

Indian Chemical Engineering Congress &

74th Annual Session of Indian Institute of Chemical Engineers

# CHEMCON-2021

December 27 - 30, 2021, Bhubaneswar, India

"Sustainable Utilisation of Resources for Chemical & Mineral Sectors"







# Jointly Organized by



Indian Institute of Chemical Engineers Bhubaneswar Regional Centre



CSIR- Institute of Minerals and Materials Technology, Bhubaneswar

## In Association with



Institute of Chemical Technology -IndianOil Odisha Campus, Bhubaneswar

# **International Collaborators**



Canadian Society for Chemical Engineering



South African Institution of Chemical Engineering

# PATRON



#### CHEMCON-2021:

Indian Chemical Engineering Congress of 2021 (CHEMCON-2021) and the 74th Annual Session of the Indian Institute of Chemical Engineers (IIChE) will be held in **Hybrid Mode** during 27th – 30th December 2021. All the Oral Presentations will be in **Virtual Mode** and the Ceremonial Functions will be held in **Physical Mode** at Bhubaneswar which will be live-streamed for all the registered delegates. The theme of the Conference "**Sustainable Utilisation of Resources for Chemical & Mineral Sectors**", focuses on providing a forum for substantial discussion on the availability and utilization of mineral resources using the existing and emerging technologies. CHEMCON offers the most attractive platform, ensuring four days of intensive interface among the National and International experts in Chemical Engineering and allied fields. These interactions will help the delegates to constantly update and equip themselves so as to keep pace with the fast changing professional scenario. CHEMCON-2021 will feature a host of events, which includes memorial lectures, plenary lectures, seminars, international symposium, panel discussions, exhibition, etc.. It is a matter of great pleasure and privilege for us to invite you to participate in the deliberations of this unique program which will cover a wide range of topics of interest for the participants.

#### IIChE:

The Indian Institute of Chemical Engineers (IIChE), founded on 18<sup>th</sup> May 1947, is an apex professional body of Chemical Engineers in the country and presently has around 25,000 corporate members on its roll. The activities of the Institute are spread across India through its 41 Regional Centres and 160 Student Chapters, with its Head Quarter located at the Jadavpur University Campus, Kolkata. The IIChE has been conducting the Associate Membership Examination since 1960 and publishing an esteemed quarterly Journal "The Indian Chemical Engineer" since 1959.

#### IIChE, Bhubaneswar Regional Centre (IIChE-BRC):

The Centre, which started functioning from 12th September 1991 with just 25 members, is now having 140 members in its fold along with two active student chapters (CVRCE, Bhubaneswar and IGIT, Sarang). All the major industries and organisations such as CSIR-IMMT, Odisha State Pollution Control Board, IPICOL, NALCO, IOCL, IFFCO, etc. are the major contributors of distinguished membership to this Centre. The track record of this Centre is indeed quite impressive with successfully conducted major events like CHEMCON-2003, CHEMINAR-93, ENERGYSHOP-94, BAUXAL-95, TECHSHOP-96, IIChE GOLDEN JUBLEE-98, PCPIR-2014, Coal Gasification - 2014, Seminar on Non-Ferrous Mineral Industries-Growth and Challenges -2015 and Odisha-Investors' Destination for Chemicals and Petrochemicals-2017. These events were a huge success not only in unfolding possibilities in Odisha but also disseminating the profession of Chemical Engineering elsewhere.

