

Morning Session: usually 10:00 – 12:00 h, Afternoon Session: usually 14:30 – 17:00 h

You can find the detailed lecture programme and timing at [www.achema.de/congress](http://www.achema.de/congress) and in the **ACHEMA app**.

	Room	Frequenz 1	Frequenz 2	Granat	Korall	Karmesin	Symmetrie 2	Symmetrie 3	Encounter	Europa	Consens	Entente	
	Hall	Portalhaus Via	Portalhaus Via	11.0	11.0	11.0	8.1	8.1	5.0	4.0	4.C	4.C	
Monday, 10 June 2024	Morning	Topic			#hydrogen: Transport and storage		#process: Process engineering	#process: Process engineering	#green: Circular economy		#process: Process engineering	#green: Industrial biotech	
	Session title				Properties of materials for hydrogen applications		Enhancing plant productivity by intelligent detail engineering	Smart multiphase processes	Towards a circular economy of plastics I		Standardized method for equipment performance assessment in fouling-prone applications	Industrial biotechnology – Producing food and processing side streams	
	13:00 – 14:00 h	Hall 4.0, Room Europa: #pharma: Highlight Session “Next generation pharma manufacturing – Current advances in cell and gene therapy”											
Afternoon	Topic	#lab: Imaging and sensing		#digital: Process industry transformation	#hydrogen: Transport and storage	#process: Materials and material processing	#process: Process engineering	#green: Circular economy	#green: Circular economy		#process: Process engineering	#green: Industrial biotech	
	Session title	New measurement techniques of nanoparticles and online process control		Interoperability of plants and processes	Safety for hydrogen applications	Analytics and optimization in materials and material processing	New advances in sensor technology	The contribution of Carbon Capture and Utilisation (CCU) in the chemical sector	Towards a circular economy of plastics II		Heat integration in process industry through mechanical vapour recompression – WindaB	Industrial biotechnology – Establishing and scaling-up production	
17:00 h	Hall 4.0, Room Europa: ACHEMA Opening “New global framework conditions: How is the process industry positioning itself?”												
Tuesday, 11 June 2024	Morning	Topic		#digital: AI and data analytics	#digital: Process industry transformation	#digital: Process industry transformation	#digital: Modular production	#process: Process engineering	#process: VDI-Informations-plattform	#green: Climate-neutral production	#hydrogen: (Global) Ecosystem	#green: Sustainability in production	#hydrogen: Water-for-X
	Session title			AI-based sensing and control	Emerging (digital) technologies in process industries	PIDMIC 3.0 – Process Industry Data Management Integration Congress 3.0 I	Flow chemistry and modular production	New developments for chemical processes	Informations-plattform für Ingenieure in der Produktion (in German only)	Climate neutral production – CCU strategies and plasma applications	Operation of hydrogen production plants	Best practise and challenges of corporate sustainability reporting in the process industry	Water-for-X: Key for sustainable PtX
	13:00 – 14:00 h	Hall 4.0, Room Europa: #hydrogen: Highlight Session “Hyperscaling hydrogen – Turning strategy into reality”											
Afternoon	Topic	#lab: Digitalised, miniaturised, automated	#digital: AI and data analytics	#digital: Process industry transformation	#digital: Process industry transformation	#process: Materials and material processing	#process: Process engineering	#digital: Modular production	#green: Climate-neutral production	#hydrogen: Production and hyperscaling	#process: Electrified and flexible	#process: Sustainable production systems	
	Session title	Future-oriented technologies – Automation, augmented reality and sustainability in the laboratory sector	AI-based modelling and engineering	After 10+ years of digitalization in the chemical industry – Achievements, challenges and outlook	PIDMIC 3.0 – Process Industry Data Management Integration Congress 3.0 II	Surfaces and corrosion in materials and material processing	New advances in process engineering	Modularisation in chemical, pharma and bio production	Carbon management strategies for the industry	Optimizing electrolyzer operation	Electrifying chemical processes	GeCats – Variety of catalysis research	
Wednesday, 12 June 2024	Morning	Topic	#lab: Digitalised, miniaturised, automated	#digital: AI and data analytics	#digital: Process industry transformation	#digital: Process industry transformation	#process: Materials and material processing	#process: Smart engineering and operations	#process: Process engineering	#green: Climate-neutral production	#green: New materials for sustainability	#process: Mixing and separation	#green: Industrial water
