

**Indian Institute of Chemical Engineers
Kolkata – 700 032**

Annual Report for 2021-2022

1.0 Introduction

The report covers major activities of the Institute during the period 1 April 2021 to 31 March 2022.

2.0 74th Annual Session and CHEMCON 2021

Indian Institute of Chemical Engineers (IICChE), Bhubaneswar Regional Centre and CSIR-Institute of Material and Mineral Technology (IMMT), Bhubaneswar jointly organised the Indian Chemical Engineering Congress-2021 (CHEMCON-2021) and the 74th Annual Session of IICChE in hybrid mode from 26 to 30 December 2021 in association with Institute of Chemical Technology (ICT)-Indian Oil Odisha Campus, Bhubaneswar. The theme of CHEMCON-2021 was 'Sustainable Utilisation of Resources for Chemical and Mineral Sectors'. The event was virtually attended by around 600 delegates and 250 delegates attended by physical mode.

CHEMCON-2021 was inaugurated on the virtual platform on 26 December 2021 by the Chief Guest, **Shri Naveen Patnaik**, Hon'ble Chief Minister of Odisha. **Dr. Shekhar C. Mande**, Director General-CSIR & Secretary, DSIR, present in person, addressed the gathering as the Guest of Honour. **Mr. S.M. Vaidya** (CMD, IOCL), **Dr. Sanrupt Misra** (Director, Aditya Birla Chemicals) and **Mr. Ashwin Shroff** (Chairman, Excel Industries) also spoke on the occasion on the virtual platform.

Of the three prestigious Memorial Lectures, **Dr. H.L. Roy Memorial Lecture Sponsored by Jacobs Worley** was delivered by **Dr. P. R. Vasudeva Rao**, Vice Chancellor, Homi Bhabha National Institute, Mumbai; **Aker Powergas's Prof. N.R. Kamath & Mrs. Ruzena Kamath Memorial Lecture** was delivered by **Prof. Gopal Mugeraya**, Director, National Institute of Technology, Goa and **Inventaa C K Murthy Memorial Lecture** by **Prof. Saikat Maitra**, Vice Chancellor, Maulana Abul Kalam Azad University of Technology, West Bengal.

Besides the three Memorial Lectures, 14 Chemcon Distinguished Speaker (CDS) lectures and five (05) Plenary Lectures were delivered by eminent academics, renowned scientists and top industry professionals from the national and international arena.

Two joint International Symposia were organised during the event. The first one was on 'Clean Coal Technologies', which was organized with the South African Institution of Chemical Engineers (SAICChE) on 28 December 2021. Organized under

the Chairmanship of Prof. A.B. Pandit and Prof. Milan Carsky, the Joint Symposium was inaugurated by Mr. Vidya Rattan Sharma, MD, JSPL, who delivered his inaugural address on the theme. There were five speakers from India and four from South Africa.

The second joint symposium was on 'Sustainable Energy and Environment', which was organized with the Canadian Society for Chemical Engineers (CSCChE) on 29 December 2021. It was held under the chairmanship of Prof. Suddhasatwa Basu and Prof. Ajay K. Dalai. There were five speakers from India and five from Canada, speaking on various aspects of the central theme.

Technical Sessions were held in the thematic areas of mineral processing, green energy, process intensification and novel separation processes, process modelling and simulation, green industrial sustainable chemistry and engineering, advanced techniques in chemical engineering, environmental engineering with a focus on solid waste management, waste water treatment, and safety-health-environment, nano science and technology, petroleum and polymer, computational fluid dynamics, biochemical engineering and food technology, process safety and responsible care, hydro & electro metallurgical processes, catalysis and reaction engineering, transport phenomena and fluid dynamics and other areas of chemical engineering. As many as 314 oral presentations, including, keynote talks and more than 100 posters were presented in parallel sessions.

The Shri Dhirubhai Ambani Commemoration day, another leading event under the CHEMCON umbrella, was observed on 28 December. **Dr. Shekhar C. Mande**, Director General, CSIR & Secretary, DSIR, delivered the **Shri Dhirubhai Ambani Commemoration Day Oration** on 'Integrated Approach towards Understanding of Mycobacterium Tuberculosis'. **Prof. Samir Mitragotri**, Harvard University delivered a talk on 'Ionic Liquids in Therapeutic Applications' as a UPL Smt. Sandra R Shroff Chemcon Distinguished Speaker. **Mr. Virendra Rathod**, Reliance Industries Limited, also spoke on the occasion. Padmashri **Prof. G.D. Yadav**, Former Vice Chancellor of ICT Mumbai, chaired the session.

The Valedictory Ceremony of CHEMCON-2021 on 30 December 2021 was graced by His Excellency Hon'ble Prof. Ganeshi Lal, Governor of Odisha as the Chief Guest and Shri. Hemant Sharma, IAS, Principal Secretary Industries, Odisha

as the Guest of Honour. The conference ended with a resolution to ensure sustainable growth of petroleum, petrochemicals including implementation of PCPIR at Paradip and mineral processing industries, including, downstream and ancillary sectors of the existing industries in Odisha with active involvement of the Indian industries, Central and State governments, academic and R&D Institutes of Odisha.

Considering the huge potential of Indian Chemical Industry in the national and global landscape, Indian Chamber of Commerce (ICC) in collaboration with IChE organized a virtual exhibition, 'CHEMCON EXHIBITION 2021' 27 to 30 December 2021 at the CHEMCON venue.

Notable sponsors for CHEMCON-2021 were Reliance Industries Limited, Indian Oil Corporation Limited, Aditya Birla Chemicals, Tech Mahindra, National Aluminium Company Limited, Excel Industries Limited, UPL Limited, Deepak Nitrite Limited, L&T Hydrocarbon Engineering Limited, NMDC Limited, IFFCO, Paradeep Phosphates Limited, IREL Limited, Tata Steel Limited, Aarti Industries Ltd., Dharamsi Morarji Chemical Co. Ltd., Transpek Silos Industry Pvt. Ltd. and JSPL Ltd.

Award Presentation

An impressive award presentation function was held following the inauguration. The most prestigious National Awards of IChE, namely, Dr. B P Godrej Life Time Achievement Award was conferred upon Prof. V. K. Srivastava, distinguished Professor of Chemical Engineering. Lala Shriram National Award for Leadership in Chemical Industry was conferred upon Mr. Jayantibhai Meghajibhai Patel, Executive Chairman, Meghmani Group of Companies, Gujarat.

Name of all the awards and a list of awardees are presented in **Section 10.0**.

74th Annual General Meeting

The 74th (seventy-fourth) Annual General Meeting (AGM) of the Institute was held on December 28, 2021 at the CSIR-IMMT, Bhubaneswar. Prof. M.K. Jha, President of the Institute for 2021, chaired the meeting. The AGM was attended by 35 Corporate Members.

(A list of members, who were present in the AGM, is presented in the back inside cover page).

- i. **Adoption of 73rd AGM Minutes:** The minutes of the 73rd (Seventy-third) Annual General Meeting, held on December 28, 2020 at Osmania University, Hyderabad were confirmed, as proposed by Dr. S. K. Gupta and seconded by Dr. Sanjay Bharadwaj.
- ii. **Adoption of the Annual Report and Audited Statement of Accounts for 2020-2021:** The Honorary Secretary

briefly read out the activity reports of the Headquarters, Regional Centres and the Student Chapters for the reporting year. He also reported about different meetings (Council meetings and Sub-committee meetings), conducted in 2021 during the COVID-19 situation. The meeting unanimously adopted the Annual Report of the Institute as proposed by Dr. S. Illiah and seconded by Dr. Utkarsh Maheswari.

- iii. **Adoption of recommendations of the Constitution Amendment Committee, 2021 regarding revised LM and LAM criteria:** The Honorary Secretary reported that as per the recommendations of the Constitution Amendment Committee 2021 (CAC 2021), the Council took a decision for offering the following discounts to the passed out Student Members of IChE with a view to encouraging them to take the corporate membership of the Institute:

SM to LAM after B.Tech / BE	Amount to be paid (Without GST)
Within 1 yr	1500
Within 2 yrs	2000
Within 3 yrs	3000
Within 4 yrs	4000
After 4 yrs	5000

The meeting unanimously appreciated the decision and approved the same.

- iv. **Membership Criteria:** The Honorary Secretary informed the members about revision of the existing criteria of membership by the CAC 2021, which have been duly approved by the Council. After deliberations, the AGM approved the revised membership criteria, to be effective from January 2022.

The revised membership criteria is presented below:

Educational qualification	Experience Criteria			
	Industry		Academia	
	LAM	LM	LAM	LM
BE/B.Tech/Integrated MS in Chemical Engineering/ Chemical Technology/Allied Process Technology.	Nil	3	Nil	5
BE/B.Tech/ Integrated MS in non-Chemical Engineering but having experience in Chemical Engineering related field.	2	5	3	6

Educational qualification	Experience Criteria			
	Industry		Academia	
	LAM	LM	LAM	LM
Diploma in Chemical Engineering/ Chemical Technology/Allied Process Technology.	5	7	7	9
B.Sc in Science.	5	7	7	9
M.Sc in Science	3	5	5	7

v. **Overseas Regional Centres and Student Chapters:** The members unanimously agreed on the opening of the Overseas Regional Centres (ORC) of IICHe. The following eligibility criteria were suggested for opening of an ORC. The Council was decided to have the authority to periodically revise the eligibility criteria.

a. Minimum number of corporate members should be **seven (07)**

b. The membership fees should be **Rs. 15,000/- (INR)**.

vi. **Appointment of Auditors for 2021 - 22:** The meeting decided to appoint K. Jana & Associates, Chartered Accountants, South End Conclave, Unit – 005, Ground Floor, 1582, Rajdanga Main Road, Kolkata - 700107 as the Auditors of the Institute for the financial year 2020 - 2021 for the IICHe Headquarters Accounts, the IICHe Consolidated Accounts and for all tax related matters on the basis of a remuneration of Rs. 35,000/- + GST.

vi. **Miscellaneous**

a. **IICHe Training Institute:** The members accepted a proposal by the Honorary Secretary, for introduction of a dedicated training institute under IICHe. The Council was requested to take appropriate measures for the purpose.

b. **IICHe-RGIPT Collaboration:** The Honorary Secretary reported that as a part of the Institute's research activities, the Council has decided to sign an MoU with Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Jais (Amethi) for collaborative research work. Additionally, a fellowship will be offered to a deserving student, pursuing the PhD programme. After a long deliberation, the members present welcomed the proposal. However, they observed that IICHe should only contribute that much of an amount towards the Fellowship which would be permitted by the Institute budget. The remaining part of the fellowship should be borne by RGIPT.

The President, Prof. M. K. Jha, thanked the Council members, the members of the Executive Committees of the Regional Centres, the Coordinators of the Students Chapters and the members of the institute for extending their sincere help and co-operation in all the activities of IICHe during the year.

The members conveyed their gratitude to the President and the outgoing Council Members for the services rendered by them during the year towards the growth of the Institute.

The meeting ended with a vote of thanks to the Chair.

4.0 R&D Activities by IICHe HQ

The Institute is recognized upto 31.3.23 by the Department of Scientific and Industrial Research, Government of India, as a Scientific and Industrial Research Organization (Vide Ref. F.No.11/57/88-TU-V, Dated: 16.9.20). During recent years, IICHe has been regularly undertaking research projects in collaboration with renowned universities and engineering / technical institutes.

R&D projects, funded by IICHe, which were undertaken during 2021-22, are as follows:

- Extraction, Characterization and Isolation of Betulinic Acid From Jamun Leaves (*SyzygiumCumini*) through Novel Techniques.
MIT Academy of Engineering, Pune
- Mass Transfer Studies In Biofiltration of Pharmaceutical Industrial Waste Gas Using Coupled Biofilter With Membrane Bioreactor.
Annamalai University, Chennai
- Synthesis, Characterization of Nanosorbents and Its Application In Removal of Zn 2+Ions: Isotherm, Kinetic And Thermodynamic Studies.
Annamalai University, Chennai
- Experimental and Numerical Study of Flow Through Ventilator Splitter.
SASTRA Deemed To Be University, Thanjavur, Tamil Nadu
- Synthesis of Activated Carbon From Animal Manure - Goat And Sheep Dung and Its Application In Wastewater Treatment.
Kongu Engineering College, Tamilnadu
- Kinetic and Thermodynamic Analyses of Pyrolysis of Sugarcane Leaves Through Thermogravimetric Analysis.
Motilal Nehru National Institute of Technology (MNNIT) Allahabad
- Recovery and Enhancement of Fine Chemicals and Bio-Crude From Micro-algae Species Using Hydrothermal Liquefaction.
Kongu Engineering College, Tamilnadu
- Development of Electro catalyst For PEM Fuel Cell.
Heritage Institute of Technology, Kolkata
- Synthesis and Characterization of Electro catalyst For Proton-Exchange Membrane Fuel Cells (PEMFC) and Regenerative Fuel Cell.
Haldia Institute of Technology, Haldia, West Bengal

- Microwave Catalytic pyrolysis of E-waste using bimetal doped char for fuel production.
National Institute of Technology Tiruchirapalli, Tamilnadu
 - Development of Novel Photo catalyst for Treatment of Textile Effluent.
National Institute of Technology Tiruchirapalli, Tamilnadu
 - Analysis of Salt Hydrates for Thermal Energy Storage.
National Institute of Technology Tiruchirapalli, Tamilnadu
 - Synthesis and Characterization of Novel Nano Filled Polymeric Ion Membrane for Proton-Exchange Membrane Fuel Cells (PEMFC) and Pervaporative Separation
Haldia Institute of Technology, Haldia, West Bengal
 - Synthesis and Characterization of Cashew Nut Shell Oil (CNSL) by Solvent Extraction/ Super Critical Fluid Extraction.
Haldia Institute of Technology, Haldia, West Bengal
- R&D projects, funded by IChE, undertaken for the present year 2022-23 are as follows:
- Effects of reusing glass fibre reinforced polymer waste on properties of mortars
Amal Jyothi College of Engineering
 - Sorption of heavy metals using novel brown algae
Annamalai University
 - High accuracy determination of rheological properties of drilling fluids using Marsh funnel
Sant Longowal Institute of Engineering and Technology, Punjab
 - Development of a microfluidic device to create precision droplets
Heritage Institute of Technology, Kolkata
 - Development of cross-linked PU-PS hydrophobic coatings from castor oil
University College of Engineering, BIT Campus, Anna University,
 - Synthesis of Platinum Group Metal-free Electrocatalyst for Polymer Electrolyte Membrane Water Electrolyser (PEMWE)
Saintgits College of Engineering
 - Pollutant gas capture from Car cabin
School of Mechanical Engineering, KIIT, Bhubaneswar
 - Production of biodiesel from waste cooking oil in presence of liquid and solid catalysts
Chaitanya Bharathi Institute of Technology
 - Performance of MgO impregnated activated carbon as cathode catalyst in double chambered microbial fuel cell
Saveetha Engineering College, Chennai
 - Synthesis of agro-based metal-organic framework for treatment of pharmaceutical wastewater
Annamalai University, Tamil Nadu
 - Optimization of microbial fuel cell with the use of waste derived biochar electrodes
Kongu Engineering College
 - Amoxicillin extraction with aqueous solution via green emulsion liquid membrane process
Annamalai University
 - Production of hard candy by using medicinal plants
Saveetha Engineering College
 - Investigating the effect of alkali and alkaline earth metals (AAEM) on the pyrolysis of invasive biomass species
Sri Venkateswara College of Engineering
 - Synthesis of cathodes for room temperature sodium sulphur batteries.
Sri Venkateswara College of Engineering
 - Adsorptive removal of a dye in an inverse fluidized bed adsorption column using casuarina seed powder as a sorbent – Parametric, equilibrium and modelling studies
Annamalai University
 - A systematic analysis of endocrine disturbing chemicals elimination in aquatic environment
University College of Engineering, BIT Campus, Tiruchirappalli
 - Real time production and investigation of aspirin by the lab scale vacuum reactive distillation apparatus
Sri Venkateswara College of Engineering
 - Developing dye-sensitized solar cell based on anatase titanium di-oxide by using naturally occurring dyes as sensitizers
Haldia Institute of Technology
 - Synthesis of Cu-BDC metal organic framework for catalyst cum hydrogen storage applications
Department of Chemical Engineering, MNIT Jaipur
 - Development of novel polymeric hydrogel for adsorptive separation
Haldia Institute of Technology
 - Development of novel cellulose acetate and magnesium oxide nanoparticles impregnated polymeric beads for adsorptive removal of divalent lead ions from groundwater
BITS Pilani, Pilani campus, Rajasthan

5.0 R&D Related Activities by Regional Centres

An outline of activities connected to research and development in Chemical Engineering and allied fields that have been carried out by IChE's Regional Centres (RCs) as well as by the Student Chapters under the aegis of the RCs are presented below.

