

Report on One Day Workshop on Industrial Catalysis (ICAT 2019)

Solutions to Problems

23rd November 2019

A one-day workshop on Industrial catalysis (ICAT 2019) was conducted on 23rd November 2019 with the theme of *Solutions to Problems* in collaboration with Catalysis Society of India (CSI), Baroda Chapter in association with Department of Chemistry, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara. Delegates from different reputed industries like Reliance Industries Limited (RIL), Bharat Petroleum Corporation Limited (BPCL), Evonik, BASF, Kunash Instrument, Zydus Cadila, & Devson Catalyst Private Limited were participated in this workshop. The goal of the workshop is spreading the importance of catalysis among the scientists, academia and technologies from various chemical industries situated in and around Gujarat. The main aim of this workshop was to bring together the industry and academic experts to share and discuss new proposals, learning, experiences and solution to problems. There were total 125 candidates registered to participate in this workshop. This workshop is targeted to contemplate key aspects of catalysis to produce clean energy and chemicals and to bring synergy between scientists, engineers, academia & industry analysis and technologies which play a very important role in the well-being of humanity, be it for producing sustainable energy, driving towards a cleaner environment and manufacturing of low cost materials etc. The basic inventions in the field of catalysis need to be bridged with process design and development, with a synergy between scientists, engineers, academia & industry. This workshop was sponsored by different industrial groups including Devson catalyst Pvt. Lrd. and Kunash Instrument etc.

The warm welcome done by Prof. H. R. Katariya, Dean of Science faculty, MS University Vadodara to all the delegates for the workshop. President of CSI & Convener Dr. R. V. Jasra, Head R&D VMD Centre, RIL given details about the workshop and brief about the role Catalysis Society of India for scientific development in the country. The workshop was inaugurated by distinguished scientists of the country including Vice-chancellor MS University Professor P. H. Vyas, Dean of Science faculty Prof. H. R. Katariya, Convener and Head of Chemistry Department Prof. Anjali Patel, Dr. R.V. Jasra and Dr. Prakash Kumar from Reliance Industries Limited. In the inaugural session, Vice-chancellor MS University Professor P. H. Vyas gave the information about the various facilities available at MS University Vadodara and urged all the participants to work with MS University resolve the complex scientific issues. Then, the chief guest of honor, Dr.

Manoj Srivastava, President of OPAL gave the brief talk on the development of polyolefin catalyst in petrochemicals.

The morning technical session was chaired by Dr. H.C. Bajaj and Dr. SM. Pillai. A keynote address was delivered by Dr. R.V. Jasra on the topic as Catalysis: Key Technology in Chemical Production. He briefly discussed about the significance of chemical industry in today's world and challenges in developing green technologies for growing energy demands. He gave the detailed significance of chemical industries in modern society and relevant data for the market value of global catalysts requirement for petrochemicals and refinery. He also showcases some of catalytic technologies developed and commercialized by Reliance R &D. Dr. Jasra also touched up on future technology topics like electric motor car and catalysis for circular economy, waste plastic value addition etc. Dr. Bharat Newalkar, General Manager, BPCL gave information about the development and commercialization efforts on lube dewaxing and benzene valorization catalysts. Dr. Martin Bauer from Evonik Germany, gave an overview about catalyst solutions for Life sciences, Industrial & Petrochemical and polyolefin Industries. Mr. Sanjay Bineewale, Head of sales Process Catalyst BASF presented BASF's some of developments in the area of Lead-free Adsorbent, Dry reforming, Heavy Hydrocarbon purification, PTA purification catalyst.

In the afternoon, second session was chaired by Prof. Parimal Parikh & Prof. N.V. Sastry. The first speaker for this session was, Dr. D. K. Sharma from Kunash Instrument has given lecture on aspects of characterization with some examples. Second lecture was by Dr. T. V. Pratap from Zydus Cadila where he discussed the use of asymmetric catalysis, on a large scale within the pharmaceutical industry. Third was by Dr. Sharad Lande from RIL and he has given lecture on the various important techniques used in characterization of heterogeneous catalyst which are used in petrochemical industries.

The third session was chaired by Dr. Nagesh Sharma and Prof. V. K. Jain. This session lectures were conducted by RIL scientists. The first lecture was given by Drs. Chintansinh Chudasama and Yogesh Niwate on value addition of industrial spent catalysts and metal recovery. Second lecture is given by Drs. K. V. V. S. B. S. R. Murthy & Dr Sumeet Sharma, where they explained the various methods of catalyst preparation which affect on the final properties of the catalyst and the different types of reactor used for catalyst evaluation. Moreover, reactants and

catalyst properties, safety, easy operability, lower capital and operation cost also influence the choice of reactor.

At the end of the session, there was a panel discussion, which was chaired by experts like Dr. R.V. Jasra from RIL, Dr. Anjali Patel from MSU, Dr. Nagesh Sharma from Ex-RIL, Dr. K.R. Krishnamurthy from Deepak Nitrite, Dr. V.G. Malkan from HD Microns Ltd, Mr. R. M. Cursetji from Sud-Chemie. It was very good debate and the participants gave their provoking thoughts on catalysis and its role in circular economy. The panel discussion was excellent and very informative to all participant from academia and industry. The panel discussion was enlightened the discussion on important areas like academia-industry collaboration for speed up of industrial research, catalyst scale up, future challenges in catalysis and opportunities. In the Valedictory session, Dr. Prakash Kumar, Co- Convener has given a vote of thanks and announced and awarded the winners of poster presentations. The overall ICAT-19 workshop was highly successful and in future also such type of workshops will be organized by Catalysis Society of India.





