

D^Experts C^Onclave[®] Distillation

21 & 22 October 2024

The Orchid Mumbai

5th edition

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When superior chemical processing and separation technologies matter most, we enable our customers to operate world-class plants and produce high value products.

The Chemtech division is the global market leader in innovative mass transfer, static mixing and polymer solutions for chemicals, petrochemicals, refining and upstream. We are steering the way in ecological solutions such as bio-based chemicals, polymers and fuels, recycling technologies for textiles and plastic as well as carbon capture and utilization/storage, contributing to a circular and sustainable economy. Our solutions ranges from process components to complete process plants and technology licensing.

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SULZER

Sulzer VoltaSplit™ electrified distillation

Maximize energy efficiency and Cut CO₂ emissions Enable significant benefits with minimal change

Distillation is essential across various industries, yet it is known for its high energy demands. Most operations rely on carbon-intensive steam boilers, which are major contributors to greenhouse gas emissions in refineries and chemical plants.

VoltaSplit™ is an advanced electrified distillation technology that dramatically reduces both energy consumption and CO₂ emissions in industrial processes by leveraging on electricity and mechanical vapor recompression.

This adaptable technology can be customized to meet specific industry needs making it a versatile solution for driving sustainability improvements in the chemical, agrochemicals, bio-fuels or pharma sectors.

Features of VoltaSplit

- **CO₂-Neutral Distillation Process**
Massive reduction in direct CO₂ emissions of the distillation unit up to 90%.
- **Up to 20 times Less Energy Consumed**
Decreasing operational costs thus providing a quick return on investment.
- **Minimal Environmental Impact**
Lower overall ecological footprint by using less cooling water and steam.
- **Leverage Government Support**
Unlock access to subsidies to enhance sustainability and efficient operations.
- **Fully Integrated Solution from a Market Leader**
Guaranteed performance for complete distillation solution by a trusted partner.



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Title Sponsor



Shell is a global group of energy and petrochemical companies with more than 90,000 employees in more than 70 countries. Shell has expertise in the exploration, production, refining and marketing of oil and natural gas, and the manufacturing and marketing of chemicals. We use advanced technologies and take an innovative approach to help build a sustainable energy future. We invest in power, including from renewable sources such as wind and solar. We also invest in electric vehicle charging and low-carbon fuels for transport, such as advanced biofuels and hydrogen. Projects & Technology is projects execution and technology engine of Shell. Distillation R&D fits within downstream technology organization of P&T

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Exhibitor



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Board of Radiation & Isotope Technology (BRIT) is a unit of Department of Atomic Energy, Government of India. It is primarily involved in the production and distribution of radio-isotope based technology, products and services for the societal benefit. We offer widest range of online industrial diagnostic services to obtain a clear information on the internals of the process equipment e.g., column, vessel, pipe, bends, heat exchanger, reactor-regenerator system etc.

Our innovative radiation techniques are helpful to maintain a better productivity, efficiency & safety as well as it allows refinery officials to take important decisions regarding shutdown, troubleshooting & optimization which delivers huge economic benefits. BRIT has the access of vast R&D activities and with the immense experience in the field, we can provide solutions for any specific problem.

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CHEMICAL INDUSTRY DIGEST

Chemical Industry Digest is India's leading chemical and engineering monthly known for its qualitative content with practical relevance for process industries. It features articles and write-ups on current developments, state-of-the-art technologies, equipment design, plant operations, maintenance, energy management, environment, and safety. Chemical Industry Digest also includes news features, company profiles, and mini directories of equipment manufacturers and service providers making it very engaging. The journal readership includes a very targeted top technical audience who influence decisions; from engineers, scientists and technical personnel in top management to the plant level. Industries covered are oil & gas, refineries, petrochemicals, fertilizers and agrochemicals to drugs & pharma, fine chemicals, colorants, EPC & equipment manufacturers, etc. For more information, visit <http://www.chemindigest.com>

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About

Distillation Experts Conclave

The **Distillation Experts Conclave (Di.Ex)**, organized by **Three Ten Initiative Technologies LLP**, aims to bring together global distillation experts in the South Asian region. It offers a platform for professionals in the chemical, petrochemical, refining, oil & gas, and pharmaceutical industries to collaborate and share knowledge. Following the success of the first four editions, the fifth Di.Ex will be held in Mumbai in 2024, continuing its legacy of fostering technical discussions and industry insights.

The conclave gathers participants from both public and private sectors, including licensors, engineering firms, manufacturers, and research organizations. It addresses region-specific challenges such as process design, optimization, project execution, incident investigations, and troubleshooting. Di.Ex remains focused on the evolving needs of the distillation community, offering a unique opportunity for professionals to exchange expertise and address the industry's most pressing issues.



