



June 26-28, 2023 | Frankfurt am Main, Germany

2023 PDS Europe - A New Vision for Process & Product Development

The Process Development Symposium (PDS) series aims to give participants a forum to exchange wisdom, knowledge tips, and personal experiences in the development and scale-up of chemical, petrochemical, biochemical, pharmaceutical, food and related products and processes. The product is the "raison d'être" of enterprise, its impact on health and the environment is of major importance. Digitalization, climate change, toxicology, exotoxicology, and rising material and energy prices pose enormous challenges for process and product design. The PDS will provide an overview of the current state of developments, offer opportunities to exchange ideas with experts about current tasks in your field, and bring about discussion on how to approach rising process and product development challenges moving forward.

PROGRAM SCHEDULE*

DAY 0: Monday, June 26, 2023

18:30 20:30 WELCOME RECEPTION

Location: Maritim Hotel Frankfurt, Foyer

Please join us for the Welcome Reception for the 2023 Process Development Symposium Europe!

The reception will take place on Monday, June 26, 2023 from 6:30pm - 8:30pm at the Maritim Hotel Frankfurt.

Food & drink will be served.

THANK YOU TO OUR SPONSORS*



*Updated as of June 19, 2023

DAY 1: Tuesday, June 27, 2023

ROOM 1		ROOM 2	
9:00 9:05	Chairman's Welcoming Remarks by Jean-Pierre Dal Pont, SECF		
9:05 10:00	Morning Plenary Lecture from Jens Perregaard, BASF Chair: Jean-Pierre Dal Pont, SECF		
9:05 9:50	Modern catalyst designs - the microchips of chemical processes Jens Perregaard, BASF		
9:50 10:00	Q&A		
10:00 10:15 COFFEE BREAK - REFRESHMENTS WILL BE SERVED			
10:15 11:35	Manufacturing of the Future Chairs: Mongi Sakly, Cabinet SAKLY Engineering and Consultancy Flavien Susanne, Sanofi	10:15 11:35	The Product of the Future: time to Rethink the Design Chairs: Ismahane Remonnay, Veolia Philippe Lemaire, Total
10:15 10:35	Foundations for Agile, Sustainable manufacturing Gareth Alford, AstraZeneca	10:15 10:35	Chemical Change, Transitioning Chemicals, Materials and Energy for Safe and Sustainable by Design Ismahane Remonnay, Veolia
10:35 10:55	Continuous Manufacture in the Broader Context of Sustainable Supply of Medicines. Andrew Rutter, Rutter Design	10:35 10:55	Product stewardship: understand risk assessment of new substance Philippe Lemaire, Total Energies Ismahane Remonnay, Veolia Alain Lombard, Allotox
10:55 11:15	A New Tool Using Flow Chemistry Techniques for Continuous Crystallization of Pharmaceutical Drugs Edith Lecomte-Norrant, IPSOMEDIC SAS & IPSOMEL Innovation	10:55 11:15	Screening proposal to take into account acceptable new substance. Philippe Lemaire, Total Energies Alain Lombard, Allotox
11:15 11:35	Digitalisation tools for efficient development of novel products and their robust manufacturing processes: development and democratisation Sean Bermingham, Siemens	11:15 11:35	Endocrine activity: State of the art: can we screen molecules at an early stage? Philippe Adrian, Trace Consulting Philippe Lemaire, Total Energies Alain Lombard, Allotox
