

CPEIS-2026

14 May 2026 - 15 May 2026

CONFERENCE PROGRAMME

Thursday, 14th May 2026

08:00	**Registration**
09:00	**INAUGURATION**
09:00	**Introduction to Glostem**
09:05	**Welcome Address by CEO, Glostem** **Sanjay Bajaj** , CEO & MD , Glostem Private Limited , India
09:15	**Introduction to Technology Partners**
09:30	**INTEGRATED PROCESS INTENSIFICATION: FROM REACTOR HYDRODYNAMICS TO PROCESS SAFETY**
09:35	**Hydrodynamics Driven Approaches to Reactor Intensification** **Sreepriya Vedantam** , Senior Principal Scientist , CSIR-IICT, Hyderabad , India This talk explores how tailored flow regimes, ranging from laminar stratification to controlled turbulence and oscillatory motion which enable precise manipulation of reaction environments for improved rates, selectivity, and product quality. Examples from multiphase reactors, static mixers, and oscillatory flow systems highlight strategies for narrowing residence time distributions and controlling particle or droplet characteristics. The role of computational fluid dynamics coupled with population balance modeling in guiding reactor design and scale-up is discussed.
10:05	**Intensified Downstream Processing & Purification / Crystallization** **Kiran Desai** , Associate Vice President , Neuland Laboratories , India This presentation contains an overview of intensified downstream processing, focusing on purification and crystallization in API manufacturing. It highlights key challenges such as impurity carryover, solvent inefficiencies, and inconsistent crystal quality, while emphasizing the importance of solubility understanding and solvent selection. The session also covers optimization strategies for peptide purification and outlines approaches aligned with green chemistry to reduce costs, improve efficiency, and enhance process sustainability.

10:35	**Development of Robust Crystallization Process from Small Scale Experimentation** **Thomas Kendall** , Sr. Application Specialist , Technobis crystallization systems , Netherlands This presentation will focus on the role of medium-throughput small-scale platforms in accelerating crystallization process development and optimization. By enabling parallel experimentation and rapid screening of process conditions, these platforms provide a scalable bridge between early-stage research and full-scale production. Case studies will illustrate how the integration of PAT, DoE, and solid form manipulation within these platforms can enhance process understanding, reduce development timelines, and improve the likelihood of successful scale-up.
10:55	**Tea/Coffee Break**
11:25	**Introduction to Process Safety Challenges** **Naveen Rengarajan** , Lead Process Engineering & Safety , Pfizer , India The abstract emphasizes the importance of integrating process safety early in technology transfer through systematic hazard identification and risk assessment tools, including reaction hazard analysis, thermal screening, and process hazard evaluations. A risk-based approach across the technology transfer lifecycle is highlighted as essential for identifying and mitigating hazards before plant implementation. The discussion reinforces the role of cross-functional collaboration and robust safety data transfer in enabling safe, compliant, and reliable scale-up, ultimately supporting successful and sustainable manufacturing operations.
11:55	**Continuous Hydrogenations and other Down Processes** **Vijendra Singh** , India Sales Manager , Zaiput Flow Technologies , India In this talk we present a scalable solution for continuous hydrogenation. We discuss a new modular and scalable reactor design conceived to enhance mass and heat transfer providing accurate control of reaction conditions. We present design principles, scalability arguments, and experimental results with different chemistry examples. The case studies highlights high catalyst utilization, tight temperature control, operation under high pressure, moderate pressure drop, quick scalability of the process, without loss of catalyst material.
12:15	**HARNESSING AI FOR CHEMICAL INDUSTRY TRANSFORMATION AND PERFORMANCE EXCELLENCE**
12:20	**AI-Enabled Process Digital Twins for Industrial Performance Optimization** **Rajendra Shinde** , Director , Capgemini India Limited , India This presentation highlights how Process Digital Twins can be effectively leveraged to drive overall performance improvement across industrial operations. Practical applications of digital twins for critical equipment such as furnaces, compressors, and other key assets are discussed, demonstrating their role in yield optimization, early detection of fouling and efficiency losses, and predictive maintenance planning
12:50	**Unlocking Impact: How AI Can Transform India’s Pharmaceutical and Chemical Sectors** **Rahul Nabar** , Adjunct Professor , Indian Institute of Technology, Bombay , India This talk examines practical pathways for deploying AI across India’s pharmaceutical and chemical sectors, combining recent R&D developments with on-the-ground deployment experience. It discusses use cases such as novel molecule discovery, improving HAZOP quality, assisting in P&ID review, identifying better synthetic routes, strengthening safety, and upgrading operator training.