Name of the Regional Centres	R&D Related Activities
Ahmedabad	<p>a) Expert Lecture on “Zero Discharge: Concept & Technologies” wa delivered by Mr Amin Ismaili, Research & Innovation Head, Deepak Nitrite Ltd., Vadodara.</p>
Amaravati	<p>a) International Conferene on recent innovations in chemical and biological engineering (RICBE-2021)</p> <ol style="list-style-type: none"> i. The international conference (virtual), RICBE-2021, was jointly organized by the Department of Chemical Engineering and Biosciences, RGUKT in association with IChE-Amaravati Regional Centre, Guntur during 16 -18 September 2021. The goal of the conference was to bring Academics and Industry together to create global community of Chemical Engineers and Biotechnologists. ii. An international Webinar on ‘Global Warming and Climate Change’ was organized on 12 and 13 November 2021 along with all its Student Chapters under the Amaravati RC. <p>b) Talks:</p> <ol style="list-style-type: none"> i. On ‘Challenges in Chemical Engineering’ by Mr D M Butala, President, IChE, on 14.03.2022. ii. On ‘Solid-Liquid Separation – an Overview’ by I N Bhattacharya, former Scientist and Head, Hydro and Electrometallurgy Division, CSIR-IMMT, Bhubaneswar, on 14.03.2022. iii. On ‘Applications of Membrane Separations in Circular Economy’ by Dr S V Satyanarayana, Past President, IChE & Professor, JNTU, on 15.03.2022. iv. On ‘CO₂ Capture, Storage & Utilization – An overiw’ by Dr A Sarath Babu <p>c) One day International Webinar:</p> <p>A webinar on Growth, Challenges and Opportunities for Indian Pharma Industry was organized on 22.05.2022 with all Student Chapter of ARC. The following speakers delivered the lectures on the topic:</p> <ol style="list-style-type: none"> i. ‘Pharmaceutical Industry: Global Impact and Way Forward, by Mr M V Ramana, CEO and Head of the Branded Formulations Business. ii. ‘Role of Chemical Engineer in Pharma Sector-Opportunities in API division’, by Mr Krishna Elasagaram, General Manager-Works, Wanbury Pharma Ltd. iii. ‘Challenges and Opportunities in Pharma Industry’ by Dr R N Josyula. iv. ‘Chemical Engineering in treatment and recycle of Pharma Effluents’ by Mr J Nagesh. v. ‘Chemical Engineering in Pharmaceutical Industry – Relevance to Unit Operations, Unit Processes, Quality and Safety’ by Mr L Nagesh Kumar. <p>d) Student Chapter Activities:</p> <ol style="list-style-type: none"> i. RVR & JCCE Student Chapter in association with IChE Amaravati Regional Centre organized ChECK-2022 consisting of Plenary lectures, Technical paper presentation, etc. during 14-15 February 2022. <p>Expert Lectures:</p> <ol style="list-style-type: none"> i. ‘Understanding Hazardous Unit Operations and Processes’, by Mr Raghavendra Maddala on 05.11.2021 ii. ‘Advanced Energy Storage and Future Mobility’, by Mr K Sai Prasanna Kumar on 01.11.2021.

Amethi	<p>a) During the Inaugural Program of ARC a Keynote Lecture was held on the topic 'Role of Chemical Engineers in Energy Transition', delivered by Dr Uttiya Bhattacharyya, Executive Director & State Head of IOCL on 11.12.2021.</p>
Ankleshwar	<p>a) Talk</p> <p>On 'Non-chemical based Water Treatment Methodology'. It was presented by personnel from Parashkthy Technology on 27.05.2022.</p>
Bangalore	<p>a) Online Seminar on Safety - The Bridge between Technology and Operations:</p> <p>An online seminar on "Safety – The Bridge between Technology and Operations" was organized on Saturday, 31.7.2021. The event was conducted by the IChE Student Chapter, MS Ramaiah Institute of Technology in association with Sudaksha Management Solutions. Mr. Anantha Prasad.S and Flt. Lt. Mukti Srivastava (Environment Protection, Safety & Occupational Health, Risk Management) Sudaksha Management Solutions enlightened the audience about the disasters that can be detrimental in process industry.</p> <p>b) International Conference</p> <p>First online International Conference on "Emerging Trends in Catalysis for Sustainable Chemical Processes", during 26-28 August, 2021 was jointly organized by BRC, The Catalysis Society of India, PPISR, Dayananda Sagar College of Engineering and MS Ramaiah Institute of Technology. The conference was attended by 300 participants from across the globe.</p> <p>c) National level Technical Symposium "ALCHEMIST – 2022"</p> <p>A National level technical Symposium "ALCHEMIST – 2022" was conducted on 3.6.2022, organized by the KLE Dr. M. S. Sheshgiri College of Engineering & Technology in association with BRC. The theme of the symposium was "Data Science for Chemical Engineers".</p> <p>d) One-day Seminar</p> <p>On the occasion of World Environment Day 2022, a seminar on "Climate change and its Impacts", was organized by the Department of Chemical Engineering, SDMCET, Dharwad, on 6.6.2022. The event was sponsored BRC. The event was part of the 75th Year of Celebration of IChE.</p> <p>e) National level symposium</p> <p>A Two-day national level symposium "Chemovation - 2022: Samruddhi" was held on 17-18.06.2022, was organized by DSCE in association with BRC. The symposium was inaugurated by Dr. K V Venkatesh, Professor and Former Head, Chemical Engineering, IIT, Bombay. More than 40 Papers were received for oral presentation. Various other activities were also conducted. viz.. Poster Presentation, Quiz, Chemathon. Participants from 15 Institutions (Chemical/Biotech/R&D labs) participated.</p>
Bhopal	<p>a) Industry academia Workshop</p> <p>A Pre-conference Workshop) was organized on 24.03.2022 to enhance the interaction between the industry and academia for determining future direction of research.</p> <p>b) National conference</p> <p>on Advances in Chemical Engineering and Science (ACES-2022) was organized on 25.03.2022 and 26.03.2022. The event was organized jointly by the Department of Chemical Engineering, IISER Bhopal, IChE-IISER Bhopal Students' Chapter and Department of Chemical Engineering, Ujjain Engineering College.</p>

<p>Bhubaneswar</p>	<p>a) Talk</p> <p>An invited talk was organized on 30.07.2021 on the topic, 'Selective Chemical Dissolution, Leaching And Etching of Metals And Minerals: Essential Insights From Multiscale Material Simulations'. It was delivered online by Prof Abhijeet Chatterjee, Dept. of Chemical Engineering, IIT-Bombay.</p>
<p>Calcutta</p>	<p>a) Technical Lecture</p> <ul style="list-style-type: none"> i. On 'Evaluation and Enabling Technologies for Enhanced Value Creation from Manufacturing' by Mr. Narayan Chandra Chakrabarti, Vice President, Reliance Industries Limited on 09.02.2022. He is currently leading the futuristic technology initiatives focusing digital transformation, smart manufacturing technology development and intelligence based predictive and prescriptive analytics in manufacturing. ii. On 'How to Adjust Corporate Strategy to Deal with the Opportunities and Challenges in Industry' by Mr. Ambarish Dasgupta, Senior Partner, Intueri Consulting LLP on 23.02.2022. iii. On 'Digital Transformation TAKING Industry Forward' by Mr Bireswar Roy, Head, Digital Enterprise Services, Business Unit of Digitl Industries, Siemens Ltd. on 08.03.2022. iv. On 'Challenges in Design of Secure IoT based Industrial and Healthcare Systems' by Ms Susmita Sur-Kolay, Senior Professor, Indian Statistical Institute on 23.03.2022. v. On 'Innovation Deficit' by Mr Kundana Kumar Lal, a global Artificial Intelligence thought leader, an AI evangelists and AI Influencer, on 06.04.2022 vi. On 'Industry 4.0 and Sustainability' by Mr Anirban Bhattacharya, who has 20 years of experience in strategy, research and development and implementation of physical and digital operations in manufacturing, improving supply chain process and enabling process automation services. vii. On 'Future of Simulation Based Product Innovation in the 21st Century' by Mr Prith Banerjee, Chief Technology Officer at ANSYS. viii. Prof. N. K. Bose Memorial Lecture, instituted in memory of Prof. N. K. Bose, the founder of Chemical Engineering Education and Research in Calcutta University and Founder President of the CU Chemical Engineering Alumni Association, was organized on 23.03.2022. Prof. Partha Roy, former Professor and Head of Chemical Engineering Department, Calcutta University delivered the lecture on 'Energy and Sustainability'.
<p>Chandigarh</p>	<p>a) Expert Talk</p> <p>On the topic "Industrial Application of Pumps" by Mr. Dharampal Kundal, Deputy Manager-Sales and marketing at "KSB Pumps held on 16.03.2022.</p> <p>b) Student Chapter Activities:</p> <p>IICChE Student Chapter at Panjab University organized the following programs:</p> <ul style="list-style-type: none"> i. Tech-Talk on 29.12.21 ii. Expert Talk on Heat Exchangers' on 16.03.2022. iii. Expert Talk on 'Process Safety' on 12.05.2022
<p>Chennai</p>	<p>a) Lectures</p> <ul style="list-style-type: none"> i. On the topic "Liquid Environmental Solutions in the Current Global Scenario" by Mr Sunil Kumar Singh, Plant Manager, Liquid Environmental Solutions, Texas, USA.

<p>Dhanbad</p>	<p>a) Webinar</p> <p>Organized in association with SPE IIT (ISM) Student Chapter. An online webinar on “Waste Plastics to fuel and chemicals: opportunities and challenges” by Dr Sanat Kumar, Senior Principal Scientist, IIP, on 15.08.2022.</p>
<p>Guwahati</p>	<p>a) Talks</p> <ol style="list-style-type: none"> i. On “Lattice-Boltzmann Modeling of Immiscible Two-Phase Flows in Artificially Generated Porous Media” by Prof. Konstatinos Papadakis, founding Dean of Design School, Xi’an Jiaotong-Liverpool University, China. ii. On “Artificial Intelligence for Numerical Simulation and Optimization” by Dr. Pankaj Kumar, Senior Solution Architect, HCL, Singapore. iii. On “Integrating Continuous-flow Microfluidic Crystallizer with Multiscale Simulation to Obtain Fundamental Insights into Nucleation and Growth of Crystalline Materials” by Dr. Meenesh R Singh, Assistant Professor of Chemical Engineering at University of Illinois, Chicago, USA.
<p>Hyderabad</p>	<p>a) Lectures</p> <ol style="list-style-type: none"> i. On the topic “Chemical Engineering in the Industry – Spectrum of Opportunities” by Dr. Rajesh Goyal, Patent Intelligence Manager at Solvay on 03.12.2021. ii. On the topic “How Chemical Engineers are Redefining the Product Development (Pharmaceutical Space)” by Mr. Birendra David, Delivery Manager – Inhalation and Director – Process Engineering Formulations at Dr. Reddy’s Laboratories Ltd., on 07.01.2022. iii. On the topic “Process, Innovation and Automation: A Chemical Engineer’s Perspective” by Dr. John P. Singh, Data Advisor, Halliburton, USA, on 04.02.2022. iv. On the topic “Simulation Driven Product Development: Chemical Engineering Perspective” by Ms. Sujata Bandopadhyay, Sr. National Manager, ANSYS Inc. on 04.03.2022. v. On the topic “Diagnostic Testing in a Post-COVID World Enabled by Microfluidic Technologies” by Dr. Dhananjaya Dendukri on 03.06.2022. <p>b) M P Chary Memorial Lecture</p> <p>The 15th M P Chary Memorial Lecture was organized on 25.06.2021 by Professor Ravindra Gudi on “Exciting Opportunities in Digitalization, AI and ML”.</p> <p>Student Chapter Activities</p> <ol style="list-style-type: none"> i. Lecture on “Green Hydrogen Production: Challenges and Opportunities” delivered by Prof. V. V. Basava Rao, former President, IICChE. ii. Lecture on “Combating Covid-19 and Water Scarcity through Innovation in Chemical Engineering” delivered by Dr. S. Sridhar, Chief Scientist & Processor. iii. Student Chapter at UCT, OU organized a National Conference on “Emerging and Adaptable Technologies in Process Industries” on 14 -15.12.2021. iv. Student Chapter at JNTU-Hyderabad conducted Technical Symposium “GENOS-2022” during 12-13, April 2022. An expert lecture was delivered on the topic “Membrane Technology, Water Conservation – Present and Future” was delivered by Dr. S. Srdhar, Sr. Scientist, IICT. v. A workshop was held on 07.04.2022 in collaboration with TS Pollution Control Board and IICHE-HRC on “Sustainable Waste Management Technologies”.