Advisory Committee



A T Naidu

Executive Director, RCD

Hindustan Petroleum Corp. Ltd.



Chaitanya Kulkarni

Associate Manager

Sulzer



Ranjit Hirode

Technologist - Distillation & Light Ends

Shell Projects & Technology



S Ratheesh

Senior Manager, Process Technology

Bharat Petroleum Corp. Ltd.



Sandeep Yadav

Process & Application Leader

Koch Engineered Solutions

Session Themes

Session

1 Distillation Masterclass

2 Research, Fundamentals, and New Technologies - I

3 Revamps - I

4 Process Control, Safety, and Digitalization - I

5 Mass Internals - I

6 Mass Internals - II

7 Process Diagnostics

8 Process Control, Safety, and Digitalization - II

9 Revamps - II

10 Research, Fundamentals, and New Technologies - II

Conference Agenda

Day 1 - Monday 21 October 2024

All times are in IST (GMT +5.5 hours)

9:00 - 9:15	Opening Remarks by Three Ten Initiative Technologies LLP
9:20 - 9:40	Keynote: Innovations in Distillation: Shaping the Future Ranjit Hirode - Shell India Markets Pvt. Ltd.
Session 1 9:45 - 10:45	Distillation Masterclass  #CHEMICAL/OIL&GAS (9:45 - 10:45) - Useful Rules of Thumb in Distillation Henry Kister, Fluor
10:45 - 11:15	 Morning Coffee & Networking Break
Session 2 11:15 - 12:15	Session Theme: Research, Fundamentals, and New Technologies - I (11:15 - 11:35) - Isomer Separation #CHEMICAL Pramil Anand, Aarti Industries Ltd. (11:35 - 11:55) - Decarbonization with VoltaSplit™ Electrified Distillation #CHEMICAL/OIL&GAS Vito Sangiorgio, Sulzer (11:55 - 12:15) - Distillation R&D at Shell #CHEMICAL/OIL&GAS Ranjit Hirode, Shell
12:15 - 12:30	Session 2 Panel Discussion
12:30 - 13:30	 Lunch & Networking Break
Session 3 13:30 - 14:30	Session Theme: Revamps - I (13:30 - 13:50) - Mitigating Fouling in Crude Distillation Columns: A Case Study on the Application of SUPERFLUX® tray® Trays in the Kerosene Section #OIL&GAS Sandeep Yadav, Koch Engineered Solutions India Pvt. Ltd. (13:50 - 14:10) - Successful Revamp of a Heat Pumped PP-splitter Enabling a Change from Chemical to Polymer Grade Propylene at Higher Feedrate #CHEMICAL/OIL&GAS Dr. Peter Wilkinson, Sulzer (14:10 - 14:30) - Optimal Asset Utilization by Integrating the Units on Various Operational Strategies and Increased Productivity. #OIL&GAS Rajat Gandhi, Hindustan Petroleum Corp. Ltd.
14:30 - 14:45	Session 3 Panel Discussion
Session 4 14:50 - 15:30	Session Theme: Process Control, Safety, and Digitalization - I (14:50 - 15:10) - Propylene Tower Case study using Column Targeting Analysis #CHEMICAL Harshita Darlapudi, Reliance Industries Ltd. (14:10 - 15:30) - Beyond Traditional Methods: Optimizing Amine Regenerator Column Relief Calculations #OIL&GAS Ayan Dasgupta, Fluor India Pvt. Ltd.
15:30 - 15:40	Session 4 Panel Discussion
15:40 - 16:10	 Afternoon Coffee & Networking Break
Session 5 16:10 - 16:50	Session Theme: Mass Transfer Internals - I (16:10 - 16:30) - Enhancing Vacuum Tower Performance with PROFLUX® Grid Technology: A Case Study #CHEMICAL/OIL&GAS Zack Bondley, Koch Engineered Solutions (16:30 - 16:50) - The Path to High Capacity in Separations Technology #CHEMICAL/OIL&GAS Ashraf Lakha, RVT Process Equipment
16:50 - 17:00	Session 5 Panel Discussion

Conference Agenda

Day 2 - Tuesday 22 October 2024

All times are in IST (GMT +5.5 hours)