13:20	**Group Photograph**
13:35	***LUNCH***
14:35	**CATALYSIS, BIOCATALYSIS AND PROCESS INTENSIFICATION FOR PHARMACEUTICAL AND FINE CHEMICAL SYNTHESIS**
14:40	**Process Intensification for Flow Biocatalysis and Photocatalysis: From Reactor Design to Integrated Separation** **Nopphon Weeranoppanant** , Associate Professor in Chemical Engineering & Deputy Director , Chulalongkorn University & BCGeTEC , Thailand This talk highlights advances in process intensification for sustainable chemical and biomanufacturing through the integration of continuous-flow reactors, biocatalysis, and reaction–separation engineering. Selected examples include photocatalytic flow reactors, chemo-enzymatic cascade reactions in continuous flow, and multienzyme systems for the synthesis of value-added chemicals.
15:10	**Catalysis for Fine Chemicals and Pharmaceutical Synthesis** **Raksh Vir Jasra** , President , The Catalysis Society of India , India This talk will focus on the transformative impact of catalysis in fine chemical and pharmaceutical synthesis, highlighting how catalytic strategies enable improved selectivity, higher yields, reduced waste, enhanced process safety, and a significantly improved green quotient.
15:40	***Tea/Coffee Break***
16:10	**SUSTAINABLE CHEMICAL ENGINEERING: FROM GREEN CHEMISTRY TO CIRCULAR INDUSTRY**
16:15	**Industry-Wide Lessons in Sustainability: Green and Circular Chemical Engineering from Molecules to Chemical Industries** **Deepak Naik** , Senior Vice President – Corporate HSE & Sustainability , Dorf-Ketal Chemicals India Ltd , India The talk will highlight practical strategies for designing inherently greener and intensified process routes, such as solvent-minimisation or replacement, energy-efficient operations, and intensified downstream processing, with examples from API-scale pharmaceutical manufacturing as well as from refinery and petrochemical operations. Industrial case-study-based insights will demonstrate how waste-valorisation, closed-loop solvent recovery, and the use of bio-based or alternative feedstocks can support circular chemical-engineering pathways while maintaining robustness and safety.
16:45	**One-Step CO_2 to Sustainable Aviation Fuel: Process Intensification and Multiscale Engineering for Industrial Deployment** **Manish Yadav** , Assistant Professor & Head , Institute of Chemical Technology Mumbai , India This presentation explores the transformative potential of direct, one-step thermocatalytic conversion of CO 2 into Sustainable Aviation Fuel (SAF) as a critical pathway toward decarbonizing the aviation sector. While traditional multi-step processes often face high capital expenditure and energy inefficiencies, this session highlights how process intensification (PI) can bypass intermediate stages (such as methanol synthesis) to directly produce high-quality synthetic kerosene.

17:15	**Reactive Vent Sizing using DiERS Direct Scale up** **Rahul Raman** , Principal Engineer , Kaypear Engineering , India In the chemical processing industry, accurately predicting and mitigating runaway reactions is essential for operational safety. This presentation explores the application of the Design Institute for Emergency Relief Systems (DIERS) methodology to assess thermal stability and design robust emergency relief systems. The talk bridges the gap between laboratory-scale calorimetry and industrial-scale application.
17:35	**EXHIBITION AND NETWORKING**
18:30	**Break**
19:00	**NETWORKING DINNER**

Friday, 15th May 2026

09:00	**ENGINEERING SAFETY FOR HIGH-RISK CHEMICAL PROCESSES**
09:05	**The Hidden Danger: Combustible Dust Safety Awareness** **Deepak Jain** , Senior Research Director, Development Sciences and Technologies , Zoetis , India
09:35	**Reactive Hazards during Flow Chemistry & Process Intensification** **Vijay Bhujle** , Senior VP-Technical , GVS Cibatech Private Limited , India This presentation contains an overview of process intensification and its impact on efficiency through enhanced heat and mass transfer. It highlights associated reactive hazards such as thermal decomposition, runaway reactions, over-pressurization, and mixing-induced hotspots under extreme operating conditions. The session outlines hazard evaluation techniques including reaction calorimetry, DSC, ARC, and kinetic modeling, and presents a systematic approach—supported by case studies—to identify, assess, and mitigate risks through design and operational controls.
10:05	**Streamlined Reactions: Safety Meets Intensification** **Vilobh Shete** , Field Application Specialist , H.E.L. India Pvt. Ltd. , India This presentation explains the integration of process intensification (PI) with inherent safety principles through the adoption of continuous flow technologies. Process intensification focuses on enhancing heat and mass transfer, reducing reactor volume, and increasing productivity per unit volume. When combined with continuous flow processing, it enables superior thermal control, minimized reactant hold-up, and consistent reaction conditions, significantly reducing the risk of thermal runaway and unsafe operating scenarios.
10:25	**Tea/Coffee Break**
10:55	**MANAGING HAZARDS IN INTENSIFIED SYSTEMS**