#### **CSIR-IMMT**, Bhubaneswar:

CSIR-Institute of Minerals and Materials Technology (CSIR-IMMT) was established on 13th April 1964 as Regional Research Laboratory (RRL), Bhubaneswar in the eastern part of India under the aegis of the Council of Scientific and Industrial Research (CSIR), New Delhi. It was renamed in 2007 as IMMT, with a renewed research focus and growth strategy to be a leader in the areas related to R&D of mineral & material resource engineering. CSIR-IMMT has been engaged in nation building ever since its inception with a mission to carry out industrial research, help industry to grow in terms of scale as well as new products, niche basic research, propagate research culture and societal work through Science & Technology intervention, skill development amongst youth and disseminate knowledge. The institute has expertise in conducting basic as well as applied research and technology oriented programs in a wide range of subjects to address the R&D issues of mining, mineral and metals industries for their sustainable development. Since the past one decade, the main thrust of R&D at CSIR-IMMT has been to work for Indian industries by providing advanced, zero waste process know-how and consultancy services for commercial exploitation of mineral resources through the Public-Private-Partnership (PPP) approach. Today, CSIR-IMMT is



the first choice for many mineral based industries while seeking a technical advice. CSIR-IMMT is consistently endeavoring with new goals and objectives, primarily related to sustainable way of mineral processing and extractive metallurgy, design and manufacturing of new functional materials and to tackle environmental issues related to above fields.

#### ICT-IOC, Bhubaneswar:

Institute of Chemical Technology (ICT), Mumbai started its Odisha Campus with total support of Indian Oil Corporation Ltd. (IOCL) on 18th March 2018 at Bhubaneswar. ICT-IOC Bhubaneswar currently runs three programmes: Integrated M. Tech., Executive M. Tech. and Ph D focused on Chemical Engineering and Technology along with opening of new centre of excellence in research and innovation. Integrated M. Tech. after 12th Standard (HSSC) of five years duration is a unique program consisting of 15 trimesters with alternate trimester in industry. Executive M. Tech. program is geared at giving an exposure to process engineering along with training in research, innovation, industrial practices, regulations, sustainability and management to experienced professionals who want to continue to work without losing continuity in their work while pursuing a degree. ICT-IOC Bhubaneswar envisions that the next big revolution incorporating Internet of Things (IOT) and Artificial Intelligence (AI) in Chemical Engineering practice will stem from the eastern region of India and will march towards sustainable development.

#### **CHEMCON 2021 Theme:** "Sustainable Utilisation of Resources for Chemical & Mineral Sectors"

The mineral resources of Odisha form a very important constituent of India's mineral wealth. Occupying an important position on the country's mineral map, Odisha's rich mineral reserves comprise of 28% Iron, 59% Bauxite, 98% Chromite, and 24% Coal of India's total deposits apart from other valuable minerals. Also, almost all the entire Nickel and Platinum Group of Elements (PGE) deposits of the country are available in the state of Odisha.

Odisha is pushing forward in Chemical Refining, Petrochemical, and Fertilizer Sectors. Paradeep port city of Odisha has the world's largest Phosphate Fertilizer Plant now owned by IFFCO and 15-MMTPA of Petroleum Refinery by the Indian Oil Corporation which is leading to a petrochemical complex there. Besides, a Beach Sand Mineral Separation plant operates at Chatrapur near the port city of Gopalpur while a Coal Gasification Plant owned by Jindal Steel and Power is operative at Angul. Port Town of Dhamra is coming up with an LNG terminal having the potential for Natural Gas Based Petrochemical Complex. The enormous potential is leading Odisha to be the Chemical Capital of Eastern India.

#### Shri Dhirubhai Ambani Commemoration Day:

Shri Dhirubhai Ambani Commemoration day will be celebrated on 28<sup>th</sup> December 2021 as a tribute to the great visionary Shri Dhirubhai Ambani, Founder of Reliance Industries Ltd. (RIL), one of the largest private sector industry in India.

#### International Symposium:

The collaborators for joint international symposium are Canadian Society for Chemical Engineering (CSChE, Canada) and South Africa Institution of Chemical Engineering (SAIChE, South Africa). One day Joint International Symposium related to theme of the conference will be held on 28<sup>th</sup> December 2021. The International Symposium during CHEMCON-2021 will give a platform to discuss the latest developments on "Sustainable Utilisation of Resources for Chemical & Mineral Sectors" through invited lectures, in Virtual Mode, by eminent experts from India and abroad.