9:00 - 9:15	Opening Remarks by Three Ten Initiative Technologies LLP
Session 6 9:20 - 10:00	Session Theme: Mass Transfer Internals - II (9:20 - 9:40) - Sulzer MellapakEvo™ - Packed for Evolution! #CHEMICAL/OIL&GAS Rahul Wankhede, Sulzer Chemtech (9:40 - 10:00) - Improving Column Efficiency and Flexibility in Increasingly Challenging Markets Dr. Anand Vennavelli, Koch Engineered Solutions #CHEMICAL/OIL&GAS
10:00 - 10:10	Session 6 Panel Discussion
Session 7 10:15 - 10:55	Session Theme: Process Diagnostics (10:15 - 10:35) - Investigation of Flooding in a Crude Distillation Tower using Gamma Ray Diagnostic Method #OIL&GAS Vinay Bhawe, Board of Radiation and Isotope Technology (10:35 - 10:55) - Mitigating High MCR in Vacuum Gas Oil : A Diagnostic Approach Using Gamma Scanning at BPCL Kochi Refinery #OIL&GAS Sandra Jagadeesh, Bharat Petroleum Corp. Ltd.
10:55 - 11:05	Session 7 Panel Discussion
11:05 - 11:35	 Morning Coffee & Networking Break
Session 8 11:35 - 12:15	Session Theme: Process Control, Safety, and Digitalization - 2 (11:35 - 11:55) - Efficient Startup & Shutdown of a Crude Distillation Unit aided with Effective Alarm Management for Quick Troubleshooting - A Case Study #OIL&GAS Pranay Singh, Fluor (11:55 - 12:15) - Crude Unit Performance Analytics Dashboard: A Comprehensive View for Monitoring and Optimization #OIL&GAS Abhishek Atrey, Bharat Petroleum Corp. Ltd.
12:15 - 12:25	Session 8 Panel Discussion
12:25 - 13:25	 Lunch & Networking Break
Session 9 13:25 - 14:25	Session Theme: Revamps - II (13:25 - 13:45) - RFCCU Revamp to Improve MF and Gascon Columns Performance and Minimize Propylene Losses to ROG #CHEMICAL/OIL&GAS Unmesh Bhagwat, Sulzer (13:45 - 14:05) - Stabilizer Revamp: Unleashing Efficiency with High-Capacity Trays for Low Naphtha RVP (< 7.3 psi) and Maximum Throughput in High-API Crudes #OIL&GAS Rajasekhara Babu Manika, Bharat Petroleum Corp. Ltd. (14:05 - 14:25) - Low-cost Revamp of Crude Distillation Unit for Throughput Increment at HPCL Mumbai Refinery #OIL&GAS Deepak Kumar Jha, Hindustan Petroleum Corp. Ltd.
14:25 - 14:40	Session 9 Panel Discussion
Session 10 14:45 - 15:25	Session Theme: Research, Fundamentals, and New Technologies - II (14:45 - 15:05) - Extractive Two-phase Reactive Distillation for the Separation of Aromatic Ketones from an Azeotropic Mixture: Lab and Pilot Trials #CHEMICAL/BIOCHEMICAL Dr. Pravin Borase, Tojo Vikas International Pvt. Ltd. (15:05 - 15:25) - World's First Dual Wall Divided Column Operating Under Vacuum-Production of De-aromatized Solvents: A refinery technology advancement #CHEMICAL/OIL&GAS Abhijeet Subudhi, Bharat Petroleum Corp. Ltd.
15:25 - 15:35	Session 10 Panel Discussion
15:35 - 16:05	 Afternoon Coffee & Networking Break
16:05 - 16:25	Closing Remarks

Advisory Committee

A T Naidu

Hindustan Petroleum Corp. Ltd.

A. T. Naidu is the Executive Director of the Refineries Coordination Department at Hindustan Petroleum Corporation Ltd. (HPCL). With over 30 years of experience in HPCL's Visakh and Mumbai refineries, he has worked extensively in technical departments, focusing on process unit performance monitoring, troubleshooting, process design, and analysis. Naidu has led numerous improvement initiatives, including digital transformations to enhance operational efficiency. A Post Graduate in Chemical Engineering, he is known for his expertise in optimizing refinery operations and implementing innovative solutions to drive performance improvements across HPCL's refining units.

Chaitanya Kulkarni

Sulzer Chemtech

Chaitanya Kulkarni is a chemical engineer with 12 years of expertise in the oil and gas industry in technical sales, cost estimation, and business development. He has extensive experience in the EPC business and has been with Sulzer since 2022, overseeing upstream offshore projects for technologies such as gas dehydration, natural gas processing, and oil and gas separation packages

Ranjit Hirode

Shell

Ranjit Hirode is a Chemical Engineer with 18 years of professional experience and a Senior Professional Member of AIChE. He graduated from the University of Pune in 2005 and started his career in the chemicals manufacturing sector. Ranjit has held roles at organizations like Deloitte & Touche Consulting and Endress & Hauser. In 2015, he joined Sulzer, specializing in refinery-petrochemical simulations, hydraulic design, and troubleshooting. He continued his distillation journey with Koch-Glitsch before joining Shell Technology Centre Bangalore in 2023 as a Technologist-Distillation and Light Ends, focusing on distillation R&D, column design, and troubleshooting.

Ratheesh S

Bharat Petroleum Corp. Ltd.

