletter to the present form.