#### About Canadian Society for Chemical Engineering (CSChE)

CSChE is a member-based association of chemical engineering practitioners. Its mission is to advance their careers as well as the profession by fostering knowledge exchange, lifelong learning, and STEM education, while advocating ethical and responsible practices. CSChE organizes the annual Canadian Chemical Engineering Conference, and publishes Canadian



Journal of Chemical Engineering every month. The local sections, subject divisions, and student chapters of CSChE bring together individuals with common interests in chemical engineering. CSChE's outreach program fosters an interest in chemical engineering among young people, and raises public awareness about the work of chemical engineers. CSChE also advocates on their behalf to the federal and provincial governments on issues of research funding and regulations. For more information, please visit CSChE website: www.https://www.cheminst.ca/about/about-csche.

#### **About South Africa Institution of Chemical Engineering (SAIChE):**

SAIChE is a professional society in South Africa dedicated to advancing the science and the practice of Chemical Engineering. The aim of SAIChE is to promote high standards in the profession by enhancing the professional competence of its members. For moreinformation, please visit SAIChE website: https://www.saiche.org.za.

#### Technical and Lecture Sessions:

The conference, on **Virtual Platform**, covers major themes relevant to the Chemical Engineering and allied profession through plenary, invited lectures and oral presentation sessions. All technical sessions will be chaired by persons of eminence from the relevant field. The detail format as well as instructions for abstract and full paper preparation can be obtained from the website (www.chemcon2021.com). Some of the proposed sessions include, but not limited to, the following areas:

Advanced Techniques in Chemical Engineering	Material Chemistry and Molecular Modelling
Biomass and Biotechnology	Mineral Processing
Carbon Capture, Sequestration and Utilization	Modelling and Simulation of Processes
Catalysis and Reaction Engineering	Nanotechnology
Chemicals and Fertilizers	Novel Separation Processes
Crystallization, Filtration and Drying	Novel Drugs
Colloidal and Interfacial Phenomena	Particle Technology including Milling and Micronization
Computational Fluid Dynamics	Polymer Engineering and Technologies
Data Mining, Fault Diagnosis and Process Design	Process Intensification
Electrochemical Processes	Process Safety and Responsible Care
E-Waste Processing and Recycling	Renewable Energy
Environmental Engineering	Safety, Health and Environment
Energy Storage - Fuel cell, Battery and Supercapacitor	Solid Waste Management
Food Engineering	Sustainable Chemistry and Engineering
Fuel and Combustion	Thermodynamics
Green Chemistry and Technologies	Tailings Monitoring and Management
Hydro & Electro Metallurgy	Transport Phenomena and Fluid Mechanics
Instrumentation and Process Control	Upstream and Downstream Petroleum Processes
Industrial Chemistry and Engineering	Ultrasonics Sonochemistry
Industry 4.0	Wastewater Treatment

Awards will be presented to Best Papers in each session.





### **Exhibition:**

An exhibition of Equipment Manufacturers and Service Providers in Mining, Minerals, Chemicals & allied businesses including safety, emerging technology providers, consultants, etc. is proposed during CHEMCON-2021. The details will be available in CHEMCON-2021 website shortly.

## Sponsorships:

Sponsorships are invited for financial support to the mega event, CHEMCON-2021. Sponsorship rates are as follows:

Category	Price in INR
Platinum Sponsorship	₹25.0 Lakh
Gold Sponsorship	₹ 20.0 Lakh
Silver Sponsorship Silver Sponsorship	₹ 15.0 Lakh
Bronze Sponsorship	₹8.0 Lakh
Inaugural Session Sponsorship	₹5.0 Lakh
Concluding Session Sponsorship	₹3.0 Lakh
Technical Session Sponsorship	₹ 2.0 Lakh

All Sponsorships rates are exclusive of 18% GST

#### **Entitlements for Sponsors:**

Sponsoring an event under different categories are entitled to get the benefits as per the following:

Category	Free Delegates	Advt. Colour Page	Banner
Platinum Sponsorship	10	1	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Gold Sponsorship	7	1	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Silver Sponsorship	5	1	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Bronze Sponsorship	3	1	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Inaugural Session Sponsorship	2	1	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Concluding Session Sponsorship	2	1/2	Company's Logo/Brand on
			Main Stage Banner + Banner at Seminar Site
Technical Session Sponsorship	1	1/2	Company's Logo/Brand on
			Main Stage Banner

#### Souvenir:

An informative souvenir will be made available to all the delegates. Contributions are solicited to support this mega event, CHEMCON-2021, through advertisements. The rates are as follows:

Location	Price in INR /USD
Multicolour Back Page/ Multicolour Front inside Gatefold	₹50,000/USD750
Multicolour Back inside Gatefold	₹40,000/USD 575
Multicolour Full Page	₹30,000/USD425
B&W Full Page/ Multicolour Half Page	₹20,000/USD300
B&W Half Page	₹ 10,000/USD 150

#### Registration Fees for CHEMCON-2021:

Categories of Membership	Price in INR / USD
IIChE Member	₹ 2000
Senior IIChE Member over 65 Years	₹ 1500
Non-IIChE Member/Industrial Personnel	₹ 3000
Postgraduate Student	
IIChE Member	₹ 1000
Non-IIChE Member	₹ 1500
Foreign Delegates	
Member of an Organisation having MoU with IIChE	USD 100
Others	USD 150

Price in INR are exclusive of 18% GST

#### **Mode of Payment:**

- Registration of delegates: The link for online registration will be given on the website. It will start from 16th August 2021.
- Advertisements/Sponsorships: Payments should be drawn as DD / Multicity Cheque / Online transfer in favour of CHEMCON-2021 payable at Bhubaneswar (Odisha), State Bank of India, IMMT Campus Branch; IFSC: SBIN0007499, A/c No.: 38932615324. For remittance from outside India, use BIC/Swift Code: SBININBB270.

#### Patrons:

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Shri Shrikant M. Vaidya, Chairman, IOCL, New Delhi

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Shri Mukesh Mohan	Member	CGM, IOCL, Paradeep
Dr. P.C. Rath	Member	Former Vice Chairman, IIChE BRC, Bhubaneswar
Dr. P.R. Mohanty	Member	Former Chairman, H WB, Mumbai
Dr. Ranjita Swain	Member	Assoc.Professor C.V.Raman Global University, Bhubaneswar
Dr. R. Bhima Rao	Member	Former Chi <mark>ef Scienti</mark> st, CSIR-IMMT, Bhubaneswar
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Dr. Swati Mohanty	Member	Vice Chair <mark>man, IIChE</mark> BRC, Bhubaneswar
Dr. Soobhankar Pati	Member	Asst. Profe <mark>ssor, IIT B</mark> hubaneswar
Shri S.S. Choudhury	Member	CTO, Odisha Skill Development, Govt. of Odisha

## Smt V. Krishna Kumari **Important Dates:** Abatraat Cubmission

**Registration Closing** 

ADSTRACT SUDIIIISSIOII	1 Julie 2021
Last Date of Abstract Submission	31 <sup>st</sup> August 2021
Intimation of Acceptance of Abstract	1 <sup>st</sup> July - 15 <sup>th</sup> September 2021
Full Paper Submission	1 <sup>st</sup> August - 31 <sup>st</sup> October 2021
Registration Starting	16 <sup>th</sup> August 2021

Member

**Payment for Delegate Registration Starts from** 16<sup>th</sup> August 2021

For all the queries, kindly contact us through our official email: chemcon21@gmail.com

15<sup>th</sup> December 2021

DGM (Chemical), R&D, Damanjodi, NALCO

www.chemcon2021.com

GST Number: 21AAAAI1126Q2ZV

Further correspondence can be made to the Organizing Secretary:

# Dr. C. Eswaraiah

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