11:35 12:35 LUNCH BREAK - FREE TIME			
12:35 13:30	Afternoon Plenary Lecture from Ismahane Remonnay, Veolia Chair: Jean-Pierre Dal Pont, SECF		
12:35 13:20	The Megatrends that re(shaping) the industry Ismahane Remonnay, Veolia		
13:20 13:30	Q&A		
13:30 13:50 COFFEE BREAK - REFRESHMENTS WILL BE SERVED			
13:50 15:10	Flow Chemistry Chair: Flavien Susanne, Sanofi	13:50 15:10	Process Synthesis: New Tools and Applications Chair: Christophe Castel, University of Lorraine
13:50 14:10	A new Laboratory using flow chemistry Techniques for continuous production of Pharmaceutical drugs- Case of PARACETAMOL Edith Lecomte-Norrant, IPSOMEDIC SAS & IPSOMEL Innovation	13:50 14:10	Process Synthesis Using Commercial Tools: Feedback from R&D to Industry for Electric Production Applications Thibaut Neveux, EDF
14:10 14:30	Let there be bright light Bert Metten, Ajinomoto Bio-Pharma	14:10 14:30	Process synthesis and Machine Learning for CO2 / H2 membrane separation Veronica Piccialli, University La Sapienza, Roma
14:30 14:50	Process Intensification Flow Reactors: A Well Accepted Technology through Various Chemistry Fields Guillaume Gauron, Corning SAS Marc Winter, Corning SAS	14:30 14:50	Combining Surrogate Modeling, Superstructures and Neural-Aided Optimization for Design of Innovative Intensified Processes Jean-Marc Commenge, Université de Lorraine
14:50 15:10	Transitioning from Batch to Continuous API Crystallization to Establish a More Scalable Means to Kinetically Control the Purging of a Co-Precipitating Impurity Brian Glennon, Professor University of Dublin	14:50 15:10	Session Discussion and Extended Q&A
15:10 15:30 COFFEE BREAK - REFRESHMENTS WILL BE SERVED			
15:30 16:50	Project Engineering Chair: Mongi Sakly, Cabinet SAKLY Engineering and Consultancy	15:30 16:50	Artificial Intelligence, Process Modeling & Monitoring Chair: Levente Simon, DSM
15:30 15:50	Robots and automatization in clean room bioprocessing : the solution towards GMP Annex 1 securing bioproducts quality and increasing productivity and sustainability Hervé de Malliard, MGA Technologies	15:30 15:50	The Use of Mathematical Models and Digital Twins to Improve Scale up. What Is the Role of a Systematic Scale Down for the Experimental Design of Lab Experiments for Smart Scale up? Michael Levis, Siegfried AG
15:50 16:10	Engineering of the Future Is a Key Enabler to Deliver Fast and Robust Manufacturing Plants Mongi Sakly, cabinet SAKLY	15:50 16:10	Designing Waste Plastics Recycling Processes Based on Machine-Learning Thermodynamics Predictions Luca Bosetti, ETH Zurich
16:10 16:30	Process Optimization across the Water-Energy Nexus Quentin Duval, ProSim	16:10 16:30	An Orchestrated Laboratory using Artificial Intelligence to Accelerate Innovation in Chemistry Roberto Company, Solvay
16:30 16:50	Development and Demonstration of an Ultra-High-Temperature Continuous Racemization Process Jillian Sheeran, Snapdragon Chemistry	16:30 16:50	Improvement of Plant's Reliability through Web-Based Online Monitoring (Digital Manufacturing Excellence) Helmi Qosim, PT Pupuk Indonesia (Persero)
17:00 19:00 POSTER RECEPTION			