Ratheesh is a Senior Manager in Process Technology at Bharat Petroleum Corporation Limited, Mumbai Refinery, India. He holds a Bachelor's degree in Chemical Engineering from Thangal Kunju Musaliar College of Engineering, Kollam (University of Kerala). With over 13 years of experience, he specializes in front-end engineering design, commissioning, start-ups, and technical services for refineries. He has worked on Hydrotreating, Sulphur Recovery, Aromatics Recovery, and Delayed Coking Units. Ratheesh has presented papers at national and international forums, published three articles, and received several prestigious awards, including the Greentech Quality & Innovation Award 2022.

Sandeep Yadav

Koch Engineered Solutions

Sandeep Yadav is Asst. General Manager - Application Engineering at Koch Engineered Solutions India Pvt. Ltd. He Leads Application Engineering team for Mass Transfer, Separation Technology and Heat Transfer in India. He has over 17 years' experience in troubleshooting, revamping, design of fractionation process, design of dividing wall columns and equipment's. He has authored 3 international publications on design, revamp and troubleshooting of the distillation columns. He holds bachelor's degree in chemical engineering from Shivaji University, India.

Session Chairs

Session 2 - Research, Fundamentals, and New Technologies - I



Debopam Chaudhuri

Fluor Corp.

DEBOPAM CHAUDHURI is a Process Engineer with Fluor Daniel India in New Delhi, and he is the Subject Matter Expert and a Fluor Fellow of sulfur recovery processes. He has 23 years of experience in petroleum refining, petrochemical complexes and upstream projects. He has experiences across all phases of a project for a Sulfur Recovery Unit. His other expertise includes hydrogen generation via the conventional SMR route and hydro treaters for middle distillates. Mr. Chaudhuri earned his BSc and BTech degrees in chemistry and chemical engineering from the University of Calcutta. His hobbies include creating new food recipes and travelling to new places

Session 3 - Revamps - I



Ranjit Hirode

Shell

Ranjit Hirode is a Chemical Engineer with 18 years of professional experience and a Senior Professional Member of AIChE. He graduated from the University of Pune in 2005 and started his career in the chemicals manufacturing sector. Ranjit has held roles at organizations like Deloitte & Touche Consulting and Endress & Hauser. In 2015, he joined Sulzer, specializing in refinery-petrochemical simulations, hydraulic design, and troubleshooting. He continued his distillation journey with Koch-Glitsch before joining Shell Technology Centre Bangalore in 2023 as a Technologist-Distillation and Light Ends, focusing on distillation R&D, column design, and troubleshooting.

Session 4 - Process Control, Safety, and Digitalization - I



Sandeep Yadav

Koch Engineered Solutions

Sandeep Yadav is Asst. General Manager - Application Engineering at Koch Engineered Solutions India Pvt. Ltd. He Leads Application Engineering team for Mass Transfer, Separation Technology and Heat Transfer in India. He has over 17 years' experience in troubleshooting, revamping, design of fractionation process, design of dividing wall columns and equipment's. He has authored 3 international publications on design, revamp and troubleshooting of the distillation columns. He holds bachelor's degree in chemical engineering from Shivaji University, India.

Session 5 - Mass Transfer Internals - I



Deepak Kumar Jha

Hindustan Petroleum Corp. Ltd.

Deepak Kumar Jha, Sr. Manager in the Technical Services Department at HPCL's Mumbai Refinery, is a Certified Energy Auditor with a B.Tech in Chemical Engineering from HBTI-Kanpur and an Executive MBA from UPES. With 15+ years of experience, he's adept in Process Engineering, Licensor Selection, and Refinery Mega Projects. His current role involves optimizing, monitoring, and troubleshooting units like crude/vacuum distillation, LPG treatment, and Hexane Production. Deepak is passionate about decarbonizing refineries through carbon capture tech and is committed to the energy transition.

Session Chairs

Session 6 - Mass Transfer Internals - II



Shrijeet Ray

SH Engitech Pvt. Ltd.

Shrijeeth Ray is an expert in designing mass transfer column internals and process design for distillation columns, scrubbers, and liquid-liquid extraction systems. With over 12 years of experience in process engineering, he has successfully revamped multiple distillation columns, improving capacity and efficiency. He has worked in the agrochemical and pharmaceutical sectors, with companies such as Atul Ltd, Jubilant Lifesciences, and Raschig PMC India Pvt Ltd. Currently, Shrijeeth is the Director of Process Systems at SH Engitech Pvt Ltd, leveraging his IIM Calcutta certification in sales and marketing to drive innovation and technical excellence in projects.

Session 7 - Process Diagnostics



Chaitanya Kulkarni

Sulzer India Pvt. Ltd.

