National Workshop on Futuristic Catalysts and Catalytic Processes (NWFCCP-2024)

Department of Chemistry, School of Physical Sciences
Central University of Kerala, Kasaragod, Kerala, India

Date: 15th and 16th February 2024

Venue: Sabarmati Building, University Seminar Hall

Central University of Kerala, Kasaragod, Periye P.O. 671320, Kerala

ASSOCIATION OF CHEMISTRY TEACHERS

ROYAL SOCIETY OF CHEMISTRY

About the Workshop

The role of catalysts in the modern industrialized world is indispensable when addressing critical global challenges like energy, the environment, and sustainable development. It's inconceivable to imagine these advancements without the pivotal role that catalysts play. Catalytic routes are the only economically, technically, and sustainably viable means for modern society to manufacture fuel and chemicals from renewable resources like biomass, CO_2, etc. These catalytic processes pave the way for the creation of innovative technologies and methods that provide solutions to urgent issues. The domain of materials for energy, the environment, and renewable resources encompasses a wide interdisciplinary field. It primarily concentrates on developing catalysts and technologies to tackle energy-related challenges while promoting environmental sustainability and the utilization of renewable resources. The goal of this workshop is to unite experts, researchers, professionals, and stakeholders from academia and industry. The aim is to facilitate discussions and the exchange of insights regarding the latest developments in catalysts and catalytic processes, particularly emphasizing their potential futuristic applications.

Moreover, this workshop seeks to inspire young students and researchers engaged in catalyst research. It will offer deep insights into the fundamental aspects of recent catalyst advances. This will be facilitated by esteemed catalyst experts from various reputable institutes in and around India. These experts will address fundamental questions pertaining

to catalyst development across different chemical processes.

About Central University of Kerala

The Central University of Kerala, Kasaragod, came into being in 2009 under the Central Universities Act 2009. The university is founded on the noble vision of a "Caring Wisdom" and is guided by the haughty ideals of academic and social commitment, moral steadfastness, intellectual and spiritual enlightenment, as reflected in its vision. It is located in a region characterized by linguistic and ethnic diversity and cultural richness, and the University seeks to harness the local resources – human, intellectual, social, artistic, and cultural– while bringing in the best that is globally available, thus maintaining a fruitful, symbiotic relationship that needs an educational uplift. The university campus is located at Tejaswini Hills, Periye P.O., Kasaragod, on the 310 acres of land allocated by the Government of Kerala in 2012. North Malabar region, being one of the backward areas of Kerala, needs holistic support for development, especially in education, health, infrastructure, and technologies, which have been the main focuses of the university since its inception.

About Department of Chemistry

The Department of Chemistry (DC) is currently functioning at Sabarmati building, Tejaswini Hills, Periye with seven faculty members and about 62 M.Sc. students, 25 Ph.D. scholars and one PDF scholar. The DC started functioning since 2013 and offers excellent opportunities for pursuing the Master's and Doctoral research programs (Ph.D.). The syllabus of M.Sc. chemistry covers the broad area of fundamental aspects in modern chemistry as well as all recent research focuses on the advanced chemistry, which helps the students with the parallel preparation for the national level competition exams like CSIR-UGC-NET, GATE etc. Laboratory facilities and infrastructure match the best available elsewhere, which include a variety of sophisticated analytical and spectroscopic instruments viz., – Atomic Absorption Spectrometer (AAS), Fluorescence, FTIR, and UV-VIS spectrophotometers, CHNS Elemental analyser, Gas chromatograph, Thermal system (TGA & DSC), Electrochemical work stations, Muffle Furnaces, Rotary Evaporators, and various other minor equipments. Overall, the M.Sc. chemistry program aims to provide the students with a firm grounding in the theoretical principles besides facilitating the development of analytical dexterity through rigorous hands-on training on sophisticated analytical instruments. Besides M.Sc.(Chemistry) program, the DC also offers Ph.D. program in the thrust research areas, such as heterogeneous catalysis, surface chemistry, co-ordination chemistry, supramolecular chemistry, organic chemistry, nanoscience, computational chemistry, dye-sensitized solar cells, ultra-fast electron and energy transfer reactions, and CO_2 capturing etc. The faculties have published about 250 publications / books / patents in highly reputed peer-reviewed international/national journals. Currently, the Department is running three major research projects supported by DST-SERB, CSIR-EMR, Government of India.

About Association of Chemistry Teachers (ACT):

The association of chemistry teachers (ACT) was launched in 2000 to serve as an apex national body of chemistry educators to promote excellence in chemistry education. ACT brings together on a common platform higher secondary school teachers, college and

university faculty members, scientists and researchers from industry for organizing subject related activities. The activities such as Annual Convention, National Chemistry Day, Chemistry Olympiad programme, National Standard Examination in Chemistry (NSEC), regional level conference, etc., are organized through the six zonal councils with headquarters of Mumbai.

About Chemical Research Society of India (CRSI):

The Chemical Research Society of India (CRSI) is the largest society in India and promotes the chemical sciences and education. The main objectives of the CRSI are to recognize, promote, and foster talent in chemistry and chemical sciences and to improve the quality of chemical education at all levels. The Central University of Kerala is part of the CRSI-Kerala chapter and organizes various activities.