	Session title	Innovations in automated process control and optimization in laboratory and biotechnology	AI to foster the potential of process data	Digitalization and manufacturing execution systems	PIDMIC 3.0 – Process Industry Data Management Integration Congress 3.0 III	Innovative applications of porous materials	PAT for energy efficiency	Flow Chemistry Symposium I	Reaching emission targets – Industrial examples of GHG reduction I	Sustainable materials from lignocellulose derived feedstocks	Membranes and membrane processes – Important contribution to energy efficiency and environmental protection I	Challenges in industrial water management	
	13:00 – 14:00 h	Hall 4.0, Room Europa: #digital: Highlight Session “Artificial intelligence and autonomous systems in process industry”											
Afternoon	Topic	#digital: AI and data analytics		#digital: Process industry transformation	#digital: Process industry transformation	#process: Safety and security	#process: Smart engineering and operations	#process: Process engineering	#green: Climate-neutral production	#green: Industrial biotech	#process: Mixing and separation	#process: Electrified and flexible	
	Session title	AI-assisted operation support		(Digital) Standards and trends in process industries	PIDMIC 3.0 – Process Industry Data Management Integration Congress 3.0 IV	Development of improved devices and components enabling highest safety levels	Harvesting PAT data	Flow Chemistry Symposium II	Reaching emission targets – Industrial examples of GHG reduction II	Novel biological production systems and products – Sustainable solutions from biological engineering	Membranes and membrane processes – Important contribution to energy efficiency and environmental protection II	GeCats – Electrifying catalysis	
Thursday, 13 June 2024	Morning	Topic	#lab: Imaging and sensing	#digital: Process industry transformation	#digital: Autonomous systems	#process: Safety and security	#process: Plant design and maintenance	#process: Process engineering	#process: Mixing and separation	#green: Climate-neutral production	#green: Circular economy	#green: Climate-neutral production	
	Session title	Sensing for circular economy		Advancing process excellence in PAT and autonomous operations	Autonomous systems in site and plant operations	Insights for safety – Challenges today and tomorrow	Equipment design – Mixers, seals, valves and heat exchangers	Flow Chemistry Symposium III	Innovative mixing and separation solutions	Climate neutral production – Carbon Capture	Circular economy solutions for inorganic materials	Greenhouse gas reduction in the basic materials industry (KlimPro Industry)	
	13:00 – 14:00 h	Hall 4.0, Room Europa: #green: Highlight Session “Beyond fossil fuels – Exploring alternative carbon sources for a sustainable chemical industry”											
Afternoon	Topic	#lab: Imaging and sensing	#digital: Process industry transformation	#digital: Modular production	#process: Safety and security	#process: Plant design and maintenance	#process: Process engineering	#green: Circular economy	#green: Climate-neutral production	#green: Sustainability in production	#process: Process engineering		
	Session title	Concepts and challenges for instrumental odor monitoring systems	Design and use of a Digital twin	Modular process automation	Latest developments in using resources adequately for safety – Performing efficient and effective safety studies and safety design	Digital tools for predictive maintenance and environmental targets	Flow Chemistry Symposium IV	Extraction processes for metals recovery	Climate neutral production – Enabling CCU pathways	Concepts and examples of carbon footprint assessment in the process industry	GeCats – From catalysis to process		
Friday, 14 June 2024	Morning	Topic	#lab: Link with production and quality	#digital: Process industry transformation		#process: Safety and security			#green: Circular economy		#green: Circular economy		
	Session title	From research to production with intelligent experiment design and automation		Advanced process optimization and control		Best practice, classifications and models to increase process safety			Sourcing and recycling of battery raw materials and acids		Critical raw materials from alternative sources for industrial application – By EU funded project Sea4Value		
12:00 – 13:00 h	Hall 4.0, Room Europa: #process: Highlight Session “Nature as a role model – Maximum resource efficiency in the chemical industry”												