	<p>vi. Student Chapter at BITS Pilani, Hyderabad organized a Guest Lecture on the topic “AI in Chemical Engineering and Material Science: Past, Present and Future” on 25.07.2021. Conducted an online guest lecture by Dr Anantha Sundaram from ExxonMobil, USA on 22.11.2021.vii.Student Chapter at CBIT conducted a National Level Technical Symposium CHEMSPARK-2022 during 23-24.03.2022.viii.Student Chapter at RGUKT organized a four day workshop on Curative Curious-2022 on “LaTeX” from 24-27.03.2022.</p>
Mangalore	<p>a) Aqua Week Expert Talk - IChE Student Chapter at Manipal Institute of Technology organized the following talks:</p> <p>i. On the topic ‘Water and Waste Water Treatment’ by Dr S Manjappam Director R&D, Sahyadri College of Engineering, on 28.08.2021.</p> <p>ii. Chemignite 2K21</p> <p>On the topic ‘The Ever-Changing World of Energy’ by Mr. Uttam Shanbhag, Director,Technology, Air Liquide, Delaware, USA, on 27.11.2021.</p>
Northern	<p>a) Technical Lectures:</p> <p>Under ‘Learning with Leaders’, Online series of Technical Lectures were held on various topics:</p> <p>i. On ‘Digitalization – Challenges & Opportunities in Chemical Industries’ by Mr Vivek Gupta, Joint Vice President and Head – Instrumentation & Digitalization, M/s. DCM Shriram Limited, on 25.09.2021.</p> <p>ii. On ‘Operational Safety in Chemical Process Industry’ by Mr Subhash Tandon, Former Executive Vice President, Chlor-Alkali, DCW Ltd., on 23.10.2021.</p> <p>iii. On ‘Hydrogen Economy/Green Hydrogen” by Mr Parag Chepe, Chief Engineering Officer & Executive Director – Engineering, Thyssenkrupp Industrial Solutions (India) Pvt. Ltd., on 20.11.2021.</p> <p>iv. On ‘Sustainability of Chemical Industry through Carbon Rainbow Concept of Green to Purple: Opportunities and Challenges’ by Prof R K Khandal, President, R&D and Business Development, India Glycols Ltd. on 18.12.2021.</p> <p>v. On ‘Nanotechnology for Sustainable and Precision Agriculture: current state and future perspective’, by Dr Ramesh Raliya, GM & Head – R&D, IFFCO, on 19.02.2022.</p> <p>vi. On ‘Membrane Bio-reactors Technology’ by Mr Ajay Papat, President, ION Exchange (India) Ltd., on 19.03.2022.vii.On ‘Carbon Capture Technologies – the present and the future’ by Mr Rajiv Narang, Director, Process Economics Program, HIS Markit, on 23.04.2022.</p> <p>b) Seminar</p> <p>On ‘Production and Use of Green Hydrogen and Green Ammonia in Process Industry’ held on 24 and 25.06.2022. The following talks were presented:</p> <p>i. On ‘Green Hydrogen/Ammonia Policy’ delivered by Dr Vandana Kumar, Additional Secretary, MNRE.</p> <p>ii. On ‘Hydrogen Economy: Myth or Reality – Scope of 3D Printed Micro Electrolyser’ by Prof S Basu, Director, IMMT, Bhubaneswar.</p> <p>iii. On ‘Clean Ammonia’ by Mr Jacobus de Letter, Yara Clean Ammonia, Norway.</p> <p>iv. On ‘The development of Alkaline Water Electrolyzer Technology at BARC for green hydrogen’ by Dr Sandeep K C, BARC, Mumbai.</p>

	<ul style="list-style-type: none"> v. On 'Green Hydrogen Eco system: Path Forward to End-to-End Value Chain for Clean Energy' by Dr. (MRs.) N Kalaiselvi, Director, CECRI (CSIR), Karaikudi. vi. On 'Role of Green Hydrogen for Clean Transportation' by Dr. Ashish Lele, Director, CSIR-NCL, Pune. vii. On 'Green Hydrogen Projects and Plants of NTPC' by Mr. DMR Panda, NTPC. viii. On 'Prospects of Green Ammonia in Fertilizer Industry' by Dr. S Nand, Additional Director General, Fertilizer Association of India, New Delhi. ix. On 'Options for storage of Hydrogen' by Mr Gautam Sen, Ex-ED, ONGC. <p>c) Seminar/Workshop/Webinar:</p> <p>The Lovraj Kumar Memorial Trust workshop on "Carbob Capture & Utilization" was organized in association with Federation of Indian Petroleum Industry (FIPI) and IChE-NRC on 27.11.2021 on virtual mode.</p> <p>Following lectures were delivered under the topic:</p> <ul style="list-style-type: none"> i. On 'CCUS Policy Enablers for India' by Dr. Abhinav Trivedi, Consultant (S&T), NITI Ayog. ii. On 'Technology Developments for Sustainability: One Perspective' by Dr Ajit Sapre, Group President, RIL. iii. On 'Opportunities in India Energy Sector: Urban and Rural Sectors' by Prof A B Pandit, Vice Chancellor, ICT, Mumbai. iv. On 'CCU Implementation in Steel Plants – A case study of Tata Steel' by Dr. Debashish Bhattacharjee, Vice President, Technology & New Materials Business, Tata Steel Limited. v. On 'CO₂ Capture and Utilization – EIL's Initiatives' by Dr R N Maiti, Senior General Manager, EIL R&D. <p>LKMT Conclave-2022 on "Energy Storage (Battery & Hydrogen)LKMT organized the conclave on "Energy Storage (Battery & Hydrogen" in association with FIPI and NRC on 04.03.2022 through virtual mode. The following lectures were delivered under the topic:</p> <ul style="list-style-type: none"> i. On 'Lithium-ion-Battery' by Dr S A Ilangoan, Deputy Director, PCM Entity, VSSC. ii. On 'Super Capacitor' by Prof Tata N Rao, Director, IARC for power metallurgy & New Materials. iii. On 'Metal Hydride Storage for Hydrogen' by Prof Pratibha Sharma, IIT-Bombay. iv. On 'Sodium-ion Batteries' by Prof Palani Balaya, Natl. University of Singapore. v. On 'High Pressure Hydrogen Storage Syste' by Dr Neel Sirosh, CATEC Gases, USA.
<p>Pune</p>	<p>a) Technical Talk</p> <ul style="list-style-type: none"> i. On 'Application of Nanotechnology in Wastewater Treatment' by Prof Pawan Khanna, Defence Institute of Advanced Technology (DIAT) on 18.06.2022. <p>b) Student Chapter at Bharati Vidyapeeth College of Engineering, PuneThe following talk was organized:</p> <ul style="list-style-type: none"> i. On 'Accelerating Biologics (biologic drugs) to Clinic' by Dr Shahid Rameez, Director, Biologics Process Development & Commercialization, Merck & Co. Pennsylvania, USA on 12.10.2021. <p>c) Student Chapter at MIT Academy of Engineering, Alandi, Pune The following activities were conducted:</p> <ul style="list-style-type: none"> i. 'PRAKLP 2021' was organized on 13-14.09.2021.

	<ul style="list-style-type: none"> ii. Expert Talks were held on 31.12.2021, 11.03.2022, 16.03.2022, 01.04.2022, 29.03.2022, 06.04.2022 and 11.04.2022. iii. A three-day course on 'Industrial Safety Getting Plant Ready', during 27 – 29.08.2021. iv. 'Hands Workshop on Process Simulation Software' on 3 and 4.09.2021. v. A one-month Summer Internship Course program on 'Insight to Chemical Process Simulation' during 01 – 30.06.2021. <p>Industry Visits:-</p> <ul style="list-style-type: none"> - To Bhusaheb Thorat Sugar Factory, Sangamner on 20.03.2022. - To Ambalika Sugar Factory, Karjat, Ahmadnagar on 29.04.2022. - To Agrisearch Pvt. Ltd. on 11.04.2022 - To Ingenero Pvt. Ltd. Mumbai, on 27.04.2022 - To Mapro Mahabaleshwar on 09.04.2022 <p>d) Student Chapter at Vishwakarma Institute of Technology, Pune</p> <ul style="list-style-type: none"> i. Expert talk on 'Artificial Neural Networks in Chemical Engineering' during 14 – 19.09.2021. Speakers included Dr. Sanjeev Tambe and Dr. Suhas Ghugare. ii. 'COVID-19 Research and Engineering, Modern and Ancient approach' by Prof T K Keshav, Scientist, Universal Theory of Nature on 25.09.2021. iii. Fluid Flow Training Workshop by Dr. Ajay Satpute, Managing Director of Converge Engineering Pvt. Ltd. on 23.04.2022. <p>e) Student Chapter at Dr. D Y Patil Institute of Engineering and Management Research, Pune</p> <ul style="list-style-type: none"> i. Lecture on the topic 'Supply Chain Management' by Mr. Pravin Bagal, on 04.09.2021. ii. Lecture on the topic 'Introduction to Flow Chemistry' by Dr. Mkrand Pimpalpure, on 14.12.2021. iii. Online project and paper presentation TECHNOVISION 2.0 was held on 21.08.2022. <p>f) Student Chapter at K K Wagh, Nasik</p> <p>Expert Talks</p> <ul style="list-style-type: none"> i. On 'Overview of Pharmaceutical Industry' by Dr. Anjali P Bedse, Associate Professor, Dept of Chemical Engineering, KK Wagh Institute of Pharmacy, Nasik, on 13.11.2021 ii. On 'Green Ethylene' by Dr. V. V. Mahajani, Retd. Professor, ICT, Mumbai, on 22.11.2021. iii. On 'Overview of Agrochemicals Industry' by Prof. S. S. Bairagi, Assistant Professor, K K Wagh Agricultural College, Nasik, on 23.11.2021. iv. On 'Overview of Pain, Surfactant Industry' by Mr. Ashutosh Patil, Assistant Manager R&D, JSW Paints, Mumbai, on 25.11.2021. <p>g) Student Chapter at All India Shri Shivaji Memorial Society, Pune</p> <ul style="list-style-type: none"> i. Webinar was organized on "Role of Economics in Selection of Technology" on 16.03.2022. Mr. Nikunj Tanna, Principal Sales Engineer – Honewell UOP spoke on the subject. ii. Webinar was organized on 'Introduction to Energy Integration' on 01.05.2022. Dr. Parikshit Shahane spoke on the subject.
<p>Pilani</p>	<p>a) Invited Talks:-</p> <ul style="list-style-type: none"> -- On 'Microflow Technologies for Controlling Fast Chemical Reactions: From Fundamentals of Mass And Heat Transfer to Large-Scale Productions', by Dr. Shusaku Asano, Assistant

	<p>Professor, Institute for Materials Chemistry and Engineering, Kyushu University, Japan, on 04.12.2021.</p> <ul style="list-style-type: none"> -- On Methodology of Gas Adsorption Process Design: Application to CO₂ Capture and Biogas Upgrading' by Prof Jose Silva, Adjunct Professor, Escola Superior de Tecnologia e Gestao, Portugal, on 17.11.2021. -- On 'Physico-chemical Aspects In Controlling Properties Of Natural Grapheme-Like Nanocarbon In Muti-Functional Materials' by Prof Natalia Rozhkova, Institute of Geology, Russia, on 14.10.2021. -- On 'Understanding the Importance of Dust Hazards – Prevention and Mitigation' by Dr. Sonny Sachdeva, Principal Safety Engineer, PSRG, Texas, USA, on 09.09.2021. -- On 'Utilization of High-Performance Computing for Internal Combustion Engines' by Dr. Kaushik Saha, Assistant Professor, Centre for Energy Studies, IIT Delhi, on 28.08.2021. <p>b) Student Chapter Activities under PRC-</p> <ul style="list-style-type: none"> -- 'Chem-E-Bid' held on 08.04.2022 -- 'Flip Quiz' held on 09.04.2022 -- 'Sonority' held on 21 – 24.01.2022
<p>Trivandrum</p>	<p>a) Seminar/Webinar:</p> <ul style="list-style-type: none"> i. On 'Medical Oxygen Concentrator – An Overview' by Mr. Lakshman Yalisala on 30.09.2021. ii. On 'Modeling and Control Strategies for Energy and Environmental Systems' by Mr Hari S Ganesh, on 30.10.2021. iii. On 'Recycling of Plastic Waste to Plastic Composite Products' by Dr Shantanu Bhowmik, Head Research & Projects, Dept of Aerospace Engineering, Amrita Vishwa Vidyapeetham, on 04.02.2022. iv. On 'Role of Geo Polymers in Sustainable Development' by Dr. Usha S, Professor & Head, Department of Civil Engineering, SNG College of Engineering, on 02.04.2022.
<p>Waltair</p>	<p>a) Webinar:</p> <p>The Chemical Engineering Department of Andhra University in association with IChE-Waltair Regional Centre conducted an International Webinar on "Recycling Solid Waste Management" on 16.09.2021.</p> <p>b) Student Chapter at Indian Institute of Petroleum & Energy, Visakhapatnam</p> <ul style="list-style-type: none"> i. A special talk on the theme 'Be Mindful of Occupational & Process Safety all the Time' was delivered by Mr. Ramesh Koganti, who has been associated with TCP Group, BP and Lyondel Basell. ii. 'Vishleshan', an event, was organised on 12.10.2021 on the occasion of the 'International Day for Disaster Reduction' on the theme 'Industrial Disasters: Prevention & Control'. iii. A special talk on "Manufacturing of Strategic Materials" was delivered by Dr. Chandan Halder, Senior Manager, R&D, Mishra Dhatu Nigam Limited, on 03.10.2021. iv. A special talk on 'Nanomaterials for Sensing Applications' was delivered by Dr. Gomathi N, Associate Professor, IISCT, Thiruvananthapuram, on 25.09.2021. <p>Student Chapter at Gayatri Vidya Parishad College of Engineering</p> <ul style="list-style-type: none"> i. Lecture on 'Development Trends in the Carbon Capture', delivered by Prof. I Sreedhar, Head, Dept. of Chemical Engineering, BITS, Hyderabad, on 26.04.2022. ii. Lecture on 'Recent Advances in Batteries and Opportunities for Chemical Engineers', was delivered by G Devi, Sr Engineer, Amaraja Batteries, on 26.03.2022.

	<p>iii. Lecture on 'Exploration and Production of oil and gas was delivered by G Santosh Kumar, Executive Engineer, ONGC, Kakinada, on 18.12.2021.</p> <p>Student Chapter at ANITS, Visakhapatnam</p> <p>i. Online lecture was delivered on 'Fundamentals of Scale-Up' by Reinaldo Machoda, Principal Research Associate at Versum Materials, USA on 22.03.2022.</p> <p>Student Chapter at MVGRCE, Vizianagaram</p> <p>The following Lectures were organized</p> <p>i. On 'Advantages and disadvantages of Carbon Sequestration' by Dr. I Sreedhar, Professor, BITS Hyderabad.</p> <p>ii. On 'When Deep Learning Meets Sustainable Energy Utilization' by Dr. Priyanka Devi Pantula, Senior Algorithmic Engineer, R&D Division, OSI System, Hyderabad.</p> <p>iii. On 'Process Dynamics and Control of Industrial Grinding Operation' by Dr. Srinivas Soumitri Miriyala, Senior Research Scientist, Institute of Data Science & AI, University of Exeter, UK, on 11.12.2021.</p> <p>iv. On 'Continuous Casting Process Optimization in Steel Plant Using SVMs' by Dr. Ravikiran Inapakurti, Research Scientist, Department of Chemical Engineering, IIT Hyderabad on 12.12.2021.</p> <p>v. On 'Micro-kinetic Modeling of CO₂ Hydrogenation Using Density Functional Theory' by Dr. Yerrayya Attada, Senior Research Scientist, Catalysis Centre, KAUST, Saudi Arabia, on 12.12.2021.</p>
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6.0 Council Meeting Highlights

Major decisions taken at the meetings, held between 1 April 2021 and 31 March 2022, are presented below:

6.1 3rd meeting for 2021, held online on 24 April 2021.

Administrative

Standing Committees

At the 2nd meeting of the Council (13.02.2021),

Conveners of the three new Standing Committees (Internal Audit, Process Safety, Environment and Energy as well as Legal Committee) were requested to send the draft functional responsibility of the said committees.