Chaitanya Kulkarni is a chemical engineer with 12 years of expertise in the oil and gas industry in technical sales, cost estimation, and business development. He has extensive experience in the EPC business and has been with Sulzer since 2022, overseeing upstream offshore projects for technologies such as gas dehydration, natural gas processing, and oil and gas separation packages

Session 8 - Process Control, Safety, and Digitalization - II



Harshita Darlapudi

Reliance Industries Ltd.

Harshita Darlapudi graduated with a Bachelor's degree in Chemical Engineering from NIT Warangal in 2022 and joined Reliance Industries Limited (RIL) the same year. She currently serves as a Research Scientist in RIL's Research and Technology group, where she applies process engineering principles to drive high performance in process design and simulation, technology development, and the creation of basic engineering design packages. Her work also includes troubleshooting and debottlenecking plant operations, as well as conducting heat pinch and column targeting analysis, contributing to the optimization and efficiency of various processes at RIL.

Session 9 - Revamps - II



Ashraf Lakha

RVT Process Equipment

Ashraf Lakha is an engineer with over 30 years of experience in the hydrocarbon industry, specializing in mass transfer and separation processes. His extensive expertise spans both management and engineering roles, with a strong focus on conceptual design, design development, and team supervision. Ashraf is adept at process analysis, training engineers, and troubleshooting operating plants. His application knowledge covers a wide range of refinery columns, including CDU/VDU, FCC and Hydrocracker Main Fractionators, Olefin Plants, and Dividing Wall Columns (DWC). Ashraf's passion for engineering continues to drive his contributions to the field of hydrocarbon processing.

Session Chairs

Session 10 - Research, Fundamentals, and New Technologies - II



Pramil Anand

Aarti Industries Ltd.

Pramil Anand boasts extensive experience in leading process development, technology evaluation, and technical discussions with global partners. He excels in designing and commissioning greenfield and brownfield specialty and petrochemical facilities. As a proven technological leader, he has successfully implemented billion-dollar petrochemical complexes and specialty chemical facilities, managing capital expenditures of approximately 600 Cr. Currently, Pramil spearheads the development of pivotal technologies and processes. His expertise spans BTX value chains, encompassing diverse chemistries like Ammoxidation, Fluorination, Nitration, and more. With commercial proficiency in petrochemical olefinic technology and polymerization processes, he directs a technology development group focused on process intensification and achieving significant outcomes in product development.

Speaker Profiles

Session 1 - Distillation Masterclass



Henry Kister

Fluor Corp.

Henry Z. Kister is a Fluor Corp. Senior Fellow and Director of Fractionation Technology. He has over 35 years experience in design, troubleshooting, revamping, field consulting, control and startup of fractionation processes and equipment. He is the author of three books, the distillation equipment chapter in Perry's Handbook, the distillation chapter in the Kirk-Othmer Encyclopedia of Chemical Technology, and over 130 articles. Kister has taught the IChemE-sponsored "Practical Distillation Technology" course over 530 times in 26 countries, and a recent "Troubleshooting Distillation Controls" course, also sponsored by IChemE. A recipient of several awards, Kister obtained his BE and ME degrees from the University of NSW in Australia. He is a Fellow of IChemE and AIChE, Member of the US National Academy of Engineering, and has been serving on the FRI Technical Advisory and Design Practices Committees for more than 25 years.

Session 2 - Research, Fundamentals, and New Technologies - I



Pramil Anand

Aarti Industries Ltd.

Pramil Anand boasts extensive experience in leading process development, technology evaluation, and technical discussions with global partners. He excels in designing and commissioning greenfield and brownfield specialty and petrochemical facilities. As a proven technological leader, he has successfully implemented billion-dollar petrochemical complexes and specialty chemical facilities, managing capital expenditures of approximately 600 Cr. Currently, Pramil spearheads the development of pivotal technologies and processes. His expertise spans BTX value chains, encompassing diverse chemistries like Ammoxidation, Fluorination, Nitration, and more. With commercial proficiency in petrochemical olefinic technology and polymerization processes, he directs a technology development group focused on process intensification and achieving significant outcomes in product development.



Vito Sangiorgio

Sulzer Chemtech

Vito Sangiorgio is a Process Specialist in the Renewables Process Technology department of Sulzer Chemtech. He joined the company in 2022 as a Process Engineer and his main focus is on VoltaSplit™ electrified distillation with heat pump and MVR. Before joining Sulzer, Vito worked as Process Engineer in EPC and as Field Process Engineer in a 2G-bioethanol plant in Italy. He holds a master's degree in Chemical and Process Engineering from Politecnico di Milano, a Double Degree in Chemical and Sustainable Process Engineering from Politecnico di Torino, and a diploma of Alta Scuola Politecnica.