■ process innovation
 ■ pharma innovation
 ■ green innovation
 ■ digital innovation
 ■ lab innovation
 ■ hydrogen innovation

Opening hours for visitors: Monday – Thursday: 9:00 – 18:00 h, Friday 9:00 – 16:00 h

Alliance	Concorde	Facette	Kontrast	Max-Buchner-Auditorium
4.C	4.C	3.Via	3.Via	DECHEMA-Haus
<b>#hydrogen: Production and hyperscaling</b> Analysis and controlling for hydrogen technologies	<b>#hydrogen: PtX processes and applications</b> Chances and challenges of Power-to-X in Argentina, Morocco and South Africa	<b>#pharma: ATMP equipment and processes</b> Manufacturing advanced (bio) pharmaceuticals I		
<b>#hydrogen: Production and hyperscaling</b> Alternative feedstocks and hydrogen carriers	<b>#hydrogen: PtX processes and applications</b> Kopernikus P2X – Exploration, validation and implementation of Power-to-X concepts	<b>#pharma: ATMP equipment and processes</b> Manufacturing advanced (bio) pharmaceuticals II		
<b>#process:</b> International Powder and Nanotechnology Forum 2024	<b>#hydrogen: Transport and storage</b> Hydrogen flagship project TransHyDE – Implementing hydrogen	<b>#pharma: Biopharma production</b> PAT in (bio) pharmaceutical production	<b>#green: Climate-neutral production</b> Electrochemical Synthesis of Biogenic Platform Chemicals – ElectroSyn	<b>#process: Safety and security</b> ISSA Symposium – Hazardous substances in maintenance works: risks and prevention I
<b>#process:</b> International Powder and Nanotechnology Forum 2024	<b>#hydrogen: Transport and storage</b> Hydrogen flagship project TransHyDE – Aspects of using hydrogen	<b>#green: Industrial water</b> Water management in the pharmaceutical industry	<b>#green: Circular economy</b> Monomer Recycling of PET and polyester textiles	<b>#process: Safety and security</b> ISSA Symposium – Hazardous substances in maintenance works: risks and prevention II
<b>#pharma:</b> International Powder and Nanotechnology Forum 2024	<b>#hydrogen: Production and hyperscaling</b> H2Mare – Decentral offshore hydrogen and its derivatives	<b>#pharma: Biopharma production</b> Single-use technologies for biopharmaceutical production		<b>#process: Safety and security</b> ISSA Symposium – Hazardous substances in maintenance works: risks and prevention III
<b>#pharma:</b> International Powder and Nanotechnology Forum 2024	<b>#green: Climate-neutral production</b> Engaging industrial transformation in NW Europe – 3C-Vacs	<b>#pharma: Biopharma production</b> Sterile (bio) pharmaceutical manufacturing		
<b>#green: Circular economy</b> Strategies for a Sustainable green Chemical Industry – Part 1: What role does bioeconomy play in the circular economy?	<b>#hydrogen: PtX processes and applications</b> Overarching PtX-Concepts – Models, economic analysis and cost optimization	<b>#pharma: Supply chain and logistics</b> Tracing, tracking, and packaging in biopharmaceutical production		
<b>#green: Circular economy</b> Strategies for a Sustainable green Chemical Industry – Part 2: End-of-life solutions for the circular economy	<b>#hydrogen: PtX processes and applications</b> Advancements in material optimization for various Power-to-X-processes	<b>#pharma: Supply chain and logistics</b> Cooling and freezing in biopharmaceutical production	<b>#green: Climate-neutral production</b> Innovative solutions for the decarbonisation of chemical process industry – A bioeconomy workshop	
	<b>#hydrogen: PtX processes and applications</b> Innovations in bio-based Power-to-X and renewable refinery processes	<b>#pharma: Supply chain and logistics</b> Integrity of connections and containers for biopharmaceutical production		