Accordingly, draft clauses regarding responsibilities of the three concerned committees were submitted, which were approved by the Council.

Internship Programs

The Council recommended the following terms and conditions to initiate any collaboration for Internship Programs/Certificate Courses:

- i) MoUs should be signed with reputed Academic Institutes, Universities and Chemical Industry units which will enhance the branding of IChE.
- ii) The registration process should be through the IChE headquarters only. The registration fee should not be

higher than the registration fee of IChE's own internship program at any time.

- iii) Registration fee should be credited directly to the IChE account. It would be transferred to the partner account after completion of the program and the royalty amount of IChE would be deducted before transferring the registration fees.

Online Internship Program (OIP-2021)

The Council authorized the Honorary Secretary to act as the Chief Coordinator of the online Internship Program.

Membership

Fellowship

Based on the recommendation of the Honorary Fellowship Committee, the Council decided to award Fellowship to Prof. Ravindra Gudi, (Dept. of Chemical Engineering, IIT Bombay) and Mr. S Ramakrishnan, (Director Pro U India. Teynampet, Chennai).

6.2 4th meeting for 2021, held online on 22 October 2021.

Administrative

Institution of Award

The Council approved institution of the award, namely, **Dr. Mithilesh Jha and Dr. Lily Jha National Award for the Best Promising Chemical Engineering Teacher** with an Endowment Fund of Rs 1.5 Lakh, donated by Prof. M. K. Jha.

Collaboration for Online Internship / Certificate Courses

The Council approved the MoU for a Risk Management Centre of Excellence (RMCoE) between Siddaganga Institute of Technology (SIT), Tumkur and Indian Institute of Chemical Engineers (IChE).

Another MoU between Terra Green Technologies Pvt. Ltd, Kolkata and IChE was also approved for an Internship program in the area of Environmental Pollution, including, Air Pollution, Water Pollution, Fire Fighting and other related fields. This program is meant for the students, practitioners and professionals.

Membership

Honorary Fellowship

On the basis of recommendation of the Guwahati Regional Centre, IChE, the Council decided to award Honorary Fellowship to Prof. Saikat Maitra, Vice Chancellor, Maulana Abul Kalam Azad University of Technology, West Bengal.

Fellowship

As per the recommendation of the Honorary Fellowship Committee, the Council decided to award Fellowship to Mr. Bhavinkumar D. Maheta (LAM 36005), Dr. Jayesh Rupalia (LAM 38077), Mr. Purushottam R. Ralkar and Prof. S. N. Gummadi (LM 69319).

Change in Pattern of Student Membership Number

In order to segregate the Corporate Members and the Student Members, the Council unanimously decided to follow a different pattern, i.e., **SM-YY0001 (YY: year of membership)** while allotting Student Membership number.

This revised pattern has three benefits: i) The total numbers of Corporate Membership will not increase drastically, ii) the space requirement in the IChE database will increase only marginally after deleting old Student Members every year, and, iii) the Student Members will not get any undue benefit of seniority when they will become Corporate Member.

Organisational Membership

The Council approved admission of the following Organisational Members:

- i. B.R. Ambedkar National Institute of Technology, Jalandhar.
- ii. Advanced Centre for Energetic Materials, DRDO, Nasik
- iii. AVT Academy for Professional Education Private Ltd., Tamil Nadu.
- iv. Sant Longowal Institute of Engineering and Technology (SLIET), Punjab.

- v. Rajiv Gandhi Institute of Petroleum Technology (RGIPT), Jais, Amethi.

Regional Centre Affairs

New Regional Centres

The Council approved formation of IChE's Patna Regional Centre (Patna), Bhopal Regional Centre

(Bhopal) and Rae Bareli Regional Centre (Amethi), subject to fulfilment of the criteria as laid down in the Constitution of IChE.

Student Chapter Affairs

New Student Chapters of IChE

The Council approved formation of Student Chapters at the Department of Chemical Engineering of the following engineering colleges / institutes:

- i. Saveetha Engineering College, Chennai
- ii. Dr. M G R Educational and Research Institute, Chennai. Both these two Student Chapters come under the guidance of the Chennai Regional Centre of IChE.
- iii. K. K. Wagh Institute of Engineering Education and Research, Nasik, under the guidance of Pune Regional Centre.
- iv. Sree Buddha College of Engineering, Kerala, under the guidance of Kochi Regional Centre.
- v. TOMS College of Engineering, Kerala, under the guidance of Kochi Regional Centre.
- vi. K P R Institute of Engineering and Technology, Coimbatore, under the guidance of Coimbatore Regional Centre.

Student Chapters at Biotechnology Department

Following a request by Dr. Archana, Chairperson, Bangalore Regional Centre and Head, Dept. of Chemical Engineering, MSRIT, Bangalore, the Council allowed formation of Student Chapters at the Departments of Bio-Technology/ Bio-medical Engineering/ Pharmacy/ Environmental Engineering, provided the Co-ordinator is a Chemical Engineer.

This will, on the one hand, help the departments with the NBA and NAAC accreditation process. On the other hand, this will enhance the student membership of IChE.

6.3 5th meeting for 2021, held online on 13 November 2021.

Administrative Matters

Service Rules Amendment

The Council approved the recommendations made by the members of the Service Rules Amendment Committee, to be effective from 1 January 2022.

Student Chapter Affairs

New Student Chapters

The Council approved formation of Student Chapter at the Department of Chemical Engineering of Indian Institute of Science Education & Research (IISER), Bhopal, which will be under the guidance of IChE Headquarters.

6.4 6th meeting for 2021 held at CSIR-IMMT, Bhubaneswar on 27 December, 2021.

Building Fund

The Council approved creation of a Building Corpus for Rs 10.0 lakh. The accrued interest from the principal amount will be utilized to meet the regular maintenance and major expenditure for the building.

Fellowship

As per the recommendation of the Honorary Fellowship Committee, the Council decided to award Fellowship to Dr. Madhu Agarwal (LM 40031).

Organisational Membership

The Council approved the Life Organisational Membership of Motilal Nehru National Institute of Technology, Allahabad, Uttar Pradesh.

Student Chapter Affairs

New Students Chapters

The Council approved the formation of Students' Chapter at the Department of Chemical Engineering, Indian Institute of

Technology, Jodhpur, subject to fulfilment of the criteria as laid down in Student Chapter By-laws.

6.5 1st meeting for 2022, held at CSIR-IMMT, Bhubaneswar, on 29 December, 2021. (The meeting was conducted both offline and online).

Election of President

Mr. D. M. Butala was elected as the President of the Institute for the year 2022.

Election of two Vice-Presidents

Prof. M. V. Rao and Prof. C. Karthikeyan were elected as the Vice-Presidents of the Institute for the year 2022.

Election of Other Office Bearers

For the year 2022, the members elected Dr Avijit Ghosh as the Honorary Secretary of the Institute, Mr. S. S. Pokale as the Honorary Jt. Secretary; Prof. Bishnupada Mandal as the Honorary Treasurer; Mr. Praveen Saxena as the Honorary Registrar and Dr Madhu Agarwal as the Honorary Controller of Examinations.

New Committees

The Chairman and Convenor of the 16 Standing Committees and 3 other committees were elected. The Convenors were requested to constitute their respective committees before the 2nd council meeting for 2022.

6.6 2nd Meeting for 2022, held online on 26 February, 2022.

Formation of the 13 Standing Committees and three Other Committees for the year 2022 was finalized as per Clause 26 of the IChE Constitution. Mr. D. M. Butala, President, requested the convenors of all the committees to convene at least one meeting in a year.

Standing Committees 2022

Name of the Committee	Members
Admission Committee	Dr. G. S. V. Ratnam (Chairman) Mr. Praveen Saxena (Convener) Prof. A. B. Pandit Dr. Madhu Agarwal Mr. P. D. Samudra Mr. Vimal Ch. Srivastava Dr. U. Kamachi Mudali
Publication Committee	Prof. A. B. Pandit (Chairman) Prof. Suddhasatwa Basu (Convener) Dr. C. Eswaraiyah Dr. Swati Mohanty Prof. Anil Verma

	<p>Dr. Madhu Agarwal Dr. Sanjiv Katti Prof. Ajay Dalai (Invitee) Prof. Anand Patwardhan (Invitee)</p>
Examination Committee	<p>Prof. Narendra M Surana (Chairman) Dr. Madhu Agarwal (Convener) Prof. Ajay Bansal Dr. Raja Simman Prof. Bishnupada Mandal</p>
Finance Committee	<p>Prof. M. V.Rao (Chairman) Dr. Bishnupada Mandal (Convener) Dr. Avijit Ghosh Prof. B. B. Paira Mr. S. K. Roy Prof. Animes Kumar Golder Prof. S. K. Majumder</p>
Internal Audit Committee	<p>Mr. Kalyan Kr Basu (Chairman) Prof. Bishnupada Mandal (Convener) Dr. Avijit Ghosh Prof. V. V. Basava Rao Prof. Priyabrata Sarkar Prof. Asim K De</p>
Legal Committee	<p>Prof. Vinay K Srivastava (Chairman) Dr. Avijit Ghosh (Convener) Prof. Chiranjib Bhattacharya Mr. D. M. Butala Mr. Shyam Bang Prof. P. De Prof V V Basava Rao Mr. Abhijit Mitra</p>
Regional Centre Affairs Committee	<p>Dr. S. K. Gupta (Chairman) Dr. M. Vanketeswara Rao (Convener) Prof. P. De Prof. Vinay K Srivastava Prof. V. V. Basava Rao Mr. Dhawal Saxena Mr. Abhijit Bikas Pal</p>
Awards/Judges Committee	<p>Mr. D. M. Butala (Chairman) Dr. Avijit Ghosh (Convener) Prof. G. D. Yadav Prof. B.B. Paira Prof. P. De Prof. V. V. Basava Rao</p>

Building Committee	Mr. S. K. Roy (Chairman) Dr. Avijit Ghosh (Convener) Dr. M. P. Jain Prof. Chiranjib Bhattacharya Mr. Anjan Bhattacharya Prof. S. B. Kuila Prof. Asit Kumar Saha Dr. Abhyuday Mallick (Invitee)
Education, Training and Research & Development Committee	Prof. C. Karthikeyan (Chairman) Prof. R. Saravanan (Convener) Dr. Avijit Ghosh Prof. K. B. Radhakrishnan Prof. M. Rajasimman Dr. Gaurav Rattan
International Relations Committee	Prof. M. K. Jha (Chairman) Prof. Anil K Saroha (Convener) Dr. Naseem Khan Dr. Tanveer Rasool Dr. Anurag Singh Dr. Sanjay Bhardwaj Mr. Praveen Saxena President and Honorary Secretary are ex-officio members
Library, Documentation and Website Committee	Prof. Alpana Mahapatra (Chairperson) Dr. Avijit Ghosh (Convener) Prof. Sudip K. Das Prof. M. Rajasimman Mr. Abhijit Mitra Prof. Papita Saha
Student Chapter Affairs Committee	Dr. G. M. J. Raju (Chairman) Prof. C. Karthikeyan (Convener) Prof. Asit Kumar Saha Dr. M Srinivasa Rao Dr. Gaurav Rattan Dr. R Parthiban Dr. M. Rajasimman
Honorary Fellowship Committee	Mr. D. M. Butala (Chairman) Dr. Avijit Ghosh (Convener) Prof. G D Yadav Prof. B.B. Paira Prof. P. De Prof. Vinay K Srivastava Prof. M. K. Jha

Chemcon Distinguished Speaker Committee	Mr. D. M. Butala (Chairman) Dr. Avijit Ghosh (Convener) Prof. G. D. Yadav Mr. Biswanath Chattopadhyay Prof. Rakesh K Trivedi Dr. Umesh Chandra Sharma
Process Safety, Environment & Energy Group	Mr. D. M. Butala (Chairman) Mr. S. S. Pokale (Convener) Dr. T. L. Prasad Dr. K. S. Rajanandam Dr. H. M. Bhatt Mr. Joy Shah Dr. G. S. V. Ratnam Mr. Vijay Bhujle (Invitee) Mr. Jagadish Nageshri (Invitee) Mr. Nikhil Tonapi (Invitee) Mr. N. M. Surana (Invitee)

Other Committees 2022

Headquarters Office Administrative Committee	Prof. B. B. Paira (Chairman) Dr. Avijit Ghosh (Convener) Mr. D. M. Butala Prof. V. V. Basava Rao Mr. S. K. Roy Prof. Vinay K Srivastava Prof. A. K. Saha Prof. Bishnupada Mandal
Chemcon & Schemcon Protocol Committee	Prof. S. V. Satyanarayana (Chairman) Mr. Praveen Saxena (Convener) Dr. Avijit Ghosh Prof. M. V. Rao Prof. N Balasubramanian Prof. V. K. Rattan Prof. M. K. Jha
Industry Institute Interaction Committee	Dr. M. P. Jain (Chairman) Mr. Praveen Saxena (Convener) Mr. Shyam Bang Mr. R. G. Rajan Mr. Dhawal Saxena

IChE-RGIPT Scholarship

The Council, in principle, accepted the proposal for a joint PhD scholarship Programme with Rajiv Gandhi Institute of Petroleum Technology (RGIPT). For this, IChE committed to an initial fellowship grant of Rs 5000/- per month.

AICTE Nomination

Following a request letter to the AICTE by the Honorary Secretary for nomination of one AICTE representative to the IChE Council as per the convention, AICTE nominated Prof. G. D. Yadav, Emeritus Professor of Eminence & Former Vice Chancellor of ICT, Mumbai to the IChE Council for the year 2022.

Award

There was confusion and lack of clarity regarding name of the IChE award, 'Dr. K. Anji Reddy Innovator of the Year in Chemical Engineering and Technology in India, by Publishing in the Reputed International Journal in Chemical Engineering & Biotechnology/Patents of Merit.'

The Council approved a modification in the name of the award as the following:

'Dr. K. Anji Reddy Innovator of the Year Award in Chemical Engineering and Technology in India having publications in International Journals in Chemical Engineering & Biotechnology OR having Patent/(s).'

Organisational Membership

The Council approved the Life Organisational Membership of Terra-Green Technologies Pvt. Ltd., Kolkata and B.V. Raju Institute of Technology, Narsapur.

Regional Centre

Subvention to Regional Centres and Student Chapters:

The Finance Committee recommended that the subvention amount for the RCs and SCs should be calculated on the basis of membership during the current Financial Year.

The committee also proposed the following slabs for release of Subvention to RCs based on the total membership fees received:

No. of LAM/LM enrolled in a Financial Year Fees received	% Subvention on eligible amount of Membership
Up to 20 members	10
Above 20 members	15

The Council approved the proposals.

Associated Membership Examination

Due to the prevailing Covid-19 pandemic situation, March 2021 Home Paper Viva-voce Examination could not be conducted.

7.0 Institute's Representatives to Various Bodies

- Chemical Engineering Plants & Related
 - 1) Asia Pacific Confederation of Chemical Engineering** – President, IChE
 - 2) Engineering Council of India** - Mr. D.M. Butala and Prof. A.K. Saroha
 - 3) World Council of Chemical Engineering** – President, IChE

8.0 Membership Position

Members, both Corporate and Organisational, are the mainstay of IChE. Without their constant support, the Institute cannot grow or pursue its objectives. IChE welcomed Honorary Fellows, Life Fellows, Life Members, Student Members, etc., as well as industry houses and academic institutions, joining the IChE fold as Organisational Members during the intervening period.