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INDUSTRY

HEALTH

DAY 2: Wednesday, June 28, 2023

ROOM 1		ROOM 2	
9:00 9:05	Chairman's Introduction by Jean-Pierre Dal Pont, SECF		
9:05 10:35	Invited Keynote Lectures Chair: Jean-Pierre Dal Pont, SECF		
9:05 9:35	Development and scale-up of advanced process technologies as key to the decarbonization of the process industries Ignasi Palou-Rivera, <i>RAPID</i>		
9:35 10:05	Next-generation sustainable bioproducts Henk J. Noorman, DSM		
10:05 10:35	Digitalizing Manufacturing of Products Philipp Frenzel, Covestro		
10:35 10:50	COFFEE BREAK - REFRESHMENTS WILL BE SERVED		
10:50 12:30	Product Design and Engineering Chairs: Gerhard Wagner, <i>DSM</i> Ulrich Bröckel, <i>Umwelt-Campus Birkenfeld</i> Levente Simon, DSM	10:50 12:30	Continuous Manufacturing Chair: Flavien Susanne, Sanofi
10:50 11:30	Design of Particulate Products based on Predictive Models – Continuous Synthesis, Nanoparticle Chromatography and Multidimensional Characterization Wolfgang Peukert, Friedrich-Alexander-Universität Erlangen-Nürnberg	10:50 11:10	Continuous processing and Digitalisation, the future of Pharma to supply medicine in a robust, agile and cost effective way to the patients Flavien Susanne, Sanofi
		11:10 11:30	FAST – Pfizer's journey into API continuous processing Ruth Hardy, Pfizer
11:30 11:50	The laboratory of the future: The impact of AI New Trends Valerie Lucas, CLIMALIFE Jean-Pierre Dal Pont, SECF	11:30 11:50	ContiUnity® a True Modular Process Platform for Continuous Manufacturing Wouter Bolt, Zeton B.V.
11:50 12:10	Novel Process for Valuable By-Products Recovery from Hot-Liquid Water Pretreatment of Biomass Tamara Janković, Delft University of Technology	11:50 12:10	Digital design and operation of robust continuous drug substance manufacture processes: Industry cases & value statements Meera Mahadevan, Siemens Sean Bermingham, Siemens
12:10 12:30	Developing Standardised Facility Solutions for Fasttrack Delivery in New Modalities Ief Leroy, VILS	12:10 12:30	Decentralised Production Realised using Continuous Manufacturing - Harnessing the Power of Flow Chemistry from Lab to Production Charlotte Wiles, Chemtrix
12:30 13:30	LUNCH BREAK - FREE TIME		
13:30 14:50	Energy Transition Chair: Vanessa Gepert, <i>Air Liquide</i>	13:30 14:50	Process Development Chair: Pieter Swinkels, TU Delft
13:30 13:50	Energy Transition from Air Liquide's Perspective - What Are We Already Doing and What Lies Ahead? Vanessa Gepert, Air Liquide	13:30 13:50	Determining DSC Heat Release Rate Sensitivity to Improve Thermal Safety Evaluation Nuno Lousa, Hovione Farmaciencia, S.A.
13:50 14:10	Electricity only? Potential and limits to decarbonize primary energy supply in Europe highlighted by an eMethanol case study for Spain Sebastian König, Air Liquide	13:50 14:10	Process Synthesis and Optimization of Energy Integrated Distillation Sequences for Natural Gas Liquids Separation Qing Li, Delft University of Technology
14:10 14:30	Post-Combustion CO2 Capture By Absorption-Regeneration Process: How Reducing Its Energy Consumption? Diane Thomas, UMONS	14:10 14:30	Ammonia Syngas Plant: Process Improvement Using Multi-Input-Multi-Output (MIMO) Surrogate Models Luisa Malek, CGC Capital-Gain Consultants GmbH
14:30 14:50	Effect of Gaseous Contaminants on Electrochemical CO2 Reduction to C2+ Products Asvin Sajeev Kumar, Delft University of Technology	14:30 14:50	Syngas Upgrading Using a Combined Membrane-Methanation Unit: An Exhaustive Study of Critical Process Parameters on the Wobbe Index of the Injected Gas Mojtaba Mirdrikvand, Hitachi Zosen Inova BioMethan
14:50 15:10	COFFEE BREAK - REFRESHMENTS WILL BE SERVED		
15:10 16:30	Bioprocessing and System Biology Chair: Philippe Jacques, <i>University of Liège</i>	15:10 16:30	Tools & Applications Chair: Sean Bermingham, Siemens
15:10 15:30	Cybergenetics in the Bioreactor: Optimizing Biprocesses through Light-Based Feedback Control Mustafa Khammash, ETH Zürich	15:10 15:30	CO2 Freezing in the Low-Temperature Separation of Carbon Dioxide from Natural Gas- By Distillation Nuradibah Adnan, The University of Manchester
15:30 15:50	Analyzing bioprocess heterogeneity from the microbial viewpoint: recent developments Cees Haringa, TU Delft	15:30 15:50	Python in Chemical Process Simulation Armin Fricke, CGC Capital-Gain Consultants GmbH
15:50 16:10	Controllability of cell population in bioreactor is mainly determined by the fitness cost associated with phenotypic switching Frank Delvigne, Université de Liège	15:50 16:10	Modularization of Large Process Flowsheeting Models Saeed Mardani, Borealis
16:10 16:30	End-to-end bioprocessing models to assess process robustness and inform control strategies Edward Close, Siemens Sean Bermingham, Siemens	16:10 16:30	Importance of (dynamic) Process Simulation on Digital Transformation and Net Zero Emissions Farzad Mousazadeh, Delft University of Technology