Stage	Lab Innovation Stage	Siemens Digital Innovation Stage	GEA Process Innovation Stage	EY Green Innovation Stage	Siemens Hydrogen Innovation Stage	Zeta Pharma Innovation Stage	Side Events
Hall	12.0, B35	11.0, E43	9.0, F77	6.0, D20	6.0, D76	4.1, B61	
Topic 1	<b>#lab: Sustainable facilities and operations</b>	<b>#digital: Process industry transformation</b>	<b>#process: Safety and security</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: Transport and storage</b>	<b>#pharma: Supply chain and logistics</b>	<b>9:00 h</b> AIRA Robotics Challenge Hall 11.1, Stand A5 (all day) <b>10:00 h</b> The SEFA Theatre Hall 12.0, Stand E70 <b>11:00 h</b> Automation in Dialogue Hall 11.0, Stand A43 <b>17:30 h</b> ACHEMA Happy Hour Agora & Freigelände 2
Topic 2	<b>#lab: Sustainable facilities and operations</b>	<b>#digital: Process industry transformation</b>	<b>#process: Electrified and flexible</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: (Global) Ecosystem</b>	<b>#pharma: Supply chain and logistics</b>	
Topic 1	<b>#lab: Sustainable facilities and operations</b>	<b>#digital: Process industry transformation</b>	<b>#process: Mixing and separation</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: (Global) Ecosystem</b>	<b>#pharma: On the road to pharma 5.0?</b>	
Topic 2	<b>#lab: Advanced bioanalytics and pharma</b>	<b>#digital: Modular production</b>	<b>#process: Process engineering</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: PtX processes and applications</b>	<b>#pharma: Biopharma production</b>	
Topic 1	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: Modular production</b>	<b>#process: Sustainable production systems</b>	<b>#green: Sustainability in production</b>	<b>#hydrogen: Production and hyperscaling</b>	<b>#pharma: On the road to pharma 5.0?</b>	<b>9:00 h</b> , AIRA Robotics Challenge Hall 11.1, Stand A5 (all day) <b>10:00 h</b> The SEFA Theatre Hall 12.0, Stand E70 <b>11:00 h</b> Automation in Dialogue Hall 11.0, Stand A43 <b>16:00 h</b> , India Day Portalhaus, Ebene 1, Transparenz 1 <b>17:15 h</b> Japanese Reception Hall 4. C, Alliance <b>17:30 h</b> ACHEMA Happy Hour, Agora & Freigelände 2 <b>19:00 h</b> Frankfurt Evening in the Römer (special invitation)
Topic 2	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: AI and data analytics</b>	<b>#process: Sustainable production systems</b>	<b>#green: Sustainability in production</b>	<b>#hydrogen: Production and hyperscaling</b>	<b>#pharma: On the road to pharma 5.0?</b>	
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Topic 2	<b>#lab: Link with production and quality</b>	<b>#digital: AI and data analytics</b>	<b>#process: Smart engineering and operations</b>	<b>#green: Circular economy</b>	<b>#hydrogen: (Global) Ecosystem</b>	<b>#pharma: Biopharma production</b>	
Topic 1	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: Modular production</b>	<b>#process: Process engineering</b>	<b>#green: Circular economy</b>	<b>#hydrogen: (Global) Ecosystem</b>	<b>#pharma: On the road to pharma 5.0?</b>	<b>9:00 h</b> AIRA Robotics Challenge Hall 11.1, Stand A5 (all day) <b>10:00 h</b> The SEFA Theatre Hall 12.0, Stand E70 <b>11:00 h</b> Automation in Dialogue Hall 11.0, Stand A43 <b>11:00 h/15:00 h</b> Events for pupils, Portalhaus, Ebene 1, Transparenz 1 <b>17:00 h</b> Ceremony ACHEMA Start-up Award Hall 6.0, EY Green Innovation Stage <b>17:30 h</b> ACHEMA Happy Hour Agora & Freigelände 2
Topic 2	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: Modular production</b>	<b>#process: Modular processing and technology</b>	<b>#start-up: Start-up slam</b>	<b>#hydrogen: Transport and Storage</b>	<b>#pharma: Biopharma production</b>	
Topic 1	<b>#lab: Link with production and quality</b>	<b>#digital: Process industry transformation</b>	<b>#process: Sustainable production systems</b>	<b>#start-up: Start-up Award</b>	<b>#hydrogen: Production and hyperscaling</b>	<b>#pharma: ATMP equipment &amp; processes</b>	
Topic 2	<b>#lab: Sustainable facilities and operations</b>	<b>#digital: Modular production</b>	<b>#process: Safety and security</b>	<b>#start-up: Start-up Award</b>	<b>#hydrogen: Transport and storage</b>	<b>#pharma: Sustainable production &amp; packaging</b>	
Topic 1	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: Process industry transformation</b>	<b>#process: Electrified and flexible</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: (Global) Ecosystem</b>	<b>#pharma: On the road to pharma 5.0?</b>	<b>9:00 h</b> AIRA Robotics Challenge Hall 11.1, Stand A5 (all day) <b>10:00 h</b> The SEFA Theatre Hall 12.0, Stand E70 <b>10:00 h</b> Career Day Foyer 5.1/6.1 <b>11:00 h</b> Automation in Dialogue Hall 11.0, Stand A43 <b>18:00 h</b> ACHEMA Party Forum (for exhibitors and press)
Topic 2	<b>#lab: Digitalised, miniaturised, automated</b>	<b>#digital: Process industry transformation</b>	<b>#process: Smart engineering and operations</b>	<b>#green: Industrial biotech</b>	<b>#hydrogen: Production and hyperscaling</b>	<b>#pharma: Sustainable production &amp; packaging</b>	
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Topic 2	<b>#lab: Link with production and quality</b>	<b>#digital: Process industry transformation</b>	<b>#process: Food processing and technology</b>	<b>#green: Industrial biotech</b>	<b>#hydrogen: Transport and storage</b>	<b>#pharma: Biopharma production</b>	
Topic 1	<b>#lab: Sustainable facilities and operations</b>	<b>#digital: Process industry transformation</b>	<b>#process: Food processing and technology</b>	<b>#green: Climate-neutral production</b>	<b>#hydrogen: Production and hyperscaling</b>	<b>#pharma: On the road to pharma 5.0?</b>	<b>9:00 h</b> AIRA Robotics Challenge Hall 11.1, Stand A5 (all day) <b>11:00 h</b> Automation in Dialogue Hall 11.0, Stand A43 <b>11:00 h</b> Event for pupils, Portalhaus, Ebene 1, Transparenz 1
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