Membership position as on 31 March 2022 is given below along with the corresponding figures on March 31, 2021.

Categories	March 31,'22	March 31,'21
Organisational Member (Life)	103	93
Organisational Member (Annual)	62	62
Honorary Fellow	112	112
Fellow (Life)	135	128
Fellow	22	22
Member (Life)	5730	5631
Member	745	746
Life Associate Member	3323	3277
Associate Member	919	921
Student Member	22021	20300

The number of Corporate Members attached to each of the Regional Centres (as on March 31, 2022) are as follows:

SI. No	Regional Centre	No. of Members
1.	Ahmedabad	202
2.	Amaravathi	78
3.	Amethi	21
4.	Ankleshwar	490
5.	Annamalai	82

6.	Bangalore	199
7.	Baroda	386
8.	Bhopal	31
9.	Bhubaneswar	147
10.	Calcutta	703
11.	Chandigarh	107
12.	Chennai	515
13.	Coimbatore	141
14.	Damanjodi	58
15.	Dehradun	50
16.	Dhanbad	42
17.	Doaba	46
18.	Durgapur	30
19.	Goa	15
20.	Guwahati	132
21.	Haldia	153
22.	Hyderabad	507
23.	Jaipur	87
24.	Kalpakkam	94
25.	Kanpur	87
26.	Kharagpur	94
27.	Kochi	328
28.	Lote	51
29.	Lucknow	48
30.	Mangalore	77
31.	Mumbai	896
32.	Nadiad	30
33.	Nagpur	91
34.	Northern	475
35.	Paradeep	41
36.	Patna	61
37.	Pilani	30
38.	Pondicherry	34
39.	Pune	250
40.	Roorkee	26
41.	Rourkela	50
42.	Sriharikota	31
43.	Trivandrum	156
44.	Vapi	62
45.	Waltair	241

The following organizations were admitted as Organizational Members of the Institute upto March 31, 2022:

Life Organisational Members – Industry	
1	Agile Process Chemicals LLP Navi Mumbai
2	Alkyl Amines Ltd.
3	Artemis Biotech Ltd., Mumbai
4	Asian Paints Ltd., Mumbai
5	Avon Organics Ltd., Hyderabad
6	Bentley Systems India Pvt. Ltd., Mumbai
7	Birla Cellulosic, Bharuch
8	Blast Carboblocks Pvt. Ltd., Navi Mumbai
9	Deepak Fertilisers & Petrochemicals Corporation Ltd., Pune
10	Development Organization for Sustainable Transformation, Chandigarh
11	Dr Reddy's Laboratories Ltd., Hyderabad
12	Excel Industries Ltd., Mumbai
13	Firechem, Faridabad
14	Golden Chemicals (I) Ltd., Mumbai
15	Gujarat Alkalies & Chemicals Ltd., Baroda
16	Gujarat Heavy Chemicals Ltd., Veraval
17	Haldia Petrochemicals Ltd., Haldia
18	Haldor Topsoe International A/S, New Delhi
19	Heavy Water Board, Mumbai
20	Hercules Speciality Chemicals (India) Pvt. Ltd., Bangalore
21	Herdillia Chemicals Ltd., Mumbai
22	Hetero Drugs Ltd., Hyderabad
23	Hikal Ltd., Taloja, Maharashtra
24	Hindustan Dorr-Oliver Ltd., Mumbai
25	Hindustan Latex Ltd., Thiruvananthapuram
26	Indian Oil Corporation Ltd., Refinery Division, New Delhi
27	Jacobs H&G Pvt. Ltd., Mumbai
28	Kavaerner Powergas India Ltd., Mumbai
29	Kavin Engineering & Services Pvt. Ltd., Coimbatore
30	Labindia Instruments Pvt. Ltd., Thane
31	Llyod's Register of Shipping, New Delhi
32	Mecon Ltd., Ranchi
33	MMTC-PAMP India Pvt. Ltd., New Delhi
34	National Organic Chemicals Industries Ltd., Mumbai
35	Novo Iresc India Private Ltd., New Delhi
36	Oil and Natural Gas Corporation Ltd., Dehradun

37	Oster Chemical & Pharmaceutical Works Pvt. Ltd., Kolkata
38	Pidilite Industries Ltd., Mumbai
39	RPG Life Sciences Ltd., Mumbai
40	Sartorius India Pvt. Ltd., Bangalore
41	Terra-Green Technologies Pvt. Ltd., Kolkata
42	Themis Medicare Ltd., Mumbai
43	Toyo Engineering India Ltd., Mumbai
44	TUV Sudddeutschland Ltd., Mumbai
45	United Phosphorus Ltd.,
46	Vical Inc., USA

Life Organisational Members – Research & Educational Institutes

1	Advanced Centre for Energetic Materials (ACEM) DRDO, Nasik
2	Annamalai University, Annamalai Nagar
3	Assam Engineering College, Guwahati
4	AVT Academy for Professional Education, Tiruvallur, Tamil Nadu
5	B V Raju Institute of Technology Narsapur, Medak
6	Bineswar Brahma Engineering College, Assam
7	BIT Sindri Institute Dist. Dhanbad, Jharkhand
8	Central Leather Research Institute, Chennai
9	Central Salt & Marine Chemicals Research Institute, Bhavnagar
10	Chaitanya Bharathi Institute of Technology, Hyderabad
11	<i>Dibrugarh University Institute of Engineering and Technology, Dibrugarh</i>
12	Dr. B.R. Ambedkar National Institute of Technology Jalandhar
13	Gharda Institute of Technology, Ratnagiri
14	HBTI, Kanpur
15	Haldia Institute of Technology, Haldia
16	Heritage Institute of Technology, Kolkata
17	High Energy Material Research Laboratory, Pune
18	IIIT Nuzvid, Rajiv Gandhi University of Knowledge Technologies, Nuzvid
19	Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu
20	Indian Institute of Chemical Technology, Hyderabad
21	Indian Institute of Petroleum & Energy, Visakhapatnam

22	Indian Institute of Science Education and Research, Bhopal
23	Indian Institute of Technology, Guwahati
24	Indian Institute of Technology, Kharagpur
25	Indore Institute of Science and Technology, Indore
26	JNTUA College of Engineering, Anantapur
27	KLE DR. M. S. Sheshgiri College of Engineering & Technology, Belgaum
28	Mahatma Gandhi Mission's College of Engineering & Technology, Navi Mumbai
29	Maulana Azad NIT, Bhopal
30	Mohamed Sathak Engineering College, Kilakarai
31	Motilal Nehru National Institute of Technology, Allahabad Prayagraj
32	Nandha Engineering College, Erode
33	National Chemical Laboratory, Pune
34	National Institute of Technology, Trichirapalli
35	National Institute of Technology, Durgapur
36	National Productivity Council, Chennai
37	Nuclear Fuel Complex, Hyderabad
38	Rajiv Gandhi Institute of Petroleum Technology, Jais, Amethi
39	SSBT's College of Engineering & Technology, Jalgaon, Maharashtra
40	Sant Longowal Institute of Engineering & Technology, Longowal, Punjab
41	Sarvajanik College of Engineering & Technology, Surat
42	Sathyabama Engineering College, Chennai
43	Saveetha Engineering College, Chennai
44	Shivaji University, Vidyanagar, Maharashtra
45	Guru Gobind Singhji Institute of Engineering & Technology, Nanded, Maharashtra
46	RVR & JC College of Engineering, Guntur
47	Regional Research Laboratory, Jorhat
48	St. Joseph's College of Engineering, Chennai
49	SSN College of Engineering, Tamil Nadu
50	Sri Venkateswara College of Engineering, Sriperumbudur, Tamil Nadu
51	Swami Ramananda Tirtha Institute, Nalgonda
52	Vikram Sarabhai Space Centre, Thiruvananthapuram Institute of Chemical Technology, Mumbai
53	University Institute of Technology, Mumbai

54	University College of TechnologyOsmania University, Hyderabad
55	University Institute of Chemical Technology, North Maharashtra University, Jalgaon
56	Sir Visvesaraya Institute of Technology,Nasik
57	Shivajirao S. Jondhale College of Engineering,Thane

Annual Organisational Members – Industry

1	Andhra Sugar Ltd., Tanuku
2	Aventis Pharma Ltd., Bharuch
3	Beta Concepts, Hyderabad
4	Bharat Aluminium Co. Ktd., Korba
5	Bharat Petroleum Corporation Ltd., Mumbai
6	Bharuch Enviro Infrastructure Ltd., Ankleshwar
7	Birla VXL Ltd., Porbandar (Saurashtra Chemicals Ltd.)
8	Chemfab Alkalies Ltd., Pondicherry
9	Cheminova India Ltd., Bharuch
10	Chemplast Saanmar Ltd., Chennai
11	Coromondal Fertilizers Ltd., Secunderabad
12	DCW Ltd., Dharanghra, Gujarat
13	Deepak Nitrite Ltd., Nandesari Gujarat
14	Diamines & Chemicals Ltd., Baroda
15	Engineers India Ltd., New Delhi
16	Epsilon Carbon Pvt. Ltd., Mumbai
17	Fertilizers and Chemicals Ltd., Secunderabad
18	Garg Lab Glass Industries, Vapi, Gujarat
19	Gas Authority of India Ltd., New Delhi
20	Gujarat Ambuja Cements Ltd., Kodinar
21	Gujarat Insecticides Ltd., Ankleshwar
22	Gujarat Narmada Valley Fertilizers Co. Ltd., Narmadanagar
23	Gujarat Sidhee Cement Ltd., Veraval
24	Gujarat State Fertilizer & Chemicals Ltd., Vadodara
25	Heavy Water Plant, Tuticorin
26	HEL India Ltd., Thane
27	Heubach Colour Pvt. Ltd., Ankleshwar
28	Hindustan Antibiotics Ltd., Pune
29	Hindustan Insecticides Ltd., New Delhi

30	Hindustan Organic Chemicals Ltd., Rasayani, Maharashtra
31	Hindustan Paper Corporation Ltd., Calcutta
32	Indian Petrochemical Corporation Ltd., Baroda
33	Indian Rayon Ltd., Veraval, Gujarat
34	Kevin Enterprises Pvt. Ltd., Mumbai
35	Mafatlal Industries, (Navine Flourine Industries – Chemical Division) Mumbai
36	Narmada Chematur Petrochemicals Ltd., Varuch
37	Nuchem Ltd., Faridabad
38	Saurashtra Cement Ltd., Gujarat
39	Sayantan Consultants Pvt. Ltd., Calcutta
40	Search Chem Industries Ltd., Jhagadia
41	Shriram Alkali & Chemicals, Bharuch
42	Shriram Fertilizers & Chemicals, Kota
43	SMPS Consultants LLP, Ahmedabad
44	Southern Petrochemical Industries Corp. Ltd., Chennai
45	Sun Pharmaceutical, Panoli
46	Surya Organics and Chemicals, Ankleshwar
47	Standard Industries Ltd., Mumbai
48	Standard Certification Council Pvt. Ltd., Mumbai
49	TCP Ltd., Chennai
50	Tata Chemicals Ltd., Mithapur
51	Textile Rubber & Chemical Co Pvt Ltd., Bhadohi
52	Trident Alco-Chem Ltd., Ludhiana
53	Vihita Chem Pvt. Ltd., Ankleshwar
54	Zuari Agro Chemicals Ltd., Zuarinagar, Goa
55	Zandu Chemicals Ltd., Ankleshwar

Annual Organisational Members – Research & Educational Institutes

1	Amal Jyothi College of Engineering, Kerala
2	Dalmia Institute of Scientific & Industrial Research, Rajganpur, Orissa
3	S M Engineering Institute, Kymore
4	St. Peter's Engineering College, Chennai
5	MVJ College of Engineering, Bangalore
6	Sriram Engineering College, Tamil Nadu
7	Arulmigu Meenakshi Amman College of Engineering, Tamilnadu

9.0 Associate Membership Examination

The number of candidates who appeared at the Institute's Associate Membership Examination during the last 10 years is provided below.

Year	No. of Candidates
2012	2495
2013	2283
2014	1872
2015	1427
2016	1206
2017	1083
2018	843
2019	564
2020	214 (only for March Semester)
2021	158 (only for September Semester)

Year	Semester	No. Appeared	No. Passed	% of successful candidates
2011	March	53	51	96.22
	September	40	40	100.0
2012	March	56	51	91.07
	September	48	36	75.0
2013	March	80	68	85.0
	September	82	70	85.36
2014	March	48	46	95.83
	September	44	39	88.63
2015	March	54	50	92.59
	September	30	25	83.33
2016	March	62	58	93.55
	September	36	31	86.11
2017	March	31	28	90.03
	September	22	19	86.04
2018	March	47	43	91.48
	September	47	44	93.62
2019	March	26	25	96.15
	September	26	26	100.0
2020	March	24	23	95.83
	September	17	17	100

10.0 IChE Awards 2021

Following is the list of IChE Awards, which were presented on the occasion of CHEMCON 2021 in recognition of eminence and excellence in various spheres of chemical engineering profession and education. The list of awardees is also provided.

