Report on national workshop on Catalysis for Clean energy and Safe Environment (CCESE-19) conducted

A one day workshop on Catalysis for Clean energy and Safe Environment was conducted on 16th November 2019 in collaboration with Catalysis Society of India (CSI) at Seminar Hall, SAIF/CIL, Panjab University, Chandigarh. Delegates from different reputed industries like Reliance Industries Limited (RIL), Bharat Petroleum Corporation Limited (BPCL), Indian Oil Corporation Limited (IOCL), Hindustan Petroleum Corporation Limited (HPCL) and HPCL-Mittal Energy Limited (HMEL) have participated in this workshop. The target group for this programme included research scholars, post graduate and undergraduate students, faculty members and delegates from various industries. There were total 130 candidates registered to participate in this workshop. The goal of the workshop was to discuss how catalysis can be applied to boost sustainable process technologies and address the different environment related problems of the society. It also themed upon to reflect key aspects of catalysis for emerging energy applications and chemicals, developing synergy among scientists, engineers, academia & industry to discuss the societal impact of catalysis. This workshop was sponsored by different industrial groups including SWAN, IGL, Anton Paar, DEVSON, PCI, LECO, Saan Global and Metrohm.

In the inaugural session, Prof. S. K. Kansal, Dr. SSB UICET, Panjab University, Chandigarh, gave the brief overview about the workshop and Prof. S. K. Mehta, Department of Chemistry and Director, SAIF/CIL, Panjab University, Chandigarh, gave the information about the various facilities available at SAIF. Then, the guest of honour, Prof. Ronki Ram, Shaheed Bhagat Singh Professor of Political science, Panjab University, Chandigarh made us familiar about the advancements in the human life style in the modern era. Moreover, he suggested vital improvement in technology alongside taking in consideration environmental protection. Dr. Harmesh Kumar, USA, gave the brief talk on the exploitation of the environment and its harmful effect on the health of human beings. He discussed the impact of new technologies on the mental health of the people. He also conveyed the useful message of Shri. Guru Nanak Dev Ji, i.e. “Pavan Guru Pani Pita Mata Dharat Mahat” and by this, he meant to save the environment. Then our chief guest, Prof. S. S. Pattnaik, Director, NITTTR, Chandigarh, emphasized on the integration between different branches of science to fulfill the societal needs. He made audience aware about the proper utilization of the latest technologies in our real life in order to make cleaner and safe environment. Dr. R. V Jasra, Senior Vice President, R & D centre, Reliance Industries Limited, Vadodara, talked about the commercialization of technologies and gave information about the catalysis research. He inaugurated the workshop by correlating the academic background of catalysis with clean energy and safe environment.


National Workshop
on
"Catalysis for Clean Energy and Safe Environment"
Under the aegis of Catalysis Society of India
Organized by
Punjab University, Chandigarh
Prof. S.S. Ratnalu
Prof. Nanki Ram
Dr. Harmesh Kumar
Prof. S.K. Mehta


"Catalysis for Cle
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Venue: Seminar H
SMAN




Inaugural session

The morning session was chaired by Dr. Prakash Kumar, Assistant Vice-President, R & D centre, Reliance Industries Limited, Vadodara, Gujarat. A keynote talk was delivered by Dr. R. V Jasra on the topic Catalysis: Key technology in Chemical Industry. He gave the detailed significance of chemical industries in modern society and relevant data for the market value of global catalysts for the year 2015-2023 which is leading for hydrocarbon industry followed by environmental catalysis. He also picked future technology topics like electric motor car and very important aspect of catalysis like recycle economy through sustainable resources. Dr. Alex Pulikottil, General Manager, IOCL gave information about the basics of catalysis. He discussed two case studies including octane barrel improvement and production of BS-VI diesel. He also discussed about various strategies that can be used to enhance the catalytic activity. In the next talk, Dr. G. Valavarasu, Deputy General Manager, R & D, HPCL discussed about various steps of catalysis and the effect of the metal content on catalysis. Then, Dr. Chanchal Samanta, Chief manager, R & D, BPCL gave description about synthesis, properties and applications of dimethyl ether (DME). He discussed the importance of mixed metal oxides in the synthesis of syn gas. He also explained about various challenges in the upscaling of catalytic materials.

Felicitation to speakers

In the afternoon, session was chaired by Prof. Amjad Ali, Department of Chemistry and Biochemistry, Thapar University, Patiala. The first speaker for this session was, Dr. Rajendra Srivastava from IIT Ropar who delivered a talk about synthesis and properties of MOFs and their composites. He presented his work concerned with the stability of the MOFs which can be increased by integrating MOFs with Zeolites. Moreover, various strategies on how to make mesoporous MOFs through microporous MOFs were also elaborated. Dr. Kshudiram Mantri, General Manager, RIL, Vadodara, Gujarat gave the overview about RIL industries. He also discussed about paraxylene production, PET application and biocatalytic conversion. Dr. S. Saravanamurugan, Scientist E, CIAB, Mohali, gave a talk on the topic "Catalytic conversion of carbohydrates to high value products". Dr. Kallol Basak from Anton Paar provided information about different techniques to characterize the porous materials. Dr. Pooja Devi, Senior Scientist, CSIR-CSIO, Chandigarh, gave her talk on the utilization of transition metal nitrides as catalysts for hydrogen production. She elaborated her work by focusing on importance of photo electrodes in the field of water splitting. In the panel discussion, experts and the participants gave their provoking thoughts on social impact of catalysis and its role in circular economy. In the Valedictory session, vote of thanks was given by Prof. S. S Bhinder and winners of Poster presentations were announced. Lastly, the certificates were distributed to the participants by all dignitaries on the dice.

Post lunch session

Valedictory session