LIST OF SPEAKERS

Prof. P. Selvam, Professor, Department of Chemistry, IIT-Madras
Prof. S. Natarajan, Solid State and Structural Chemistry Unit, IISc-Bangalore
Dr. N. Lingaiah, Chief Scientist, Chair, Department of Catalysis & Fine Chemicals, CSIR-IICT-Hyderabad
Prof. R. Murugavel, Department of Chemistry, IIT-Bombay
Prof. Binitha, N. N, Department of Chemistry, University of Calicut, Kozhikode
Prof. E. Murugan, Dean-Research, Department of Physical Chemistry, Madras University
Dr. T. Raja, Chief Scientist, National Chemical Laboratory, Pune
Dr. D. Srinivas, CSIR-Bhatnagar Fellow, Former Head, Catalysis Division, NCL-Pune, India
Dr. R. Vetrivel, Former Senior Research Scientist, Shell-R&D, Bangaluru
Prof. S. K. Badamali, Department of Chemistry, Utkal University, Bhubaneswar
Prof. S. Balamurugan, Noorul Islam Centre for Higher Education, Kumarakovil
Dr. Naveen Kumar Gupta, Centre for Sustainable Technologies, IISc-Bangalore
Dr. Vamsi Krishna Nunna, IOCL R&D, Faridabad
Dr. Naveen Kulkarni, Amrita School of Arts and Sciences, Amritapuri, Kollam
Dr. Ganapati V. Shanbhag, Poornaprajna Institute of Scientific Research (PPISR), Bengaluru
Dr. Sudhir Dapurkar, Tata Chemicals R&D, Pune
Dr. Praveen Martis, St. Aloysius College, Mangalore
Dr Binod Bihari Panda, Indhira Gandhi Institute of Technology, Sarang

Workshop Thrust Area:

- Catalysis in biomass conversion
- Conversion of lignin molecules
- Catalysts for fine chemicals
- New catalysis routes
- Catalytic preparation and characterization
- Micro- and meso-porous catalysts
- Catalysis - prospects and perspectives for Renewable Resource
- Homogenous catalysis
- Catalysis by zeolites
- Catalysis for energy
- Industrial catalysis
- New catalytic combustion technologies and catalysts
- Method on production of new catalytic materials
- Multi-metal oxide-based catalysts
- Catalysts for reforming
- CO_2 capture and utilization

We welcome abstracts for poster presentations relevant to the above areas of the workshop.

Organizing Committee:

Patron: Prof. (Dr.) K. C. Baiju, Vice Chancellor (i/c), Central University of Kerala
Chairman: Prof. (Dr.) K. Muruga Poopathi Raja, Head, Department of Chemistry, CUK
Organizing Secretary: Prof. (Dr.) A. Sakthivel, Department of Chemistry, CUK

Local Committee Members:

Prof. (Dr.) Vincent Mathew, Dean, School of Physical Sciences, CUK
Dr. K. Shiva Kumar, Associate Professor, CUK
Dr. Bini George, Assistant Professor, CUK
Dr. Deepa Janardhanan, Assistant Professor, CUK
Dr. K. Ravi Kumar Kanaparthi, Assistant Professor, CUK
Dr. M. Bhagiyalakshmi, Assistant Professor, CUK

National Advisory Members

Prof. P. Selvam, Department of Chemistry, IIT-Madras
Prof. S. Sampath, IISc-Bengalore
Dr. C. S. Gopinath, NCL Pune
Prof. S.K. Badamali, Utkkal University
Dr. J. Christopher, IOCL, Faridabad
Prof. (Dr.) Brijesh Pare, President, Association of Chemistry Teachers
Dr. D. V. Prabhu, General Secretary, Association of Chemistry Teachers

Registration Details:

For student & researchers, Rs. 800/- (on-spot registration Rs. 1000/-)
Faculty members/scientist Rs. 1500/- (on spot registration Rs. 2000/-)
For the Industry Members, Rs. 3000/- (on spot registration Rs. 5000/-)

https://forms.gle/iUX88HR8CKgeB8Ts7

Account Details:

Account Name: **National Workshop on Futuristic Catalysts A**
Account Number: **110160885393** Bank Name: **CANARA Bank**; IFSC Code: **CNRB0006794**

IMPORTANT DATES

Deadline for submission of abstract –20 January 2024 (only Poster)
Acceptance notification - 31 January 2024
Registration for the conference –1 January 2024 to 30 January 2024
Conference date - 15 & 16 February 2024

ACCOMMODATION

Payment-based accommodation may be provided for the students and researchers as per the availability of hostel rooms. Please contact: imhclab@gmail.com

How to reach?

By Air

- Kannur International Airport is 98 km from the Central University of Kerala
- Mangalore International Airport is 82 km from the Central University of Kerala
- Kozhikkode International Airport is 190 km from the Central University of Kerala

By Train

- Kanhangad railway station is 12 km from the Central University of Kerala
- Kasargod railway station is 22 km from the Central University of Kerala

By Road

The Central University of Kerala is situated on the National Highway (NH 66) between Mangalore to Kannur

For further information, please contact

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