IChE Award - 2021

Sl. No.	Name of the Awards/Prizes	Awardees of the Year
1.	Dr.B.P.Godrej Life Time Achivement Award	Professor V. K. Srivastava Past President, IChE & Former Professor IIT-Delhi
2.	Dr H L Roy Memorial Lecture sponsored by Jacobs	Professor P R Vasudeva Rao Vice Chancellor, HBNI, Mumbai
3.	Aker Powergas's Prof N R Kamath and MrsRuzena Kamath Memorial Lecture	Professor Gopal Mugeraya Director, NIT-Goa
4.	Inventaa C K Murthy Memorial Lecture	Professor Saikat Maitra Vice Chancellor, MAKAUT, West Bengal
5.	Lala Shriram National Award for Leadership in Chemical Industry	Mr. Jayantibhai Meghajibhai Patel Executive Chairman – Meghmani Organics Ltd., Gujarat
6.	Herdillia Award For "Excellence in Basic Research in Chemical Engineering"	Dr. Jayant Kumar Singh Professor, Chemical Engg Dept, IIT-Kanpur
7.	ONGC Award for Excellence in Design and Development of Oil/Gas related Process Plant and/or Chemicals	Dr. S. Sridhar Senior Principal Scientist CSIR-IICT, Hyderabad
8.	ICI India Ltd Award for Excellence in Process or Product Development	Dr. Sibes Chandra Bhattacharyya Scientist-G, DRDO
9.	Amar Dye-Chem Award For "Excellence in Research and Development" for Chemical Engineering below the age of 35 years	Dr. Sourav Mondal Assistant Professor, IIT-Kharagpur

10.	Dr K Anji Reddy Innovator of the Year in Chemical Engineering & Technology in India by Publishing in the Reputed International Journal in Chemical Engineering & Bio-Technology/Patents of Merit	Professor Parag R Gogate Professor of Chemical Engineering, ICT-Mumbai
11.	Lupin Industries Best Chemical Engineering Teacher Award for the Faculties in Private Colleges below the age of 50 years	Dr. Kaushik Nath Professor & Head, DChE, GHP CET, Gujarat
12.	Prof Ashutosh Sharma Award for Best Research Paper Published in a National/ International Journal by a Undergraduate Chemical Engineering Student (Male)	Mr. Anant Chauhan IIT-Ropar
13.	Prof Shyamal Kanti Sanyal Memorial Award for the best PhD Thesis in the Area of Membranes Research with Significant Commercial Potential	Dr. Harsha Nagar Assistant Professor, CBIT, Telangana
14.	Padmashri Professor G D Yadav and Dr (Mrs) Vasanti G Yadav Awards for the Most Versatile Chemical Engineering/Technology Students in India (2 prizes – Best Male & Female)	Mr. Prasanna Khare ICT-Mumbai Ms. Anjali Gupta NIT-Jalandhar
15.	Solenis Bharat Ratna Prof C N R Rao Medal and Chemcon Distinguished Speaker Award	Mr. S N Sastry Joint President & Unit Head, Grasim Chemicals
16.	RPG Life Sciences Padma Vibhushan Prof M M Sharma Medal and Chemcon Distinguished Speaker Award	Professor R Nagarajan IIT-Madras, Chennai
17.	Asian Paints Padma Bibhushan Dr R A Mashelkar Medal and Chemcon Distinguished Speaker Award	Professor Sarma V Pisupati Director- CCM, Penn State University, USA
18.	Deepak Group's Padma Bhushan Prof L K Doraiswamy Chemcon Distinguished Speaker Award	Mr. S Ganesan Vice President, United Phosphorous Ltd.
19.	Chemical Weekly's Padmashri Dr G P Kane Chemcon Distinguished Speaker Award	Dr. Anjan Ray Director, CSIR-Indian Institute of Petroleum
20.	Hetero Drugs Prof G S Laddha Chemcon Distinguished Speaker Award	Mr. Rajeev M Pandia Former President, Indian Chemical Council
21.	CSIR-IICT-Avon's Padmashri Dr G S Sidhu Chemcon Distinguished Speaker Award	Dr. S. S. V. Ramakumar Director, IOCL R&D
22.	Sartorius India's Chemcon Distinguished Speaker Award	Professor K Hanumantha Rao Professor, NTNU, Norway
23.	UPL Smt Sandra R Shroff Chemcon Distinguished Speaker Award	Professor Samir Mitragotri Professor, Harvard University, USA
24.	Hikal's Chemcon Distinguished Speaker Award	Dr. C. K. Asnani Chief MD, Uranium Corporation of India
25.	CSIR-CSMCRI Chemcon Distinguished Speaker Award	Mr. Arun Misra CEO, Hindustan Zinc Limited
26.	CSIR-CLRI Padmabhushan Dr Y Nayudamma Chemcon Distinguished Speaker Award	Mr. Deependra Singh Chief MD, Indian Rare Earths Limited
27.	DOST Professor S K Sharma Medal and Chemcon Distinguished Speaker Award	Dr. P K Banerjee CEO, HINDALCO
28.	CSIR-NEERI CHEMCON Distinguished Speaker Award	Dr. Mukesh Kumar Director, SRTMI, Ministry of Steel
29.	Alkyl Amins Padma Bhushan Prof B D Tilak Chemcon Distinguished Speaker Award	Dr. R N Patra Former Chief MD, Indian Rare Earths Limited
30.	Shah-Schulman Award 'for the best Ph.D. thesis in the area of Colloid and Interface Science' for 2020	Dr. Akshay Modi Research Associate, IIT-Bombay

31.	Dr A V Rama Rao Fndn Best Ph D Thesis and Research Award	Dr. Rajashree Borgohain & Guide : Prof Bishnupada Mandal IIT-Guwahati, Assam
32.	The Chemical Weekly Prize for Best Research Paper published in a High Impact Factor International Journal by an Undergraduate Chemical Engineering Student (First and Second Prizes)	1st Prize Ms.Ashlesha Girish Tiple ICT-Mumbai 2nd Prize Ms.Srishti Mittal Delhi Technological University, Delhi
33.	Chemical Weekly Award for the Best Paper Published in the Institute's Journal (ICE-2020)	Dr.Neeraj R Koshta Dr. Bharat A Bhanvase Dr.Shivani S Chawan Dr. Divya P Barai
34.	IChE NRC Award Best Paper in "Indian Chemical Engineer" 2020	Dr.Neeraj R Koshta Dr. Bharat A Bhanvase Dr.Shivani S ChawanDr.Divya P Barai
35.	The Kuloor Memorial Award to the best technical paper published in the journal of the Institute in the issues of the preceding year	Dr.Neeraj R Koshta Dr. Bharat A Bhanvase Dr.Shivani S ChawanDr.Divya P Barai
36.	IChE NRC Award 2 nd Best Paper in "Indian Chemical Engineer" 2020	Dr. Deepak Pal Dr.Ananth Sharma Dr.Abduljelilliyas
37.	Sisir Kumar Mitra Memorial Award to the second best technical paper published in the journal of the Institute in the issues of the preceding year	Dr. Deepak Pal Dr.Ananth Sharma Dr.Abduljelilliyas
38.	IChE NRC Award 3 rd Best Paper in "Indian Chemical Engineer" 2020	Dr.Appala Naidu UttaravalliDr.SrikantaDinda
39.	Mrs.Chinnamaul Mem. Prize for Best Tech Paper presented in preceding year CHEMCON	Dr.S. R.Dhanushkodi Mr. J C Zaveri Mr. H.Vaibhav Ms. H.Ashokan
40.	The Late Lakshmi Nandakumar Award for a Lady Student for the Best Presentation in the SCHEMCON of the Year	Ms. Monika
41.	Gouri Dutta Award for the Best Paper Presentation in SCHEMCON of the Year	Mr.Bablu Alawa
42.	Ambuja's Young Researcher's Awards for doing Post-Graduate Studies in India after GATE Examination (Ten Prizes)	1. Mr.Jamna Prasad Gujar, MANIT-Bhopal 2. Mr. D Naga Phani Sai Kumar, IIT-Guwahati 3. Mr. Shashi Bhushan Singh, IIT-Guwahati 4. Ms.Aishwarya S Rao, NIT-Warangal 5. Ms.Atla Vedasree, NIT-Warangal 6. Mr.Shaurya Verma, NIT-Warangal 7. Ms.Priya, ICT-Mumbai 8. Mr. Satyam Rajput, Heritage Institute of Tech, Kolkata 9. Ms.Reetika Mallick, Calcutta University, Kolkata
43.	Ambuja's Best Student Chapter Award (2 Prizes)	1st Prize IChE Student Chapter Sri Venkateswara College of Engineering, Sriperumbudur 2nd Prize IChE Student Chapter SSN College of Engineering, Kalavakkam
44.	Pidilite's Best Student Chapter Award	IChE Student Chapter Kongu Engineering College, Perundurai, Erode
45.	Best Regional Centre Trophy	Category "A" Best Hyderabad Regional Centre, IChE Category "B" Best Trivandrum Regional Centre, IChE Category "B" Second Best Amaravati Regional Centre, IChE

46.	Prof.P.Sen Gupta Award for Best Employee of the Year	Mr Sukanta Kumar Roy
47.	M P Chary Memorial Award	Mr. Anupam Mukherjee ICT-Hyderabad jointly with Mr. Khantesh Mohanbhai Agrawal, IISc, Bangalore
48.	Honorary Fellow	Professor Saikat Maitra Vice Chancellor, MAKAUT, West Bengal
49.	Fellow	<ol style="list-style-type: none"> 1. Professor V. V. Basava Rao 2. Professor Ravindra Gudi 3. Mr. S Ramakrishnan 4. Mr. Bhavin Kumar D Mehta 5. Dr. Jayesh Ruparelia 6. Mr. Purushottam R Ralkar 7. Professor S. N. Gummadi 8. Dr. Anil Verma 9. Dr. Chandan Das 10. Dr. Kaustabha Mohanty 11. Dr. Animes Kumar Golder

11.0 Students' CHEMCON 2021

The 17th annual session of the Students' Chemical Engineering Congress (SCHEMCON-2021) was held in hybrid mode at Bhopal, Madhya Pradesh on 22 and 23 October 2021. It was jointly organized by the IChE Students Chapters at Maulana Azad National Institute of Technology (MANIT) Bhopal and Indian Institute of Science Education and Research (IISER) Bhopal along with the IChE Headquarters, Kolkata. The central theme for SCHEMCON-2021 was 'Global Advancement in Technology for Environment (GATE 2021)'.

During the inaugural function of SCHEMCON 2021, Sadhvi Pragya Singh Thakur (Member of Parliament) was present as the Chief Guest for the event. She spoke about various schemes implemented by the Indian Government to promote science in the country for the benefits of the society. She has also suggested use of technologies for exploring the natural resources as well as focussing on the renewable and eco-friendly techniques for building the Nation. Other guests included Prof. M.K Jha (President, IChE), Dr. Avijit Ghosh (Honorary Secretary, IChE) and Mr. Praveen Saxena (Vice President, IChE).

Prof. M. K. Jha welcomed the gathering and motivated the young minds to bring in creative ideas for solving the real-life problems in the process industries and its allied areas. Prof. Jha also briefly discussed about various activities of IChE, undertaken during the COVID-19 pandemic. In his address, Mr. Praveen Saxena encouraged the young talents to apply their engineering knowledge in the real fields to overcome the ever changing environmental issues. He also suggested that the young students must be mentored and nurtured by the experienced faculty members and the industry professionals to tackle emerging problems, encountered by the industry in

India and abroad. Dr. Avijit Ghosh acknowledged active participation from all over the country by an impressive number of participants even in this pandemic situation. He also appreciated competent management of the two-day event by the local organizing team from the Department of Chemical Engineering of MANIT Bhopal and IISER Bhopal.

Around 185 participants joined the event (online and offline). A total 125 abstracts were received for presentation at the event. The participants presented their papers at different technical sessions, including, Separation Process, Energy & Environment, Nanotechnology, Wastewater Treatment, Process Modeling & Simulation, and, Industrial Waste Management. The students presented their papers through virtual mode. Also, two keynote lectures were delivered from industry personnel.

On the second day, there were five technical sessions, held simultaneously all day long. Later, the valedictory function was held in the presence of Prof. D. P. Tiwari (Dean of Academic, Chotu Ram University of Science and Technology Murthal; Former Director, Government Engineering College Bharatpur, Rajasthan and Government Engineering College, Nagrota, Himachal Pradesh) as the Chief Guest. It was followed by a panel discussion and the award presentation ceremony. Finally, names of the best presenters from each technical session, including, the M.P. Chary Award session, were declared and each of the recipients was awarded with certificate. The M.P. Chary Award was jointly presented to Mr. Anupam Mukherjee (CSIR-IICT, Hyderabad) and Mr. Khantesh Agrawal, (Indian Institute of Science, Bangalore).

The Vote of Thanks was offered by Dr. Sankar Chakma, the Co-Organizing Secretary of SCHEMCON 2021. He expressed his gratitude to one and all, who have actively participated

from across the country. The organizers also expressed their gratitude for enormous support received from the Chief Patron, Padma Shri Prof. G. D. Yadav; Patrons, Prof. Siva Umopathy (Director, IISER Bhopal) and Prof. N. S. Raguwanshi (Director, MANIT Bhopal); the Vice President, Shri Praveen Saxena and the Honorary Secretary, Dr. Avijit Ghosh. The organizing team also appreciated the major effort, made Mr. Sandeep Ghosh and Ms. Subha Samajadar from the IICHe Headquarters in Kolkata. Finally, the organizing team of the SCHEMCON2021 also conveyed sincere thanks to the media person for covering the event.

12.0 Library

The library at the Headquarters of the Institute in Kolkata has a stock of approximately 995 books. It receives around 60 issues of weekly journals, seven (7) issues of quarterly journals, nine (9) issues of bimonthly journal and 55 issues of monthly journals.

13.0 Regional Centre Affairs

Besides R&D related activities, Regional Centres and the Student Chapters under the aegis of the Regional Centres conduct various other programmes for skill enhancement, awareness building, networking, publicity, etc. An account of such activities is presented below.

Ahmedabad Regional Centre

Committee:

Chairman: Dr Sachin Parikh, **Honorary Regional Secretary:** Dr N M Patel, **Honorary Regional Treasurer:** Dr Satish Shah, **Member:** Prof C G Bhagchandani, Dr A P Vyas, Dr Rupande Desai, Mr Ashishbhai Soparkar, Dr Ronak Patel, Mr Hemalbhai Sheth, Mr Dinesh Verma and Mr R G Shah

Amaravati Regional Centre

Committee:

Chairman: Dr V Govardhana Rao, **Vice-Chairman:** Dr N Sambasiva Rao, **Honorary Regional Secretary:** Dr M Venkateswara Rao, **Honorary Regional Joint Secretary:** Mr R Banerjee Babu, **Honorary Regional Treasurer:** Dr K Ramesh Chandra, **Members:** Mr M Raghavaiah, Dr C V Subrahmanyam, Mr G Ranga Rao, Mr G Venu Babu, Dr Vinoth Kumar Raja, Mr M Rama Krishna, Dr P Bangaraiah, Dr P Vijetha Chowdhary, (**Immediate Past Chairman, Ex-officio**): Mr J Murali Mohan, **Ex-officio (Immediate Honorary Jt Secretary, Ex-officio):** Dr J Srinivasa Rao, **Co-opted Members:** Dr T Subbaiah, Dr P Venkateswar, Mr N Jani Bhasha, **Invitees:** Dr A Suryanarayana, Dr K B K Rao, Mr E Pardhasaradhi, Mr K Siva Prasada Rao

Amethi Regional Centre

Committee:

Chairman: Dr Rakesh Kumar, **Vice Chairman:** Dr Gunjan K Agrahari, **Honorary Regional Secretary:** Dr Shweta, **Honorary Regional Joint Secretary:** Dr Deepak Dwivedi, Honorary Regional Treasurer: Dr Karan Malik

Baroda Regional Centre

Committee:

Chairman: Mr. D. Diraviyam, **Vice-Chairmen:** Mr R K Desai & Dr Nitin Bhate, **Honorary Regional Secretary:** Mr Nikhil Tonapi, **Honorary Joint Regional Secretary:** Mr Kisalay Kumar, **Honorary Regional Treasurer:** Mr N M Surana, **Member:** Mr Brijesh Trivedi, Mr Manish Shah, Mr Nikunj Parekh, Mr Sahabuddin Ahmed, Mr Manan Joshi, Mr Mehul Patel, Mr Vipul Mehta, Mr Bhavin shah, Mr Rahul Dole, Mr Mitesh Mahta, **Ex-officio:** Mr D Chakraborty, Mr D M Butala, Mr M K Ghosh, Mr P Vijayaraghavan, Mr Govindram, Mr B P Baliga, Mr M G Patel, Mr M R Padh, Mr M M Tare and Mr Rajesh Bhatt

Bangalore Regional Centre

Committee:

Chairman: Prof. Y.J. Rao, **Vice-Chairman:** Prof. G.A. Shareef, **Honorary Regional Secretary:** Dr. Koteswara Rao Jammula, **Honorary Joint Regional Secretary:** Mr. S. Swaminathan, **Honorary Regional Treasurer:** Mr. G. Kishore Kumar, **Member:** Dr. A.B. Halgeri, Dr. K.S. Rajanandam, Dr. Archana, Dr. V. Venkatesham, Dr. Ravishankar, Dr. N. Harindranath, Sri. K.A. Badarinarayana, Dr. Chandraprabha, Sri. P.T. Raghuram, Mr. Sagar J S, Co-opted: Dr. P.L. Muralidhara

Bhopal Regional Centre

Committee:

Chairman: Dr. Bharatkumar Modhera, **Honorary Regional Secretary:** Dr. Rupak Kishore

Bhubaneswar Regional Centre

Committee:

Chairman: Dr. (Mrs.) Swaty Mohanty, **Vice-Chairman:** Dr. Swagat S Rath, **Honorary Regional Secretary:** Dr. R. Boopathy, **Honorary Joint Regional Secretary:** Dr. Saurabh C Patankar, **Honorary Treasurer:** Dr (Ms) Barsha Marandi; **Members:** Dr. P. C. Rath, Mr. Kasinath Barik, Dr. Swagatika Dash, Mr. Santosh Deb Brma and Dr C R Panda

Calcutta Regional Centre

Committee:

Chairman: Mr. Abhijit Kumar Mitra, **Vice-Chairman:** Prof. Ashit Mazumder, **Honorary Regional Secretary:** Mr. Anjan Kumar Bhattacharyya, **Honorary Regional Treasurer:** Prof.

