

CHEMICAL ENGINEERING



NEWSLETTER
Dec 2019 – Mar 2020

Newsletter Highlights

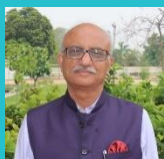
Research Projects
Invited Expert Talk
Workshop/Seminar
UG/PG/PhD Achievements
Other Activities

EDITORIAL TEAM

Dr. Abhishek Yadav (Coordinator)
Dr. Swapnil Dharaskar (Co-coordinator)



From the Director's desk



Prof. Sunil Khanna
Director, SOT, PDPU

Dear Colleagues and Students:

The advent of circular economy in Chemical systems is leading to the development of an economic system aimed at minimizing waste and making the most of resources. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems and business models. The drivers of the circular economy would be the advances in computational modelling, data analytics, optimization tools, and next-generation and bio-based catalysts to produce fuels and chemicals at scale with lower emissions.

As we @ PDPU embark on this journey of circular economy in Chemical Engineering, I am Happy to Introduce the next issue of the Newsletter which not only share with all its readers the latest news and developments in the Department of Chemical Engineering but would also be sensitizing all of us on the latest trends and developments in the adoption of the circular economy.

The limitless power of technology to do good and the conviction of my faculty colleagues and students that the golden age is ahead of us - and not behind us – brings about the best in all of us which is reflected in their achievements.

Compliments to the editorial team for their passion for perfection and unbound creativity which makes me always look forward to the next edition of the Newsletter.

From the HOD's desk



Dr. Swapnil Dharaskar
HOD, Chemical Engineering

It gives me immense pleasure to share newsletter of the Chemical Engineering Dept., Dec 2019 - Jan 2020. The Department of Chemical Engineering at PDPU, Gandhinagar is one of the premier departments that provides a unique educational and research environment. We have a major emphasis on interdisciplinary and industrial collaborations. Our primary missions are to educate undergraduate and graduate students, and to discover and disseminate knowledge through research. The Department is committed to achieving excellence in these activities, and evaluates the success and leadership of its programs using the highest standards of quality, innovation, & visibility, while at the same time providing a friendly and supportive atmosphere.

FACULTY ZONE: PUBLICATIONS/PROJECTS

Publications:-

- **Dr. Manish Sinha and Ms. Bharti Saini** published a paper titled *“Conversion of NO₂ through Ozonation and Peroxone Process in Gas and Aqueous Phase: Finding the Suitable Process through Experimental Route.”* in Chemical Engineering Journal (Elsevier) Available online 10 January 2020, 124082.
- **Dr. Dadi Suriapparao and coworkers** published a paper titled *“Effective Deoxygenation for the Production of Liquid Biofuels via Microwave Assisted Co-pyrolysis of Agro Residues and Waste Plastics Combined with Catalytic Upgradation”*, in Bio-resource Technology, 302 (2019). (Accepted on: 7th January 2020).
- **Dr. Pravin Kodgire** and co-workers published a paper titled *“Investigation of ultrasound-assisted KOH and CaO catalyzed trans-esterification for biodiesel production from waste cotton-seed cooking oil: Process optimization and conversion rate evaluation”* in Journal of Cleaner Production, pp. 1-18, Mar 2020. (IF 6.4)
- **Dr. Pravin Kodgire** published a conference paper titled *“Effectiveness of RSM based Box Behnken DOE over conventional method for process optimization of biodiesel production”*, PDPU and FMI, IEI Gujarat, CSI Ahmedabad, pp. 1-10, feb 2020.
- **Dr. Pravin Kodgire** published a conference paper titled *“Treatment of Greywater by Pulse Ultrasound Sonication: A Novel Approach”*, American Society of Civil Engg (INDIA), pp. 1-3, mar 2020.
- **Dr. Pravin Kodgire** published a conference paper titled *“Treatment of pharmaceutical industry wastewater using ultrasound cavitation reactor”*, American Society of Civil Engg (INDIA), pp. 1-3, mar 2020

FACULTY ZONE

Conferences/Workshop/Seminar/Research Visits



Ms. Bharti Saini delivered an oral presentation on “**Effective Treatment of Oily Wastewater Using Polymeric Ultrafiltration Membrane Modified with Cross-Linked Copolymer**” at International Conference on Sustainable Energy and Environmental Challenges (SEEC-2019) 27th – 29th November, 2019 at CSIR-NEERI, Nagpur India.

Ms Sweta Balchandani attended a workshop on “**Introduction to Gaussian: Theory and Practice**” conducted at Hyderabad by Scube Scientific Software Solutions Ltd. during 20th-24th January 2020. The workshop highlighted the theoretical and practical applications of the computational chemistry software named “Gaussian”.

Dr. Dadi Suriapparao and **Dr. Ramesh Kumar Guduru** presented a collaborative research work on development of novel heat shield to the IPR apex committee on 24.01.2020

STUDENTS' ZONE



Mr. Harsh Rasikbhai Patel (Mtech 2nd year) presented oral presentation on ***“Simulation study of water-acetic acid separation for pharmaceutical application”*** at CHEMCON-2019, IIT-Delhi

Mayank Makwana (Mtech 2nd year) gave poster presentation on ***“A review on recent development in chloride removal technology”*** at CHEMCON-2019, IIT-Delhi