Ranjit Hirode

Shell

Ranjit Hirode is a Chemical Engineer with 18 years of professional experience and a Senior Professional Member of AIChE. He graduated from the University of Pune in 2005 and started his career in the chemicals manufacturing sector. Ranjit has held roles at organizations like Deloitte & Touche Consulting and Endress & Hauser. In 2015, he joined Sulzer, specializing in refinery-petrochemical simulations, hydraulic design, and troubleshooting. He continued his distillation journey with Koch-Glitsch before joining Shell Technology Centre Bangalore in 2023 as a Technologist-Distillation and Light Ends, focusing on distillation R&D, column design, and troubleshooting.

Speaker Profiles

Session 3 - Revamps - I



Sandeep Yadav

Koch Engineered Solutions

Sandeep Yadav is Asst. General Manager - Application Engineering at Koch Engineered Solutions India Pvt. Ltd. He Leads Application Engineering team for Mass Transfer, Separation Technology and Heat Transfer in India. He has over 17 years' experience in troubleshooting, revamping, design of fractionation process, design of dividing wall columns and equipment's. He has authored 3 international publications on design, revamp and troubleshooting of the distillation columns. He holds bachelor's degree in chemical engineering from Shivaji University, India.



Dr. Peter Wilkinson

Sulzer Chemtech

Dr. Peter Wilkinson holds a PhD in Chemical Engineering and is a global expert in distillation at Sulzer. With over 30 years of experience at Shell, he held assignments in the Netherlands, Japan, and Bangalore. During his tenure, Dr. Wilkinson led distillation R&D, developing new mass transfer devices like the Shell ConSep trays, previously showcased at the Distillation Conclave. He also played a key role in the Shell/Sulzer alliance and has extensive experience in troubleshooting and revamping distillation systems across refining, chemicals, and LNG industries. His presentation focuses on a C3 splitter design and revamp project.



Rajat Gandhi

Hindustan Petroleum Corp. Ltd.

Rajat Gandhi is a Chemical Engineer with 10 years of experience, currently serving as Assistant Manager Technical in Process Analysis and Design for CDU VDU & ATF Treating. He contributed to the field execution of CDU VDU-I Revamp (April-September 2021) and the CDU-II turnaround (April-May 2024). Rajat developed a simulation model for CDU VDU-I using Aspen Hysys. He previously worked as an operations engineer in the Continuous Catalytic Reforming (CCR) unit for over four years. Rajat holds a Master's degree in Chemical Engineering from IIT Bombay (2018-2020) and a Bachelor's degree from IIT Roorkee. He also developed a simulation model for the Solvent Extraction and Propane Dewaxing Unit using Aspen Plus.

Session 4 - Process Control, Safety, and Digitalization - I



Harshita Darlapudi

Reliance Industries Ltd.

Harshita Darlapudi graduated with a Bachelor's degree in Chemical Engineering from NIT Warangal in 2022 and joined Reliance Industries Limited (RIL) the same year. She currently serves as a Research Scientist in RIL's Research and Technology group, where she applies process engineering principles to drive high performance in process design and simulation, technology development, and the creation of basic engineering design packages. Her work also includes troubleshooting and debottlenecking plant operations, as well as conducting heat pinch and column targeting analysis, contributing to the optimization and efficiency of various processes at RIL.

Speaker Profiles



Ayan Dasgupta
Fluor India Pvt. Ltd.

Ayan Dasgupta has over 22 years of experience in process engineering, specializing in acid gas treatment. He has contributed to multiple stages of projects, from process studies to Front-End Engineering Design (FEED), lump sum, and detailed design. Ayan is a global subject matter expert on acid gas treatment at Fluor, where his current work focuses on treating acid gases from various refinery units, gas plants, and green refineries. His extensive expertise and hands-on experience make him a key figure in the successful execution of complex engineering projects within the refining and gas processing industries.

Session 5 - Mass Transfer Internals - I



Zack Bondley
Koch-Glitsch

Zack Bondley is the Global Technology Leader for Packing Products and Internals at Koch-Glitsch, with over 10 years of experience in mass transfer. He specializes in the design, operation, and troubleshooting of packed tower systems. Zack began his career at Koch-Glitsch as a Process Engineer, focusing on distillation, absorption, plastic packing and internals, and liquid-liquid extraction. Based in Wichita, KS, he serves as the subject matter expert for packing mass transfer at Koch-Glitsch. Additionally, Zack is an instructor at the Koch Engineered Solutions Institute Mass Transfer School, sharing his expertise with industry professionals.