11:00	**Process Safety & Risk Engineering for High-Energy Reactions** **Sridhar Surat** , Associate Vice President - Operations , Apitoria Pharma Pvt Ltd , India It emphasizes inherently safer design, reaction calorimetry, and kinetic studies to understand heat and mass transfer behaviour. Structured risk assessment techniques such as HAZOP, FMEA, and Layer of Protection Analysis (LOPA) are used to evaluate potential failures and safeguard layers. Engineering controls including advanced temperature and pressure monitoring, emergency relief systems, and automated shutdown mechanisms are implemented to mitigate risks.
11:30	**Modelling and Simulation of Process Safety Hazards in Highly Exothermic Reactions** **Ajinkya Sajanikar** , Deputy Manager (Calorimetry & Reaction Engineering) , Mettler Toledo , India This presentation depicts that reaction calorimetry studies are an integral part of almost all process safety studies. Among these, isothermal calorimetry is most favored by industries worldwide due to its simplicity. However, the area of non-isothermal calorimetry has been overlooked, presumably due to the difficulties arising in data interpretation and analysis because of change in reaction temperature.
11:50	**Industrial Implementation of Corning Advanced-Flow Reactors for Intensified and Inherently Safer Chemical Manufacturing** **Chandrakant K Sethia** , Head – Business development & Applications Engineering , Corning - AFR Technologies , India This presentation, **“Industrial Implementation of Corning Advanced-Flow Reactors for Intensified and Inherently Safer Chemical Manufacturing,”** will highlight how Corning Advanced-Flow Reactors (AFRs) enable the transition from conventional batch processing to continuous chemical manufacturing. The talk will focus on the industrial application of AFR technology for reactions involving challenging thermal profiles, fast kinetics, hazardous intermediates, and demanding scale-up requirements.
12:10	**INTERACTIVE SESSION**
13:00	**LUNCH**
14:00	**SAFE AND SUCCESSFUL SCALE-UP: FROM DEVELOPMENT TO TECHNOLOGY TRANSFER**
14:05	**Scale up API -Right First Time** **Shivkumar Iyer** , Senior Director -API Technology Transfer , Cipla Pharmaceuticals , India This presentation will highlight the importance of clear documentation, validated equipment, and effective cross-functional collaboration in ensuring process consistency and regulatory compliance. Emphasis will also be placed on anticipating process variability, aligning development strategies with regulatory expectations, and embedding scalability into early process design. Such an approach minimizes costly rework, accelerates time-to-market, and ensures reliable supply, ultimately supporting sustainable growth in pharmaceutical manufacturing.

14:35	**Scale-Up Challenges in Pharmaceutical Technology Transfer: A Unit Operations Perspective** **Naveen Rengarajan** , Lead Process Engineering & Safety , Pfizer , India This presentation discusses the key challenges encountered during process scale-up and highlights the role of critical unit operations in ensuring a robust and efficient technology transfer. Emphasis is placed on scale-dependent phenomena such as heat and mass transfer limitations, mixing inefficiencies, reaction kinetics variability, solids handling issues, and equipment suitability. Core unit operations including equipment selection, mixing, Crystallization, filtration, drying, distillation, and size reduction are examined with respect to their impact on product quality, yield, safety, and operability during scale-up.
15:05	**Tea/Coffee Break**
15:35	**OPERATIONAL EXCELLENCE THROUGH COST, EHS, AND ESG INTEGRATION**
15:40	**Compliance. ESG & Innovation; Building Resilient Indian chemical Industry for Net Zero Future** **Shankar Madhavappa Karhale** , Head – Corporate Environment and Sustainability (VP) , Aarti Industries Limited , India It outlines a strategy for the Indian Chemical Industry to achieve resilience and a Net Zero future, emphasizing Compliance as the Foundation and ESG as the Strategic Framework, and Innovation as the Enabler. Compliance forms the foundation, ensuring legal adherence and risk mitigation. ESG serves as the strategic framework, driving sustainability alignment, stakeholder value, and embracing opportunities like the Circular Economy. While, Innovation, particularly through R&D in Carbon Capture, Green Chemistry, and Process Intensification, is the essential enabler for sustainable practices.
16:10	**Integrated Process Management and Operational Excellence.** **Kuber Jagdale** , President - API Business Unit , Emcure Pharmaceuticals Ltd , India The presentation will involve need of integrated process management in API industry integrating R&D, manufacturing, QA/ QC, and RA functions to achieve right first time and robust process implementation. The focus areas will be use of QbD, PAT, automated manufacturing systems like ERP / MES, Risk management and ICH regulatory guidance.
16:40	**Oral Presentation**
17:00	**CLOSING REMARKS**