Papita Das, **Members:** Prof. N K Brahma, Prof. Sudip K Das, Prof. Rajat Chakraborty, Mr. Mohit Ranjan Das, Mr. Parijat Mukherjee, Co-opted: Prof. Swami Vedajnanda, Prof. Ujjaini Sarkar, **Invited Members:** Prof. Basudeb Barman, Prof. B> N. Srimani, Prof. A. K. Mitra, Prof. P. De, Mr. Smarjit Das, Mr. P. R. Dutta Ray, Mr. K. K. Basu, Mr. Goutam Mitra, Prof. Tapas Kr. Dutta, Prof. Subhas Bose, Mr. Anup Chaudhuri

Chennai Regional Centre

Committee:

Chairman: Prof R Parthiban, **Honorary Regional Secretary:** Mr K Sadanand, **Honorary Joint Regional Secretary:** Mr Vijay Samuel G, **Honorary Treasurer:** Dr Kavitha N P, **Member:** Ms Vidya Shankar, Mr R Rajaraman, Mr S Sekar, Ms R Subathra, Dr B Bharathiraja, Ms S Sivanarutselvi, Dr N Meyyappan, Mr D Sivakumar, Dr N Balasubramanian, Dr R Senthilkumar, Dr K Sathsh Kumar, Dr V Jaikumar, Dr D Gnana Prakash, Dr B Chitra, Dr K P Gopinath, Dr D Swaminathan, Dr Harsha Vardhan Kilaru, Dr G Sudha, Dr R Govindarasu, Dr B S Naveen Prasad, Dr R Palani, Mr S Rajasekhar and Dr Nalinkanth V Ghone

Guwahati Regional Centre

Committee:

Chairman: Prof Anugrah Singh, **Vice-Chairman:** Prof Pankaj Tiwari, **Honorary Regional Secretary:** Prof Nanda Kishore, **Honorary Joint Regional Secretary:** Dr Lalit Mohan Pandey, Dr Ujwala Hujuri, **Honorary Regional Treasurer:** Prof Raghavendra Gupta

Hyderabad Regional Centre

Committee:

Chairman: Dr Sanjay Bhardwaj, **Vice-Chairman:** Prof P Shashikala, **Honorary Regional Secretary:** Mr S Illaiah, **Honorary Joint Regional Secretary:** Mrs D Shruthi Keerthi, **Honorary Regional Treasurer:** Dr M Mukunda Vani, **Members:** Mr C P Ramulu, Prof S Venkateshwr, Mr A Bhasker Reddy, Mr G V Sethuraman, Prof Ch Sailu, Prof D Jaya Prakash, Prof Amareshwar, Prof V Ramesh Kumar, Mr D Nandi, **Co-opted:** Mrs S Sheela, Dr S Altaf Hussain

Northern Regional Centre

Committee:

Chairman: Dr Sachchida Nand, **Vice-Chairman:** Prof Anil Verma, **Honorary Regional Secretary:** Mr C P Srivastava, **Honorary Joint Regional Secretary:** Dr Dhiraj Kumar Garg, **Honorary Regional Treasurer:** Mr Mr. Amit Jain, **Members:** Prof Anil K Saroha, Prof V K Srivastava, Prof S S Sambhi, Mr Abhijit Bikas Pal, Mr Subhash Tandon, Dr Siddhartha Mukherjee, Dr Anomitra Chakravarty, Mr Anshuman Agrawal, **Co-opted Members:** Dr S N Chakravarty and Mr Shyam Bang

Pilani Regional Centre

Committee:

Chairman: Dr. Amit Jain, **Honorary Regional Secretary:** Dr. Somak Chatterjee, **Honorary Regional Treasurer:** Dr Ajaya Kumar Pani, **Member:** Dr Hare Krishna Mohanta, Dr Arvind K Sharma, Dr Pradipta Chattopadhyay, Dr Suresh Gupta, Dr Pratik N Sheth, Dr Smita Reghuvanshi, Dr. Priya C Sande and Dr. Bhanu Vardhan Reddy Kuncharam

Trivandrum Regional Centre

Committee:

Chairman: Mr S K Manu, **Vice-Chairman:** Dr Shaneeth M, **Honorary Regional Secretary:** Mr Rejesh E K, **Honorary Joint Regional Secretary:** Mr Lakshman Yalisala, **Honorary Regional Treasurer:** Mr Vibhu Unnikrishnan, **Member:** ...

Vapi Regional Centre

Committee:

Chairman: Mr Vijay Sawarkar, **Vice-Chairman:** Mr Shashikant S Pokale, **Honorary Regional Secretary:** Dr U M Rao, **Honorary Joint Regional Secretary:** Mr Piyush Joshi, **Honorary Regional Treasurer:** Mr Vinod S Kashalikar, **Members:** Mr Rameshchandra N Prajapati, Dr H M Bhatt, Mr Maulick Desai, Mr Kirit Shah, Mr Devidas K Khubchandani, Mr J R Shah, Mr Hasmukh K Doshi, Mr Sashidhar Gosi, **Co-opted:** Mr Vishal Patil, Mr P D Khedkar and Prof (Dr) Yashwant Bhalerao

Name of the Regional Centres	Non R&D Related Activities
Bangalore	<p>a) Best Project Award -2022:</p> <p>The Annual Best Project Award function of Bangalore Regional Centre was conducted by the Chemical Engineering Department, M S Ramaiah Institute of Technology, Bangalore on 26.07.2022.</p> <p>b) BRC, IChE Students' Project Grant:</p> <p>IChE Students' Project Grant is given to encourage innovative ideas among the UG students. Eight Projects, scrutinized by Prof. Y.J. Rao, EC Member and Prof. G A Shareef, were sponsored with a total amount of Rs.40,000/- under this scheme for the year 2022. The following institute are the recipient of the project grant:</p> <ul style="list-style-type: none"> - MS Ramaiah Institute of Technology, Bangalore - Siddaganga Institute of Technology, Tumkur - B.M.S. College of Engineering, Bangalore - Dayananda Sagar College of Engineering, Bangalore - SDM College of Engineering & Technology, Dharwad <p>c) Award:</p> <p>The award for the Best Outgoing Chemical Engineering Student for the year 2022 from Bangalore Region was given to Ms. Mahima N Bontadka, Siddaganga Institute of Technology, Tumkur.</p>
Baroda	<p>a) Formation of Student Chapter</p> <p>An IChE Student Chapter was formed in the Chemical Engineering Department, Faculty of Technology, MS University of Baroda, Vadodara. b) IChE-BRC published a bulletin which highlighted of various programmes conducted throughout the year.</p>
Calcutta	<p>a) Dr. H. L. Roy's 133rd birth anniversary was celebrated on 02.11.2021.</p> <p>b) De-Mystifying Industry: Curtain Raiser Program was held on 27.11.2021</p> <p>c) Student Chapter Activity Heritage Institute of Technology, Kolkata</p> <p>Chem-Spark, the annual Departmental event, jointly hosted by the IChE-Student Chapter at Department of Chemical Engineering, Heritage Institute of Technology, Kolkata, was organized on 29.04.2022.</p>
Chandigarh	<p>a) The H₂O Carnival</p> <p>IChE Student Chapter at Dr.SSB University Institute of Chemical Engineering & Technology, Punjab University, Chandigarh and Vellore Institute of Technology organized a five-day online technical event, "The H₂O Carnival" on the occasion of "World Water Week" from 23.08.2021 to 27.08.2021".</p> <p>b) Group Discussion</p> <p>It was held on the topic "Where the water do agree, it is quite wonderful there life they give". c) IChE Student Chapter at Panjab University under Chandigarh RC organized an Orientation Programme on 29.11.2021.</p>
Chennai	<ol style="list-style-type: none"> i. On the topic "Only one Earth – Living Sustainably in Harmony with Nature" by Dr. N. Venkataraman, Principal Consultant, Fides Global Pvt. Ltd., Singapore. ii. Felicitation to Dr. N. Anantharaman, Professor, NIT Trichy
Hyderbad	<p>Talks</p> <ol style="list-style-type: none"> i. On the topic "Learn to Reverse Chronic Diseases Naturally" by Mr Lalit M Kapoor, A Silicon Valley Entrepreneur-turned-nutritionist on 03.04.2022.

	<p>Student Chapter Activities</p> <ol style="list-style-type: none"> i. Student Chapter at JNTUA organized “FUSION 2K22 on 25 and 26 April 2021. Organized invited talk on the topic ‘Importance of Process Simulation for Chemical Engineers’ by Mr Kommineni Mallikarjuna from Shell on 02.03.2022. Organized invited talks on the topic “VEDIC and Chemical Engineering Health Systems” by Dr. S. Altaf Hussain, Director, Lords Institute of Engineering and Technology, Hyderabad on 26.03.2022. Conducted Industrial visit on 19.03.2022 at SRAAC. Conducted Essay Writing and Elocution Competition on 28.03.2022 and Quiz Competition was conducted on 29.03.2022. ii. On the topic “Journey of Chemical Engineer” by Dr Makarand Pimplapure, Founder and Managing Director, MakSpeed Technologies, Pune on 06.05.2022.iv.Essay writing competition on the topic “Entrepreneurship of Chemical Sector: Opportunities and Challenges”, was held amongst 14 students selected by IChE-HRC Student Chapters. iii. Technical quiz competitions were held amongst 21 participants selected by Student Chapters. iv. Student Chapter at BVRIT organized an all India Chemical Engineering Online Quiz Competition during 6 -10 July 2020. v. A 2-day Annual National Techno-cultural fest was organized on 10 and 11 May 2022 by Chemical Food Technology, Textile Technology, Biotechnology and Pharmacy of UCT OU, organized with IICHE-HRC. vi. Student Chapter at BVRIT conducted 2nd edition of VISVA on the occasion of Engineers’ Day on 15.09.2021. “INQIZITIVE 3.0” an online quiz competition was conducted from 3-7.01.2022. vii. Student Chapter at NIT Warangal conducted ‘Listen Up Lessons” virtually on 19.09.2021. “CHEMPOSIUM” was organized online. A quiz competition “CHEMIGNITE” was conducted on 03.01.2022. Other events that were conducted include Research Roadmap on 23.01.2022 and SEMEX on 29.01.2022. Conducted College level Quiz competitions on 06.04.2022. Essay Writing Competition was held on 05.04.2022. viii. Student Chapter at Anurag University organized a ‘National level Technical Fest – RASAYANIKA 2K22 from 22-23.04.2022. ix. Inter College Student Chapter Competition was organized in collaboration with UCT, OU, on 18.06.2022 and also with Amirag University, BITS Pilani – Hyderabad, CBIT, JNTUA, JNTUH, NITW, BVRIT, RGUKT, UCT-OU.
<p>Kharagpur</p>	<p>a) Fugacity Chemfest:</p> <p>‘Fugacity’ was organized for undergraduate students during 12 -13.02.2022 in virtual mode by Department of Chemical Engineering, IIT-KGP jointly with IChE Kharagpur Regional Centre. Various event was organized under it, i.e., Chemical Engineering Quiz, Code the Problem, Chem-Innovation and Chem-Meme.</p>
<p>Mangalore</p>	<p>As part of the Aqua Week Expert Talk - IChE Student Chapter at Manipal Institute of Technology organized talks:</p> <ol style="list-style-type: none"> i. On ‘Higher studies and research at Cranfield University’ by Dr P Kumar, Reader, Cranfield University, on 19.08.2021. ii. On ‘Role of Chemical Engineers in Pharmaceutical Industries’ by Dr. Sunil Bawane, MD, Amol Pharma, held on 09.09.2021.
<p>Northern</p>	<p>a) NRC Foundation Day</p> <p>The Foundation Day program was held on 15.01.2022 virtually. During the program merit-cum-means Scholarships were given to 21 students from IIT-Delhi, UIET Kanpur, NIT Srinagar, MNIT Jaipur and DCRUST Murthal.</p>

	<p>b) Sponsorship</p> <p>i. IChE-NRC has been giving financial support of Rs. 25,000/- to SCHEMCON every year. In 2021 the IChE Student Chapter at MANIT Bhopal received the financial assist to host SCHEMCON 2021.</p> <p>ii. IChE-NRC has provided sponsorship of Rs.50,000/- to support the 'International Conference on Advances in Chemical and Material Sciences (ACMS-2022)', organised by IChE Headquarters to flag off the Platinum Jubilee celebration of IChE held during 14 – 16 April 2022 in Kolkata in association with Heritage Institute of Technology Kolkata, National Institute of Technology Jalandhar and Osmania University College of Technology Hyderabad.</p> <p>c) Scholarship</p> <p>NRC raised the scholarship amount under IChE-NRC Golden Jubilee Scholarship scheme from Rs.20,000/- to Rs.30,000/- from the year 2021-22 to encourage B.Tech and M.Tech Students. One scholarship of Rs. 20,000/- has also been instituted by G J Samaj Kalyan Nyas. The recipients of scholarship were announced during the online programme on the occasion of Foundation Day Celebration of NRC held on 15.01.2022.</p>
Pune	<p>a) Student Chapter at Bharati Vidyapeeth College of Engineering, Pune</p> <p>i. A talk was presented on 'Role of Chemical Engineers in Food Industry' by Mr. Bishwajeet Kamal, Director, Gulfoss International LLP, on 14.05.2022.</p> <p>ii. Social Activity: A visit to Aajol Orphanage was organized for students.</p> <p>iii. Industrial Visit was conducted for students at Katraj Dairy, Pune, on 12.05.2022.</p> <p>b) Student Chapter at Dr. D Y Patil Institute of Engineering and Managment Research, Pune</p> <p>i. Online Quiz Competition QRIOSITY 2.0 was held on 28.08.2021.</p> <p>ii. Online Poster Presentation competition CHEMSPARK 2021 was held on 15.09.2021.</p> <p>c) Student Chapter at Shivaji University, Kolhapur</p> <p>Expert Talk was organized on 'Opportunities at Overseas' by Mr. Aditya Buradkar, on 20.09.21.</p>
Trivandrum	<p>a) CGG Panicker and M R Kurup Gold Medal Award</p> <p>The awards were given away to the toppers in Chemical Engineering /Bio Technology & Bio-Chemical Engineering to students under the IChE Student Chapters held on 24.04.2022. The awards comprise a Gold Medal and a Certificate of Merit.</p> <p>a) Student Chapter Activities:</p> <p>i. SCT College of Engineering, Thiruvananthapuram, conducted various activities and motivational programs for the students of B.Tech Biotechnology and Biochemical Engineering.</p> <p>ii. To bridge the gap between Institute and Industry, three MoUs were signed with reputed companies which will enable students to do live projects, industrial training and internship.</p> <p>c) Sponsorship:</p> <p>Trivandrum Regional Centre contributed Rs.10,000/- towards sponsorship for ACMS-2022, Organized by IChE Headquarters.</p>
Waltair	<p>Student Chapter at ANITS, Visakhapatnam</p> <p>i. A two-day national level tech fest "CHEMFLARE 2022" held on 21 and 22.4. 2022.</p> <p>ii. An 'Innovative Idea Contest' was held on 16.05.2022.</p>

14.0 Major Milestones of the Year

As per the convention, the Annual Report of the IChE Headquarters has covered activities of the Institute for the financial year April 2021 – March 2022. However, we deem it would be appropriate to keep our valued Members posted about important activities of the Institute that were conducted after March 2022. This is even more important considering the fact that the year 2022, being the Platinum Jubilee year of IChE, a number of special activities and initiatives were undertaken during the period.