Ashraf Lakha
RVT Process Equipment

Ashraf Lakha is an engineer with over 30 years of experience in the hydrocarbon industry, specializing in mass transfer and separation processes. His extensive expertise spans both management and engineering roles, with a strong focus on conceptual design, design development, and team supervision. Ashraf is adept at process analysis, training engineers, and troubleshooting operating plants. His application knowledge covers a wide range of refinery columns, including CDU/VDU, FCC and Hydrocracker Main Fractionators, Olefin Plants, and Dividing Wall Columns (DWC). Ashraf's passion for engineering continues to drive his contributions to the field of hydrocarbon processing.

Session 6 - Mass Transfer Internals - II



Rahul Wankhede
Sulzer Chemtech

Rahul Wankhede is a Chemical Engineer with over 17 years of experience specializing in Process Design, Simulation, Basic Engineering, and Process Intensification in the chemical and specialty chemical manufacturing industries. He provides technical support focused on simulation and basic engineering for these sectors. Rahul's expertise includes process development and intensification, process and project design, simulation, basic engineering, as well as technical services and troubleshooting. His extensive knowledge and experience make him a valuable asset in optimizing processes and enhancing performance within the chemical industry.

Speaker Profiles

Dr. Anand Vennavelli

Koch-Glitsch

Dr. Anand Vennavelli holds a Bachelor's degree in Chemical Engineering from Osmania University, India, and M.S. and Ph.D. degrees in Chemical Engineering from Oklahoma State University. He is a registered Professional Engineer (P.E.) in Texas with over 10 years of experience in process and control engineering. Dr. Vennavelli has worked as an Advanced Process Control engineer at Phillips 66 and as a Research Engineer at Fractionation Research, Inc. (FRI). Currently, he is the Pilot Plant Manager at Koch-Glitsch R&D, overseeing distillation and separation experiments. He also serves as an Adjunct Assistant Professor at Oklahoma State University and is actively involved with AIChE and ISA106 committees.

Session 7 - Process Diagnostics

Vinay Bhave

Board of Radiation & Isotope Technology

Vinay Bhave completed his B.E. in Mechanical Engineering from Pune University. He is currently working as DGM (IAS) at Board of Radiation and Isotope Technology, Navi Mumbai. He has been working in the field of industrial application of radio-isotopes for diagnostics & troubleshooting of the malfunctions present in the process plant, design of the source storage casks and irradiation facilities. These radiation techniques have been applied to public sector as well as private sector petrochemical industries, for scanning of process columns, identification of leakages in pipelines and heat exchangers, scanning of pipes for blockage detection, and pig tracking etc. which are very helpful to take critical decisions regarding operation and shutdown.

Sandra Jagadeesh

Bharat Petroleum Corp. Ltd.

Sandra Jagadeesh, hailing from Nellore, Andhra Pradesh, is a Chemical Engineer with a degree from NIT Rourkela and 6 years of experience in crude distillation unit (CDU) processes. He is currently an Assistant Manager at BPCL Kochi Refinery, where he leads energy and digital initiatives for the CDU. Over the past six years, Sandra has successfully planned and executed three turnarounds, ensuring timely and safe completion. His comprehensive understanding of the hydrocarbon value chain, including exploration, refining, petrochemicals, and chemicals production, enables him to optimize processes with a holistic and innovative approach.

Session 8 - Process Control, Safety, and Digitalization - II

Pranay Singh

Fluor

Pranay has nearly 15 years of experience in the EPC industry and more than 11 years with Fluor in Process Technology function. He has worked on a wide variety of Key Projects with Fluor for their clients worldwide such as Shell, KNPC, KIPIC, Pertamina, Galp, Arcelor Mittal, FCL Canada, Saudi Phos, SABIC to name a few. He had a significant site exposure as he was the Joint Venture Program Lead and delivered the Operator Training Simulator to a key Client. He has presented a wide range of Technical papers in International and National publications and has also participated in many industry interactions as an Eminent Speaker. He is also a Life Member of the prestigious Indian Institute of Chemical Engineers Forum. He is a diversity candidate and a Global Emerging Leaders Group President at Fluor.

Speaker Profiles



Abhishek Atrey

Bharat Petroleum Corp. Ltd.

Abhishek Atrey is a valedictorian Chemical Engineering graduate with over seven years of experience at BPCL's Mumbai refinery, specializing in crude distillation units. As the energy and digital champion for process units, he drives technology integration to optimize operations. Abhishek is passionate about combining data analytics and machine learning to develop inferential models that enhance decision-making. He excels at transforming complex datasets into user-friendly presentations, enabling data-driven strategies. With a commitment to excellence and innovation, Abhishek is dedicated to shaping the future of the industry through his expertise in process optimization and technological advancements.