ACMS-2022: To set the Platinum Jubilee celebration in motion, an International Conference, titled, 'Advances in Chemical and Material Sciences' (ACMS-2022) was organised during 14 – 16 April 2022 at the Heritage Institute of Technology (HIT), Kolkata. The conference was held in association with three premier technological institutes of India, namely, HIT, Kolkata; NIT, Jalandhar and Osmania University, College of Technology, Hyderabad. Inaugurated in presence of the Union Minister of State for State for Petroleum & Natural Gas and Labour & Employment, Shri Rameshwar Teli, as the Chief Guest, the three-day conference brought together acclaimed scientists and academics and research scholars from different parts of the country and abroad as well as top-notch industry personnel. To mark the Platinum Jubilee of IChE, the Post Master General (Kolkata region) released a Special Postal Cover.

MoU with RGIPT: IChE signed an MoU with Rajiv Gandhi Institute of Petroleum Technology, Jais, Amethi on 14 April 2022 to collaborate on promotion of education, research and innovation. As part of the collaboration, 'IChE-RGIPT Research Fellowship has been introduced for a Ph.D scholar.

IChE Training Institute: The latest initiative, to be launched from the IChE platform for knowledge and skill enhancement, is the IChE Training Institute. It will be based in Kolkata at a separate and dedicated setup. It will be an umbrella under which several important activities will be carried out, including, the Online Internship Programs, a certificate course on Supply Chain Management, diploma courses with affiliation of reputed universities / institutes, etc. The Board of Directors has already been constituted.

Renovation of the HQ Building: As part of the celebration to mark the 75th year of IChE, the Headquarters building of the Institute (H.L. Roy Building) in Kolkata has been undergoing extensive renovation during the year.

For instance, a fresh coat of painting has been applied on the five-storey building. An annex part of Dr. H.L. Roy Building has been constructed with state-of-the-art facilities, which is already being used for educational purposes.

The old lift is being replaced with a new one.

Most importantly, installation process of 15 kilowatt solar panels at the roof top of the building is in progress. Once complete, this installation will take care of all the major electricity requirements of the Headquarters establishment.

CSR funds and donation under 80G: IChE has been granted registration (registration No: CSR00033870) by the Union Ministry of Corporate Affairs for receiving Corporate Social Responsibility (CSR) funds and donations under Section 80G of the Income Tax Act, 1961.

The maiden CSR activity fund of Rs. 25 Lakh has been received from IVL Dhunseri Petrochem Ltd.

New Regional Centres: In recent period, IChE Regional Centres have been introduced in four premier academic institutes, namely, Patna Regional Centre at Indian Institute of Technology, Patna; Srinagar Regional Centre at National Institute of Technology, Srinagar; Bhopal Regional Centre at Maulana Azad National Institute of Technology Bhopal, and Amethi Regional Centre at Rajiv Gandhi Institute of Petroleum Technology, in Jais, Amethi.

New Awards: IChE instituted the following two awards in 2022:

'Indorama Dhunseri Chemcon Distinguished Speaker Award' with an endowment of Rs. 5 lakh.

'Best Author(s) of a Chemical Engineering Book' Award with a donation of Rs. 4 lakh from Dr. A Suryanarayana, Former Professor, NIT, Rourkela.

Publication of papers: The following research papers have been published with credit to IChE:

Paper title: 'Green Pathway for Hydrogen Production' by Saptarshi Mitra, Aniruddha Hore, Sujoy Bose and Avijit Ghosh in SCHEMCON 2022 proceedings, 23, 24 September 2022.

Paper title: Application of Graphene-based Electrocatalysts for PEMFCs by Priyanka Goel and Avijit Ghosh in 'Materials Today' : Proceedings, Elsevier, 18 November, 2022.

Paper title: Efficient Method for the Extraction of Lithium from Spent Li-ion Battery' by Barsha Das, Sagnik Das, Soumyabrata Tewary, Sujoy Bose, Sandip Ghosh and Avijit Ghosh in CHEMCON 2022 Proceedings, 27 – 30 December 2022.

Book Chapter: A book chapter under the heading of 'Effect of Functionality and Microstructure on the Development of Ceramic Membranes' has been submitted, authored by Saptarshi Mitra, Aniruddha Hore, Sujoy Bose and Avijit Ghosh.

Patent: Formalities are being completed for filing a patent for 'Air Health Monitoring System'. The patent will be filed by IChE jointly with Heritage Institute of Technology, Kolkata; Haldia

Institute of Technology, Haldia and Terra-Green Technologies Pvt. Ltd.

Consultancy Work: The IChE Headquarters has started undertaking consultancy work. In recent period, consultancy service was rendered by Dr. Avijit Ghosh, Honorary Secretary and Dr. Sujoy Bose, Assistant Manager to Kohinor Paper Industries Ltd., South 24 Parganas, West Bengal.

List of IChE Meetings held in 2022

Council Meetings	Dates:
2 nd Council Meeting	26.02.2022
Special Council Meeting	16.04.2022
1 st Office Bearers' Meeting	04.06.2022
Emergency Council Meeting	08.06.2022
3 rd Council Meeting	02.07.2022
4 th Council Meeting	26.08.2022
5 th Council Meeting	24.09.2022

Committee Meetings	Dates:
2 nd meeting of ACMS Working Committee	09.01. 2022
1 st meeting of the Finance Committee	02.02.2022
1 st meeting of the Selection Committee	02.02.2022
CHEMCON 2023 Preparatory Meeting with CRC	23.04.2022
1 st meeting of the Building Committee	25.05.2022
2 nd meeting of the Finance Committee	26.05.2022
1 st Meeting of the PSEE Committee	12.06.2022

3 rd Meeting of the Finance Committee	28.07.2022
1 st Meeting of CHEMCON 2023	29.07.2022
1 st Meeting of the Education, Training and R&D Committee	06.08.2022
2 nd Meeting of the Building Committee	03.09.2022
2 nd Meeting of CHEMCON 2023	18.09.2022
Chemcon 2023 meeting at Hotel Vivanta, Kolkata	09.11.2022
President-HQ staff meeting	10.11.2022
Meeting with Chairman, LOC CHEMCON 2023	10.11.2022
Special Meeting at Patna	13.11.2022
CHEMCON 2023 Meeting	26.11.2022
CHEMCON 2023 Meeting	29.11.2022
4 th Meeting of the Finance Committee	03.12.2022
1st Meeting of HQ Office Administrative Committee	17.12.2022
CHEMCON 2023 Meeting	17.12.2022

15.0 Acknowledgement

The Council expresses its sincere thanks to the Honorary Office Bearers for spending much of their valuable time in rendering service to the Institute. The Council also appreciates the sincere work and utmost cooperation received from the members of the Headquarters staff of the Institute. Finally, the Council is indebted to all the donors, sponsors and well wishers for wholeheartedly supporting activities of the Institute.

Dr. Avijit Ghosh
Honorary Secretary

Annual Report Of



**Indian Institute of Chemical Engineers
Jaipur Regional Centre**

Year 2021-22

Executive Committee members

Chairperson

Dr. Madhu Agarwal

Vice- Chairman

Mr. V.K. Jain

Hon. Regional Secretary

Dr. Rajeev Dohare

Hon. Joint Regional Secretary

Dr. Manisha Sharma

Hon. Regional Treasurer

Dr. Rohidas G. Bhoi

Executive Member

Mr. S. L. Arora

Dr. Dipaloy Datta

Dr. U K Arun Kumar

Dr. Gaurav Kataria

Dr. Isha Arya member

Dr. Rahul patwa member

Mr. Anish Yadav

Co-Opted Members

Prof. S. P. Chaurasia

List of activities:

1. An invited lecture on Engineering Nano-Based Fertilizers: A Life-Cycle Approach by Prof. Achintya Bezbaruah (March 26, 2022)
2. An invited lecture on Novel Biochar and Activated Carbon Production from Biomass and their Industrial Applications by Prof. A. K. Dalai (April 08, 2022).
3. An invited lecture on Sustainable Energy Production by Prof. A. K. Dalai (April 09, 2022)
4. Chem-O-Quiz May 14, 2022

Brief description about each activity:

Activity-1: An invited lecture on Engineering Nano-Based Fertilizers: A Life-Cycle Approach by Prof. Achintya Bezbaruah (March 26, 2022)

About Activity

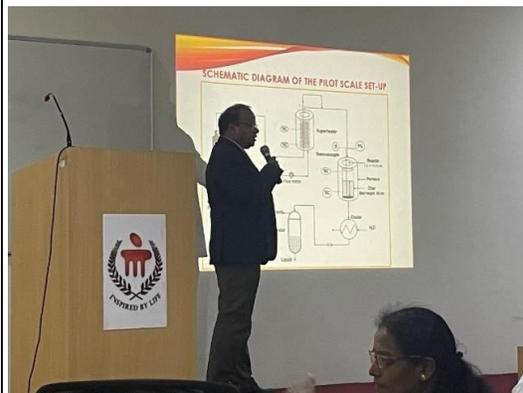
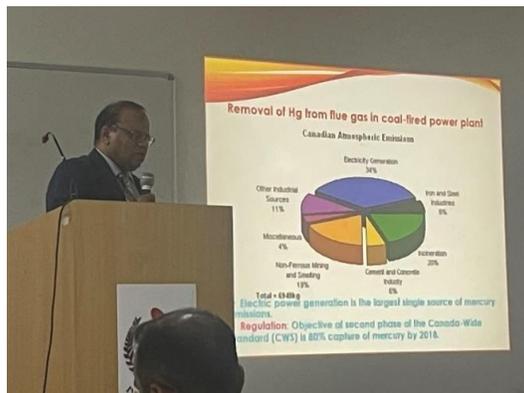
Department of Chemical Engineering, Malaviya National Institute Jaipur in association with Indian Institute for Chemical Engineers (IChE) – Jaipur Regional Center organized an invited talk “Engineering Nano-Based Fertilizers: A Life-Cycle Approach” by Prof. Achintya Bezbaruah, Gehrts Presidential Professor of environmental engineering at North Dakota State University (NDSU), and the Director of NDSU NAE Grand Challenges Scholars Program on March 26, 2022 from 5:00 p.m onwards. The event was coordinated by Dr. Madhu Agarwal, Chairperson IChEJRC.
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Activity-2: An invited lecture on Novel Biochar and Activated Carbon Production from Biomass and their Industrial Applications by Prof. A. K. Dalai (April 08, 2022)

About Activity

Department of Chemical Engineering, Manipal University Jaipur in association with Indian Institute for Chemical Engineers (IChE) – Jaipur Regional Center organized an invited talk “Novel Biochar and Activated Carbon Production from Biomass, and Their Industrial Applications” by Prof. Ajay K. Dalai, Distinguished Professor in Chemical Engineering and Canada Research Chair (Tier 1) in Bioenergy Chemical and Biological Engineering, University of Saskatchewan, Saskatoon, Canada on April 08, 2022 (Friday) at 4:30 p.m. – 6:00 p.m. The event was coordinated by Dr. Manisha Sharma, Assistant Professor, MUJ, Dr. Madhu Agarwal, Chairperson IChEJRC and Dr. Rajeev Kumar Dohare, Hon. Regional Secretary IChEJRC. The student of B. Tech. (Chemical Engineering) and research scholars have participated in the event. In his presentation he discussed the potential of biochar obtained from pyrolysis of biomass in various sectors viz., soil applications, water and wastewater treatment. He also briefed about the research activities being conducted at University of Saskatchewan and discussed the various opportunities for graduate students as an intern at his university. His lecture was followed by faculty interaction and lab visit.

During his visit, collaborative research opportunities were also explored and would be taken in the forward direction in future.



Activity-3: An invited lecture on Sustainable Energy Production by Prof. A. K. Dalai (April 09, 2022)

About Activity

Department of Chemical Engineering, Malaviya National Institute Jaipur in association with Indian Institute for Chemical Engineers (IICHe) – Jaipur Regional Center organized an invited talk “Sustainable Energy Production” by **Prof. Ajay K. Dalai**, Distinguished Professor of Chemical Engineering and Canada Research Chair in Bio-Energy and Environmentally Friendly Chemical Processing, Department of Chemical and Biological Engineering, College of Engineering, the University of Saskatchewan Canada on April 09, 2022 (Saturday) at 3:30 p.m. – 5:00 p.m. The event was coordinated by Dr. Madhu Agarwal, Chairperson IICHeJRC, and Dr. Rajeev Kumar Dohare, Hon. Regional Secretary, IICHeJRC. The audience of this event was UG, PG, and research students at the MNIT Jaipur. The students of the other institute have connected through an online platform. He has discussed with the faculty members for the faculty and student exchange program opportunities to exchange the research activity between the two institutions.



Activity-4: Chem-O-Quiz May 14, 2022

About Activity

An inter-college Chemical Engineering Quiz (Chem-O-Quiz) was organized by the Department of Chemical Engineering, Malaviya National Institute Jaipur in association with Indian Institute for Chemical Engineers (IICHe) Jaipur Regional Center on 14-May-2022 at MNIT Jaipur in offline mode. The participating teams were from the chemical engineering colleges situated in Rajasthan State. The event was coordinated by Dr. Madhu Agarwal,

Chairperson IChEJRC, and Dr. Rajeev Kumar Dohare, Hon. Regional Secretary, IChEJRC, Dr. Rohidas Bhoi, Hon. Regional Treasurer IChEJRC, and his team members.

A cash prize of ₹ 2000, ₹ 1000 and ₹ 500 was given to the winner, first runner up and second runner up, respectively.

The quiz was attended by the faculty members from MNIT, Manipal University and the students.