Session 9 - Revamps - II



Unmesh Bhagwat

Sulzer Chemtech

Unmesh Bhagwat is a Chemical Engineer from Pune University with over 18 years of experience. He specializes in reviewing and performing process simulations and hydraulic calculations for distillation columns in refinery applications. His expertise includes handling basic engineering packages, sizing column internals such as trays, packings, and distributors, and designing heat exchangers. Unmesh also provides support for commissioning and troubleshooting activities. As the Refinery Applications Manager at Sulzer, he has successfully completed several revamp projects for key refinery units like CDU, VDU, FCC, and treating units, driving efficiency and optimization in refinery operations.



Rajasekhara Babu Manika

Bharat Petroleum Corp. Ltd.

Rajasekhara Babu M is currently the Chief Manager of Process Technology at Bharat Petroleum Corporation Limited, Kochi Refinery, India. He holds a bachelor's degree in chemical engineering from Bapatla Engineering college, Bapatla, affiliated with the Acharya Nagarjuna University of Andhra Pradesh. He holds a Master degree in Chemical engineering from National Institute of Technology Warangal. With more than 18 years of experience in refinery operations and process engineering with a strong focus on pre-commissioning, commissioning, startup, shutdown, and troubleshooting of CDU (Crude distillation unit), DCU (Delayed Coker unit) and FCCU (Fluidized catalytic cracking unit) units. Special expertise in turnaround, energy, and reliability initiatives.



Deepak Kumar Jha

Fluor

Deepak Kumar Jha, Sr. Manager in the Technical Services Department at HPCL's Mumbai Refinery, is a Certified Energy Auditor with a B.Tech in Chemical Engineering from HBTI-Kanpur and an Executive MBA from UPES. With 15+ years of experience, he's adept in Process Engineering, Licensor Selection, and Refinery Mega Projects. His current role involves optimizing, monitoring, and troubleshooting units like crude/vacuum distillation, LPG treatment, and Hexane Production. Deepak is passionate about decarbonizing refineries through carbon capture tech and is committed to the energy transition.

Speaker Profiles

Session 10 - Research, Fundamentals, and New Technologies - II



Dr. Pravin Borase

Tojo Vikas International Pvt. Ltd.

Dr. Pravin Borase is the Business Head at Tojo Vikas International Pvt. Ltd., overseeing R&D of new perfumery molecules and strategic business planning. He earned a PhD in Chemistry from the Institute of Chemical Technology, Mumbai, and has over 12 years of industrial research experience. Dr. Borase has published eight research papers in peer-reviewed journals and presented at international conferences. His expertise includes the organic synthesis of aroma chemicals, pharmaceutical intermediates, and functional dyes, as well as developing nano-catalysts and fluorescent probes for biological and trace metal analysis applications. He is also proficient in supramolecular chemistry and ionic liquids.



Abhijeet Subudhi

Bharat Petroleum Corp. Ltd.

Abhijeet Subudhi is an Assistant Manager of Operations at Bharat Petroleum Corporation Limited, Mumbai Refinery. A certified Boiler Operation Engineer (BOE), he has over 6 years of experience in managing the Hydrocracker complex. Abhijeet played a key role in the turnaround of the Hydrocracker Unit (HCU) complex in 2022 and was part of the operations team responsible for replacing the IDF reactor catalyst with Bharat Hi. Additionally, he presented on MAK Drillol at the CHT-2022 meet. His expertise and dedication make him a valuable asset in refinery operations and process optimization.

Organizer Profiles



Dr. Upasana Manimegalai Sridhar
Director

Dr. Upasana Manimegalai Sridhar received her B. Tech. degree from Anna University (India) in 2009, followed by M.S. (2010) and Ph.D. (2014) degrees in chemical engineering from Oklahoma State University (USA). She began her career at Covestro (formerly Bayer Material Science) at Baytown, Texas, where she primarily worked as a Process Dynamics and Optimization Specialist, focusing on process control, modelling, and optimization. Her additional responsibilities included working in the Process Safety group at Covestro. Currently, as the Director at Three Ten Initiative Technologies LLP in Visakhapatnam, India, she leads skill development initiatives and drives engineering software development prototyping for major industrial software manufacturers.



Dr. Anand Govindarajan
Director

Dr. Anand Govindarajan, received his B. Tech. from Anna University (India), and M.S. and Ph.D. degrees from Oklahoma State University (USA), all in chemical engineering. Dr. Govindarajan has led/conducted trainings on gas treating and Sulphur recovery for dozens of engineers in India, Singapore, Saudi Arabia, UAE, and USA. Presently Dr. Govindarajan is the Director of 310i Technologies in Vizag, India, Prior to this Dr. Govindarajan has been part of VA Tech WABAG, SSN Research Centre, Sun to Market Solutions, Fractionation Research Inc, and Optimized Gas Treating in various roles. Dr. Govindarajan was also Co-Chair of the Separations Division of the American Institute of Chemical Engineers, and was also on the panel of the Board of Studies of SSN College of Engineering-Chennai.

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